



Reference: 022067.210

October 4, 2023

Ralph Emerson Garberville Sanitary District P.O. Box 211 Garberville, CA 95542

Subject: Biological and Wetland Assessment—Revision 1, Garberville Sanitary District Robertson/Wallan/Hurlbutt Tanks Replacement Project

Dear Ralph Emerson:

SHN has prepared this biological and wetland assessment for the Garberville Sanitary District water tanks replacement project. This assessment addresses potential project impacts to habitat, wetlands, and special-status species within the project area. This Revision 1 addresses the project area as of October 2023.

No special-status species were observed within the study area. Special-status species are unlikely to be impacted by the project due to the avoidance of suitable habitat during project activities, and the lack of occurrences within the project area. Two sensitive vegetation community types occur within the study area in multiple locations as shown on Figures 2-4. Ten wetlands and five streams occur within or immediately adjacent to the study area. These features should be avoided during project implementation. The recommendations in this assessment are intended to avoid or reduce impacts to habitat and wetlands that could occur during the construction of the project.

Please email me at <u>jsaler@shn-engr.com</u> or call me at 707-822-5785 if you have any comments or concerns.

Respectfully submitted,

SHN

Joseph Saler Senior Ecologist

JLS:cet

Enclosure: Biological and Wetland Assessment-Revision 1

 $P: \verb|\Eure| ka \verb|\2022| 022067-GSD-Water \verb|\210-Spec-Studies| PUBS \verb|\Fryts| 20231009-BioAssmt-Rev1.docx| and the second secon$



Biological and Wetland Assessment—Revision 1

Garberville Sanitary District Robertson/Wallan/Hurlbutt Tanks **Replacement Project**

Prepared for:

Garberville Sanitary District

Prepared by:



October 2023

QA/QC:JLS_JLS

Reference: 022067.210

Table of Contents

			Page		
		tions			
		and Acronyms			
1.0 2.0		luction			
	•	t Description			
3.0	BackgroundEnvironmental Setting				
4.0	4.1	S			
	4.1 4.2	Site Hydrology			
	4.2 4.3	National Wetlands InventoryGeologic and Soil Composition			
5.0		gical Survey Methods			
5.0	5.1	•			
	5.1 5.2	Biological Scoping Methods			
6.0		Field Investigationsnd Assessment Methods			
6.0	6.1				
	6.2	Vegetation MethodsSoil Methods			
	6.3	Hydrology Methods			
	6.4	Ordinary High Water Mark Methods			
7.0		ng Habitat Conditions			
7.0	7.1				
	7.1 7.2	Wallan Tank Site and Pump StationRobertson Tank Site, Arthur Pump Station, and CalFire Station			
	7.2 7.3	·			
0.0		Tobin Well Site and Hurlbutt/Main Tank Sites			
8.0		al Communities			
9.0	•	al-status Botanical Species			
10.0	•	al-status Animal Species			
	10.1	Amphibians			
	10.2	Birds			
	10.3	Fishes			
	10.4	Insects			
	10.5	Mammals			
	10.6	Reptiles			
	10.7	Designated Critical Habitat			
	10.8 10.9	Nesting Bird Habitat Wildlife Movement Corridors			
11.0	10.10	Special-status Animal Species Summary			
11.0		and and Other Waters Results			
	11.1	Section 1—Wallan Tank Site and Pump Station			
	11.2	Section 2—Robertson Tank, Arthur Pump Station, and CalFire Station			
	11.3	Section 3—Tobin Well Site and Hurlbutt/Main Tank Sites			
		11.3.1 Section 3 Wetland Descriptions			
100	_	11.3.2 Section 3 Stream Descriptions			
12.0		lusions			
	12.1	Biological Results			
40.0	12.2	Wetland and OHWM Results			
13.0		mmendations			
14.0	Keter	ences Cited	/ /		



Table of Contents, Continued

Appendices

- 1. National Wetland Inventory and Drought Monitor
- 2. Web Soil Survey Map
- 3. Species List
- 4. Vegetation Rapid Assessment and Relevé Field Forms
- 5. Wetland Determination and Ordinary High Water Mark Data Forms
- 6. Site Photos

List of Illustrations

Figures		Follows Page
1.	Vicinity Map	1
2.	Site Map–Section 1	1
3.	Site Map-Section 2	1
4.	Site Map–Section 3	
Tables		Page
1.	WETS Rainfall Data, 2022 and 2023, Hydrological Analysis	3
2.	Parameters at Each Test Pit, April 2022, and February and April 2023	23
3.	Wetland and OHWM Delineation Results	24



Abbreviations and Acronyms

Units of Measure

Term	Definition	Term	Definition
C	Celsius	mi	mile
ft	feet	sqft	square feet
km	kilometer		

Additional Terms

Addition	ui iciiiis		
Term	Definition	Term	Definition
A1	surface water	FP	Fully Protected species status
A3	saturation	G1/S1	critically imperiled species
BLM	Bureau of Land Management		heritage rank
BCC	Board of Conservation Concern	G2/S2	imperiled species heritage rank
BIOS	Biogeographical Information	G3/S3	vulnerable species heritage
	and Observation System		rank
BMP	best management practices	G4/S4	apparently secure species
C	Candidate species status		heritage rank
CCH	Consortium of California	G5/S5	secure species heritage rank
	Herbaria	GIS	Geographic Information System
CDFW	California Department of Fish	GSD	Garberville Sanitary District
	and Wildlife	IPaC	Information for Planning and
CEQA	California Environmental		Conservation
	Quality Act	MBTA	Migratory Bird Treaty Act
CESA	California Endangered Species	NCRWQCB	North Coast Regional Water
	Act		Quality Control Board
CNDDB	California Natural Diversity	NDMC	National Drought Mitigation
	Database		Center
CNPS	California Native Plant Society	NL	Not Listed
CT	candidate threatened species	NOAA	National Oceanic and
	status		Atmospheric Administration
CWA	Clean Water Act	NR	Not Referenced
D	Delisted species status	NRCS	Natural Resources Conservation
D2	geomorphic position		Service
D3	shallow aquitard	NWI	National Wetland Inventory
DI	Drainage Inlet	OBL	Obligate
District	Garberville Sanitary District	OHV	Off-highway Vehicle
DPS	Northern California distinct	OHWM	Ordinary High Water Mark
	population segment/species	PT	Proposed Threatened
	status	ROW	Right-of-Way
E	Endangered species status	SNR	species not ranked
ESU	evolutionarily significant	SSC	species of special concern
	unit/species status	T	Threatened species status
F3	depleted matrix indicator	TNW	Traditional Navigable Waterway
FAC	Facultative vegetation	TP	Test Pit
FACU	Facultative Upland vegetation	UPL	Upland
FACW	Facultative Wetland vegetation	USACE	U.S. Army Corp of Engineers
FESA	Federal Endangered Species Act	USDA	U.S. Department of Agriculture



Term	Definition	Term	Definition
USFS	U.S. Forest Service	WETS	Climate Analysis for Wetlands
USFWS	U.S. Fish and Wildlife Service		Table
USGS	United States Geological Survey	WL	Watch List species status
VegCAMP	Vegetation Classification and		
	Mapping Program		



1.0 Introduction

SHN biologists conducted biological and botanical surveys for special-status species¹ within the area of potential effects for the replacement of existing municipal water tanks and other Garberville Sanitary District (GSD, District) improvements in several locations around the town of Garberville, California (see Figure 1). A wetland delineation was conducted in conjunction with the biological and botanical surveys by SHN's wetland ecologist and soil scientist, which documents potential wetland conditions within the project areas on April 12, 15, and 27, 2022 and February 17, May 9, and May 10, 2023. The study area covered several distinct locations (see Figure 1; Maxar, 2021). Section 1 covers the Wallan Tank and Pump Station off Wallan Road (total study area of 1.35 acres); Section 2 is located along Alderpoint Road near the existing Robertson Tank and Arthur Pump Station and includes portions of the CalFire Station (total study area of 8.6 acres); and Section 3 covers the existing Tobin Well site, existing Hurlbutt Tank site with pressure tank and pump system, and the proposed Main Tank site (total study area of 13.14 acres; Figures 2 through Figure 4). The study area covers an area of approximately 23.10 acres (see Figure 1). This biological and wetland assessment documents the results of the biological and wetland site investigation within the study area.

2.0 Project Description

The District is proposing to replace the existing 180,000-gallon, in-ground, concrete, finished water storage tank (Hurlbutt/Main Tank) and a 20,000-gallon, failing, redwood drinking water storage tank (Wallan Tank) with two new increased capacity tanks. In addition, the failing Robertson Tank, which has been taken out of service, will be removed from the system. The new Main Tank will be an in-ground, approximately 550,000-gallon, pre-stressed concrete tank located on an adjacent parcel and similar elevation to the existing tank. The existing Wallan Tank will be replaced with an approximately 77,000-gallon welded steel tank. Both of the existing tanks in operation are leaking and lack sufficient storage capacity for maximum daily consumption and fire suppression; they also do not meet current seismic design standards.

In addition, the District proposes to replace or upgrade three booster Pump Stations (Upper Maple Lane Pump Station, Arthur/Alderpoint Pump Station, and Wallan Pump Station). The existing Upper Maple Lane Pump Station is located at the existing Hurlbutt Tank site and will be demolished when the Hurlbutt Tank is demolished. A new Upper Maple Lane Pump Station will be constructed at the site of the new Main Tank. The existing Arthur Pump Station is in poor condition and has operational deficiencies that will be improved when this Pump Station is replaced by the Alderpoint Pump Station. The Wallan Pump Station is also in poor condition and requires upgrades to meet the operational requirements of the new Wallan Tank.

The project includes installation of some new segments of distribution piping in order to connect the new tanks and Pump Stations to the existing distribution system.

¹The term "Special-status Species" is used collectively to refer to species that are State or federally listed, species that are State or federal candidates for listing, and all species listed by the California Natural Diversity Database. This term is consistent with the biological resources that need to be assessed pursuant to the California Environmental Quality Act.





Garberville Sanitary District Preliminary Wetland & Biological Study Garberville, California Vicinity Map | Figure

October 2023 - 022067.210

rigure

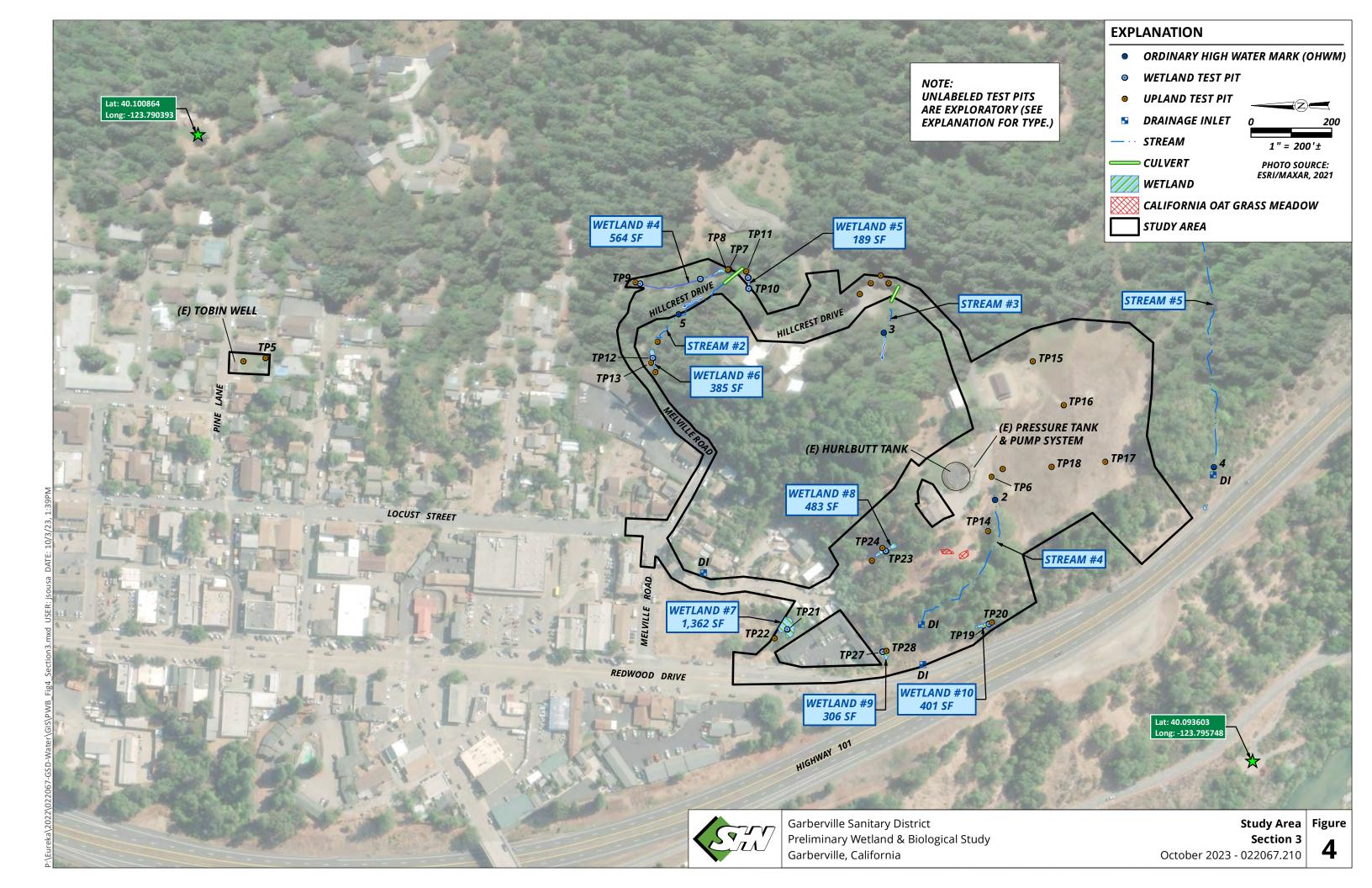


Garberville Sanitary District Preliminary Wetland & Biological Study Garberville, California Study Area Section 2

Figure

October 2023 - 022067.210

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



3.0 Background

The project is located in three separated distinct sections in and around the town of Garberville, California, within an unincorporated area of Humboldt County (Figure 1; United States Geological Survey [USGS] Garberville 7.5-minute Quadrangle, Township 4 South, Range 3 East, Section 24, Township 4 South, Range 4 East, Sections 18 and 19, Humboldt Meridian).

The study areas and the water distribution system and associated infrastructure have remained relatively unchanged for the past 20 years (Google Earth, 2022). They have been managed in much the same way over the years. Existing and proposed tank and Pump Station sites have remained vegetated at a similar density. The Wallan Tank site is atop a steep south-southwest-facing slope, approximately 1,150 feet above sea level, and the Wallan Pump Station is on a moderately steep south-southwest facing slope approximately 855 feet above sea level (Figure 2). The Robertson Tank site is atop a south-facing steep slope approximately 780 feet above sea level, uphill from the Arthur Road Pump Station, which is on a generally-level hillside bench, approximately 615 feet above sea level (Figure 3). The CalFire Station is downslope from the Arthur Road Pump Station, on a larger hillside bench between 550 and 600 feet above sea level. The Wallan and Robertson Tank sites and the CalFire Station are located within a rural residential area northeast of the town of Garberville. The existing Hurlbutt Tank and proposed Main Tank site is on a west-facing moderately-steep slope approximately 700 feet above sea level (Figure 4). This site includes a residence and several associated structures south of the town of Garberville. Downtown Garberville is on a west-facing hillside bench, with a gentle slope approximately 550 feet above sea level, within an urban residential area (Figure 4).

4.0 Environmental Setting

4.1 Site Hydrology

The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Climate Analysis for Wetlands Table (WETS) method was used to review rainfall conditions for the previous three months prior to the test pit (TP) investigations (or the same month and two months prior if after the 15th (Table 1; USDA-NRCS, 2022a). The TP investigations occurred on April 12, 15, and 27, 2022, and February 17, and May 9 and 10, 2023. The current rainfall data for January, February, March, and December 2022 and January, February, March, April, and May 2023 (National Oceanic and Atmospheric Administration (NOAA, 2023) were compared to the 30-year rainfall average in Scotia, California (the nearest long-term records; 1991-2020 data) for the same months. If the current rainfall of each month is between 30% and 70% of the 1991-2020 precipitation average, it is "normal" rainfall; if above 70%, it is ranked "wetter than normal" rainfall; if below 30%, it is ranked "drier than normal" rainfall. The WETS data indicates that both the April 12 and April 15, 2022 TP investigations were performed during a "drier than normal" rainfall season, and the February 17, May 9, and May 10, 2023 investigations were performed during "normal" rainfall periods.



Table 1. WETS Rainfall Data, 2022 and 2023, Hydrological Analysis Garberville. Humboldt County. California

	er ville, manibola						
Month	WETS Condition	<30%	> 70%	Rainfall (in.)	Condition Value	Weight	Product Value
	April 1	2, 15, and 2	27, 2022 Tes	st Pit Excav	ation		
March 2022	Dry	4.35	8.48	2.00	1	3	3
February 2022	Dry	4.37	9.40	0.63	1	2	2
January 2022	Dry	4.38	10.42	2.14	1	1	1
Total					Drier than N	lormala	6
	Fel	oruary 17, 2	2023 Test Pi	it Excavatio	n		
February 2023	Normal	4.37	9.40	7.04	2	3	6
January 2023	Above Normal	4.38	10.42	16.94	3	2	6
December 2022	Normal	5.17	11.69	11.13	2	1	2
Total					ı	Vormala	14
May 9 and 10, 2023 Test Pit Excavation							
May 2023	Normal	0.93	2.34	1.18	2	3	6
April 2023	Normal	2.49	4.67	2.57	2	2	4
March 2023	Above Normal	4.35	8.48	11.83	3	1	3
Total	Total Normal ^a 13						

^a A sum of 6-9 prior to site investigation is considered a drier than normal rainfall.

Sources: USDA-NRCS, 2022a; NOAA, 2023

In addition to reviewing the WETS table, there is also the consideration of drier than normal conditions over an extended period. The NOAA and USDA have a National Drought Mitigation Center (NDMC) that monitors drought. The NDMC classifies this region as undergoing a "Severe Drought" during the April 2022 investigations. During the February 2023 site investigation, this region had enough precipitation in winter to re-classify it to "Abnormally Dry" and by April 2023, "No Drought" (NDMC, 2022; Appendix 1). Long term drought conditions necessitate addition considerations for wetland hydrology indicators, discussed in Section 6.3 Hydrology Methods.

4.2 National Wetlands Inventory

The United States Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI; USFWS, 2022a) does not have any wetland or riparian areas mapped within the study area (Appendix 1, NWI). This general categorization by the NWI is not intended for planning purposes because of the lack of ground-truthing. In the "Data Limitations, Exclusions and Precautions" disclaimer, it states that:

"The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high-altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis." (USFWS, 2022a)



¹⁰⁻¹⁴ prior to site investigation is considered a normal rainfall.

¹⁵⁻¹⁸ prior to site investigation is considered a wetter than normal rainfall.

The intent of this study is to determine wetland conditions within the study area using site-specific soil, hydrology, and vegetation analysis.

4.3 Geologic and Soil Composition

The site is set within Pliocene-aged marine sediments mainly composed of sandstone, siltstone, shale and moderately consolidated conglomerate (California Department of Conservation [CDC], 2010). The underlying soils in the study areas have the USDA-NRCS soil map unit designation 311- Urban land-Garberville complex, 5 to 15% slopes; 461-Tannin-Burgsblock-Rockyglen complex, 30 to 50% slopes; 667—Dryfield-Yorknorth-Witherell complex, 5 to 30% slopes; and 673-Coolyork-Yorknorth Complex, 30 to 50% slopes. The complete description of these soils and location maps are in Appendix 2 (USDA-NRCS, 2022b).

5.0 Biological Survey Methods

5.1 Biological Scoping Methods

A list of special-status species was developed from known occurrences within the Garberville and adjacent 7.5-minute quadrangles, available from the following sources:

- Consortium of California Herbaria (CCH, 2022)
- Calflora Project (Calflora, 2022)
- California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW], 2022a)
- Biogeographical Information and Observation System (BIOS; CDFW, 2022b)
- Special Animals of California List (CDFW, 2022c)
- Electronic Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society [CNPS], 2022)
- USFWS Information for Planning and Consultation (IPaC; USFWS, 2022b)
- USFWS Threatened and Endangered Species Active Critical Habitat Report Geographic Information System (GIS) database (USFWS, 2022c).

Using information about sensitive species potentially present in the vicinity of the project area, SHN conducted botanical and biological surveys to determine if any of these species were located within or adjacent to the project area or had potential to occur based on habitat availability.

Appendix 3, Table 1, presents the botanical species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. Appendix 3, Table 2 presents the animal species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. Each species was evaluated for its potential to occur within the study area according to the following criteria:

1) **None**. Species listed as having "none" with regard to their potential to occur on the study area are those species for which:



- there is no suitable habitat present in the study area. (Habitats in the study area are unsuitable
 for the species requirements [e.g., elevation, hydrology, plant community, disturbance regime,
 etc.])
- 2) **Low**. Species listed as having a "low" potential to occur in the study area are those for which:
 - there is no known record of occurrence in the vicinity of the study area; and
 - there is marginal or very limited suitable habitat present in the study area.
- 3) **Moderate**. Species listed as having a "moderate" potential to occur on the study area are those species for which:
 - there is a known record of occurrence in the vicinity of the study area; and
 - there is suitable habitat present in the study area.
- 4) **High**. Species listed as having a "high" potential to occur in the study area are those species for which:
 - there is a known record of occurrence in the vicinity of the study area (there are many records and/or records in close proximity); and
 - there is highly suitable habitat present in the study area.
- 5) **Present**. Species listed as "present" in the study area are those species for which:
 - the species was observed in the study area during the investigations.

5.2 Field Investigations

Based on the results of the aforementioned database queries, a focused botanical survey was conducted pursuant to the CDFW *Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities* (CDFW, 2018). Plants observed during site visits were identified to the lowest taxonomic level possible to distinguish special-status species from others. Vegetation alliances conform to the Vegetation Classification and Mapping Program's (VegCAMP) Natural Communities List (CDFW, 2020) and A Manual of California Vegetation online (CNPS, 2023). Botanical nomenclature of species in this Assessment follows the Jepson Manual (Baldwin et al., 2012) and subsequent online revisions (UCB, 2022). In accordance with the botanical survey protocol recommended by CDFW, botanical surveys were floristic in nature, with an attempt to identify all species present, including possible special-status species and natural communities (CDFW, 2018).

Active searches and habitat assessments were conducted for special-status animal species during site visits. Nomenclature for special-status animals conforms to the CDFW Animals List (CDFW, 2022c).

Field surveys were conducted on April 12, 15, 27, and July 1, 2022, and May 9, and 10, and July 5 and 6, 2023 for all special-status species and sensitive habitats potentially present (Appendix 3, Tables 1 and 2) in the study area. The protocol floristic plant surveys and reconnaissance-level wildlife habitat and animal observation surveys covered the entire project area and area of potential effects, as well as a buffer around the project area of potential effects. (See Figure 1 for approximate survey boundary). Vegetation Rapid Assessment and Relevés were conducted to document conditions within sensitive natural communities and are attached in (Appendix 4).



In addition to surveying for target species, lists of all botanical and animal species encountered were compiled. A list of observed botanical species is attached as Appendix 3, Table 3. A list of observed animal species is attached as Appendix 3, Table 4.

6.0 Wetland Assessment Methods

Wetland field investigations were conducted on April 12, 15, and 27, 2022, and February 17, May 9, and May 10, 2023. Twenty-eight (28) test pits were excavated to characterize wetland conditions within the study area. If wetland parameters were observed, then a subsequent test pit was excavated to investigate further for hydric soil indicators and additional hydrology. Results were recorded for soils, vegetation, and hydrology on United States Army Corps of Engineers (USACE) Wetland Determination Data Forms (Appendix 5). Exploratory pits were excavated to help confirm wetland boundaries. These are soil pits that help delineate boundaries by confirming hydrology and hydric soils conditions but are not followed up with data sheets when conditions are similar to those recorded in adjacent test pits on wetland determination data forms.

Wetland delineation methods described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0; USACE, 2010) were used to identify potential wetlands and other waters within the study area. The USACE method relies on a three-parameter approach, in which criteria for hydrophytic vegetation, hydric soils, and wetland hydrology must each be met (present at the point of field investigation) to conclude that an area qualifies as a wetland. Prior to conducting the field investigation, SHN staff reviewed Google Earth (Google Earth, 2022) and NWI map (USFWS, 2022a; Appendix 1). During the field investigation, sample points were characterized at the site for the botanical, hydrological, and soil parameters.*

Point locations were used to:

- achieve appropriate coverage and characterization of any potential wetland and upland habitats,
- document potential changes in the vegetative community (such as, a shift in the dominant species), and
- determine the approximate boundary line between wetlands and uplands by determining the extent of key wetland criteria (hydrology, hydric soils, and hydrophytic vegetation).

The study area was investigated by choosing test pit and exploratory pit locations at edges of depressions, in locations with evidence of standing water, changes in vegetation, or dominance of hydrophytic vegetation, locations of flow patterns, or changes in topography. Areas with potential wetland parameters were selected as pit locations to ascertain the presence or absence of wetlands and the extent of wetlands within the study area. This resulted in a conservative search being conducted for potential wetlands (see Figures 3 and 4 for TP locations). If wetland conditions were absent, then no additional test pit was excavated.

6.1 Vegetation Methods

Hydrophytic vegetation refers to plant species known to be adapted to wetland sites. To classify the hydrophytic plants onsite, the most recent *Western Mountains, Valleys, and Coast 2020 Regional Wetland Plant List* was used (USACE, 2020). Absolute percent cover of each plant species was visually estimated within the sample point and within each vegetation stratum. The herbaceous and shrub stratums were



inspected at a 5-foot radius centered on the sample point while the tree stratum was inspected at a 30-foot radius centered on the sample point. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin et al., 2012) in addition to the online Jepson eflora (UCB, 2022) for verification of species whose taxonomy may have changed since its publication.

The wetland indicator status of plant species for this investigation was based on the *Western Mountains, Valleys, and Coast 2020 Regional Wetland Plant List* (USACE, 2020). Synonyms were checked for species that did not appear on the USACE wetland plant list. Plant species were classified as:

- Obligate (OBL)–almost always occurs in wetlands
- Facultative-wet (FACW)–usually occurs in wetlands, but may occur in non-wetlands
- Facultative (FAC)–occurs in wetlands and non-wetlands
- Facultative-upland (FACU)-usually occurs in non-wetlands, but may occur in wetlands
- Upland (UPL)-almost never occurs in wetlands
- Not listed (NL)-scored as an upland plant and calculated as such on wetland determination forms

The 50/20 method² was applied to each stratum to determine the dominant plant species and to satisfy the hydrophytic vegetation criteria. When the site failed to meet the 50/20 standard, and both hydric soils and wetland hydrology were present, the prevalence index³ was applied. The occurrence and type of plant cover determine whether jurisdictional areas are identified as satisfying the vegetation criteria of a wetland or other waters. Those sites with little or no hydrophytic plant cover, or other sites not capable of supporting hydrophytic plant communities in normal circumstances, are identified as other waters, provided they have an ordinary highwater mark (OHWM).

6.2 Soil Methods

Soils were field verified for the presence or absence of hydric conditions. Hydric soils are soils that are formed under saturated conditions, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (USDA, 2018). All TPs were manually excavated using hand tools to a minimum depth of 24 inches when possible. The thickness of each soil horizon was measured. The Munsell Soil Color Chart (Munsell, 2009) was referenced to determine the colors of the moist soil matrix and redoximorphic (redox) features (if present). Soils were closely inspected for hydric soil indicators, as defined by the NRCS "Field Indicators of Hydric Soils in the United States" (USDA-NRCS, 2018).

6.3 Hydrology Methods

Wetland hydrology is demonstrated through direct evidence (primary indicators) or indirect evidence (secondary indicators) of flooding, ponding, or saturation for a significant portion of the growing season (USACE, 2010). Observations for wetland hydrology were made during TP excavations on April 12, 15, and 27, 2022, and February 17, May 9, and May 10, 2023. Wetland hydrology is determined by the

^{3.} The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot or other sampling unit, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (absolute percent cover).



^{2.} The 50/20 rule: for each stratum of the plant community, dominant species are the most abundant species that (when ranked in descending order of abundance and cumulatively totaled) immediately exceed 50% of total dominance measure for the stratum, plus any additional species that individually comprise 20% or more of the total dominance measure for the stratum (USACE, 2010).

presence of surface and/or ground water in addition to indirect hydrologic indicators (such as, water marks, drift deposits, sediment deposits, drainage patterns, geomorphic position, water-stained leaves, and similar features). Indicators of extended periods of saturation would include oxidized rhizospheres surrounding living roots or the presence of reduced iron or sulfur in the soil profile. A site must contain at least one primary indicator or two secondary indicators to qualify for the hydrology parameter (Section 4.1 Site Hydrology). In addition, aerial imagery was reviewed that may show past inundation, seasonal inundation patterns, or changes onsite that may have influenced hydrology.

The NDMC was reviewed for the north coast region, which includes the study area. This region was experiencing an "Extreme Drought" during the April 2022 investigations, according to the NDMC (Appendix 1). If the wetland delineation is conducted within a region that is experiencing a prolonged extreme drought, the USACE manual (USACE, 2010) describes the follow change in methods for determining hydrology:

"c. Drought years. Determine whether the area has been subject to short or long-term drought. Droughts lasting two to several years in a row are common in the region, particularly in interior portions away from the Pacific coast. Drought periods can be identified by comparing annual rainfall totals with the normal range of annual rainfall given in WETS tables or by examining trends in drought indices, such as the Palmer Drought Severity Index (PDSI; Sprecher and Warne 2000). If wetland hydrology indicators appear to be absent on a site that has hydrophytic vegetation and hydric soils, no significant hydrologic manipulation (e.g., no dams, levees, water diversions, land grading, etc., and the site is not within the zone of influence of any drainage ditches or subsurface drains), and the region has been affected by drought, then the area should be identified as a wetland." (USACE, 2010)

Because the study area is located within a region that was experiencing a persistent, extreme drought and in a "drier than normal" rainfall period during the April 2022 portion of the wetland delineation (see Section 4.1; Site Hydrology), every TP with hydric soil indicators *and* hydrophytic vegetation was assumed to have wetland hydrology normally, even if it was not observed during the wetland delineation fieldwork. In addition, the April 2022 test pits were also excavated to at least 24 inches if no other hydrology indicators were met, to determine if the USACE hydrology "Dry-Season" Water Table (C2) indicator was observed (USACE, 2010). The February 17, and May 9 and 10, 2023 portion of the wetland investigation was performed during a "normal" rainfall period and drought conditions have been reduced from "Abnormally Dry" to "No Drought", which does not require the same level of assumptions (See Appendix 1).

6.4 Ordinary High Water Mark Methods

For purposes of Section 404 of the Clean Water Act (CWA), the lateral limits of federal jurisdiction over non-tidal water bodies in the absence of adjacent wetlands extend to the OHWM. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. For purposes of Sections 9 and 10 of the Rivers and Harbors Act of 1899, the lateral extent of federal jurisdiction, which is limited to the traditional navigable waters of the United States, extends to the OHWM, whether or not adjacent wetlands extend landward of the OHWM (USACE, 2014).

USACE regulations define the term OHWM for the purposes of the CWA lateral jurisdiction as follows:



"The term "ordinary high water mark" means that line on the shore 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 areas at 33 CFR 328.3(e)."

The OHWM in non-perennial streams corresponds with the boundaries of the active channel, which are typically expressed by some combination of three primary indicators: a topographic break in slope, change in sediment characteristics, and change in vegetation characteristics (USACE, 2014). The following supporting features should be considered when making an OHWM determination, to the extent that they can be identified and are deemed reasonably reliable (USACE, 2014):

- Drift/wrack
- Erosion/scour
- Bank undercutting
- Root exposure
- Point bars
- Water staining

- Litter removal
- Silt deposits
- Shelving
- Headcut/knickpoint
- Macroinvertebrates

7.0 Existing Habitat Conditions

7.1 Wallan Tank Site and Pump Station

Section 1 of the study area (Figure 2) includes the Wallan Tank site and Wallan Pump Station for a total of 1.35 acres. The Wallan Tank site and corresponding Pump Station are characterized by sparsely forested slopes in an area of rural development northeast of the town of Garberville. The Wallan Tank (see Appendix 6, Photo 1) is positioned upslope of Wallan Road and just west of a narrow strip of mixed hardwood and conifer woodland along the steep slopes of a ravine. A nearby unnamed seasonal stream (Stream #1) was mapped within the forested ravine (Figure 2; Appendix 6, Photo 2). Burn marks and debris within the forested area indicate a historical burn, estimated approximately 70 years ago. The study area around the Wallan Tank also contains several populations of sensitive vegetation communities: California oatgrass (Danthonia californica Herbaceous Alliance) grassland and purple needlegrass (Stipa spp. Herbaceous Alliance) grassland (Figure 2), further described in Section 8.0 below. Historically disturbed areas within the Wallan Tank site are dominated by nonnative annual grasses and forbs, such as large quaking grass (Briza maxima), soft chess (Bromus hordeaceus), silver hairgrass (Aira caryophyllea), and yellow star thistle (Centaurea solstitialis). At the time of 2022 and 2023 surveys, the Wallan Tank was leaking, and a pool of accumulated water was present around the base of the tank (see Appendix 6, Photo 1). This area was not mapped as wetland due to its highly artificial and disturbed nature.

The Wallan Pump Station is located south of Wallan Road at the edge of a mixed hardwood and conifer forest, which extends along the south of Wallan Road. The sensitive vegetation community, purple needlegrass grassland, is present across from the Pump Station on the north bank of Wallan Road (Figure 2).



7.2 Robertson Tank Site, Arthur Pump Station, and CalFire Station

Section 2 of the study area (Figure 3) is 8.6 acres and includes the Robertson Tank site, the Arthur Pump Station, Alderpoint Road, and the CalFire Station. The Robertson Tank is located atop a steep south-southwest-facing slope north of Alderpoint Road in an area of rural development northeast of the town of Garberville (Appendix 6, Photos 3 and 4). The tank is partially below ground within a grassland adjacent to a mixed hardwood and conifer woodland that extends down the slope. This portion of study area also includes several populations of sensitive purple needlegrass grassland between Robertson Tank and Alderpoint Road and extending along Alderpoint Road (Figure 3) and discussed in Section 8.0 below. There are also two isolated wetlands within the study area, discussed in detail in Section 11.0 below.

The Arthur Pump Station is located just north of Alderpoint Road within a stand of Douglas fir (*Pseudotsuga menziesii*) between Alderpoint road and residential development. Across Alderpoint Road, mixed hardwood/Douglas fir forest extends south of the Arthur Pump Station toward the town of Garberville.

The CalFire Station is located immediately south and downslope from Alderpoint Road on a large hillside bench that ranges from moderately steep to mostly flat. Flat portions of the area are developed with the CalFire Station infrastructure and this area is dominated by non-native species including landscaping and other cultivated plants. Undeveloped portions of the area are dominated by mixed conifer and hardwood forest specifically on the perimeter of the station area and in the northern portion of the area along Alderpoint Road. The undeveloped southeastern portion of the CalFire Station area is dominated by native and non-native grassland, including large sections of California oatgrass grassland and purple needlegrass grassland described in Section 8.0.

7.3 Tobin Well Site and Hurlbutt/Main Tank Sites

Section 3 of the study area (Figure 4) includes the Tobin Well site, the existing Hurlbutt Tank site, and proposed Main Tank site for a total of 13.14 acres. Vegetation present at the Tobin Well site consists of nonnative grasses and herbs, as well as ornamental trees and shrubs. No sensitive plant communities or wetlands were identified within this portion of the study area.

The Hurlbutt/Main Tanks site is accessed from the southeastern end of downtown Garberville via Melville Road and Hillcrest Drive (Figure 4). The access roads pass through mixed hardwood/conifer woodlands, connecting to a large, expansive forested area dominated by mature Douglas fir to the south and east of Garberville. The study area encompasses the existing Hurlbutt Tank, a residence, and several other associated structures accessed from a paved driveway northwest of a large gently-sloping mowed non-native grassland. The proposed location of the new Hurlbutt Tank is on the southwestern edge of the sloping mowed pasture. The residence, existing, Hurlbutt Tank, proposed Main Tank, and the mowed pasture are surrounded by mixed hardwood-conifer forests. The southwestern edge of the study area includes a steep cut slope dominated by young forest and shrubland between the mowed pasture and U.S. Highway 101. Several seasonal streams and wetlands exist within and adjacent to the study area, as shown in Figure 4 and discussed in detail in Section 11.0 below. Dominant species within the forested area include Oregon white oak (Quercus garryana), California bay laurel (Umbellularia californica), madrone (Arbutus menziesii), and Douglas fir, which have a well-developed understory with native herbaceous and woody species dominant. Within the mowed pasture dominant species were non-native species common within managed pasture and grassland, including subterranean clover (Trifolium subterraneum [NL]), sweet vernal grass (Anthoxanthum odoratum [FACU]), hairy oatgrass



(Rhytidosperma penicillatum [NL], California blackberry (Rubus ursinus [FACU]), velvet grass (Holcus lanatus [FAC]), and creeping bentgrass (Agrostis stolonifera [FAC]).

8.0 Natural Communities

Sensitive vegetation communities, with a rank of S3 or lower, require California Environmental Quality Act (CEQA) analysis if potential impacts may occur. Two sensitive vegetation communities as defined by the Manual of California Vegetation or CDFW Natural Communities list occur within the study area (Sawyer, 2009; CNPS, 2023; CDFW, 2022a; Figures 2, 3, and 4). These include purple needlegrass grassland (*Stipa* spp. Herbaceous Alliance) and California oatgrass grassland (*Danthonia californica* Herbaceous Alliance) and appropriate species associations.

Purple needlegrass grassland (Stipa spp. Herbaceous Alliance) occupies approximately 26,977.9 sqft (0.62 acre) within the study area. The majority of the purple needlegrass grassland is in Section 2 with multiple occurrences totaling 19,484.67 square feet (sqft; 0.45 acre; Figure 3). Four well-developed, intact purple needlegrass grassland occurrences exist in Section 1, for a total of 7,493.20 sqft (0.17 acre; Figure 2). The purple needlegrass grasslands observed within the study area are further described to the association level. Within Section 1, all purple needlegrass grasslands were best described as having the Stipa pulchra association, which is characterized by high cover and dominance by purple needlegrass. Purple needlegrass grasslands within the study area displayed up to 80 percent cover by purple needlegrass, most of which was flowering at the time of the survey (Appendix 6, Photo 5). Common associated species included large quaking grass, coast heron's bill (Erodium cicutarium), California oatgrass, rose clover (*Trifolium hirtum*), and purple sanicle (*Sanicula bipinnatifida*), among others. Purple needlegrass grassland within the study area is generally on open, herbaceous-dominated south-facing slopes in locations with a history of minimal recent disturbance. More disturbed areas display much higher cover by non-native annual grasses, including an off-highway vehicle (OHV) trail that nearly bisects the purple needlegrass grassland immediately south of the Wallan Tank site. Purple needlegrass grassland has a global heritage rank of G3G4 and a State heritage rank of S3S4, and the Stipa pulchra association has an additional rarity ranking of S3, therefore qualifying for consideration under CEQA Guidelines checklist IVb. Releve' Data Sheet 1 documents representative conditions within the purple needlegrass grasslands in the study area and this data point was located within a large purple needlegrass grassland south of the Wallan Tank site (Appendix 4).

California oatgrass grassland (*Danthonia californica* Herbaceous Alliance) occupies approximately 5,063.86 sqft (0.11 acre) within the study area. The majority of the California oatgrass grassland is in Section 2 with three distinct occurrences totaling 4,005.15 sqft (0.09 acre; Figure 3). One California oatgrass grassland occurrence is in Section 1 with a total of 446.07 sqft (0.01 acre; Figure 2) and two California oatgrass grassland occurrences are in Section 3 with a total of 612.64 sqft (0.01 acre; Figure 4). The majority of the California oatgrass grassland occurrences do not meet an association level description, however the largest California oatgrass grassland mapped within the study area (Section 2, Figure 3) is best described using the *Stipa pulchra* association as there is a low percentage of purple needlegrass present within the grassland dominated by California oatgrass. California oatgrass within the study area displayed a wide range of dominance by California oatgrass. High quality examples exhibited up to 70 percent cover by California oatgrass, however most were less than 50 percent cover by California oatgrass (Appendix 6, Photo 6). Common associated species included smooth cat's ear (*Hypochaeris glabra*). Large quaking grass, ripgut brome (*Bromus diandrus*), and Purdy's iris (*Iris purdyi*) among others. California oatgrass grassland within the study area is generally on open, herbaceous dominated slopes with varied aspects, primarily in areas with some amount of irregular mowing.



California oatgrass grassland does not have a global rarity rank (GNR), but has a State heritage rank of S3, therefore qualifying for consideration under California Environmental Qualifications Act (CEQA) Guidelines checklist IVb. Releve' Data Sheet 2 documents representative conditions within the California oatgrass grasslands in the study area and this data point was located within a small, lower quality California oatgrass grassland southeast of the Wallan Tank site (Appendix 4).

9.0 Special-status Botanical Species

Based on a review for special-status plant species, 46 special-status botanical species were identified as occurring within the Garberville and surrounding USGS quadrangles (Appendix 3, Table 1). A total of 11 special-status botanical species were determined to have a moderate or high potential of occurring within the study area. Species with moderate or high potential of occurring within the study area are listed below:

- northern clustered sedge (Carex arcta)
- Humboldt County fuchsia (Epilobium septentrionale)
- streamside daisy (Erigeron biolettii)
- coast fawn lily (Erythronium revolutum)
- bristly leptosiphon (*Leptosiphon acicularis*)
- broad-lobed leptosiphon (Leptosiphon latisectus)
- heart-leaved twayblade (*Listera cordata*)
- white-flowered rein orchid (*Piperia candida*)
- North Coast semaphore grass (*Pleuropogon hooverianus*)
- Siskiyou checkerbloom (Sidalcea malviflora ssp. patula)
- Methuselah's beard lichen (Usnea longissima)

A total of 315 botanical species were observed within the study area, reflecting the varied habitat occurring within the study area and are recorded in Appendix 3, Table 3. Of the 315 botanical species, 50 percent are native species. Seasonally-appropriate surveys of the study area did not locate any special-status botanical species. Habitat exists within the study area for a number of the special-status botanical species documented as potentially occurring within the study area, including wetland areas, grassland, and forested areas. No special-status botanical species were observed, possibly as a result of disturbance, dominance by non-native and invasive species, or other reasons. The findings in this Assessment represent conditions at the time of the surveys and it is possible that false negative surveys for rare plant species could occur; however, the surveys were conducted over a two-year period (2022 and 2023), significantly reducing the potential for false negative results. This Assessment documents the 2022 and 2023 field investigations, and the findings presented here are based on best professional judgment.

10.0 Special-status Animal Species

Based on a review for special-status animal species, 37 special-status animal species have been reported from the region consisting of the Garberville quadrangle and surrounding quadrangles (Appendix 3, Table 2). Of the special-status animal species potentially occurring in the region, 27 animal species are considered to have no or low potential to occur at the project site and 10 species have a moderate to high potential to occur at the project site. Species with a moderate or high potential for occurrence within the study area are listed below.



10.1 Amphibians

The **red-bellied newt** (*Taricha rivularis*) is not listed under either the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), but is considered a Species of Special Concern (SSC) by CDFW and has heritage ranks of G2/S2. This species breeds in streams and adults live in terrestrial environments within coniferous and riparian forests and woodlands. There is suitable terrestrial habitat available for adults and juveniles within the forested portions of the study area. Logs were turned within the study area to search for amphibians. This species was not observed during site visits, although the ephemeral drainages within the study area may provide dispersal habitat for this species. With the incorporation of the recommendation to avoid and minimize impacts to wetlands/waters, this species is not expected to be affected by the project.

10.2 Birds

The **American peregrine falcon** (*Falco peregrinus anatum*) is delisted under FESA and CESA and has heritage rankings of G4T4/S3S4. This species occurs in forested areas, open areas with rocky outcroppings, and often near water bodies. They nest on cliff ledges, sometimes in hollow or broken snags or large trees, and also use ledges of buildings, bridges, or other structures. This species was not observed during site visits, although portions of the study area provides urban nesting habitat for this species while the surrounding landscape provides higher quality nesting and foraging habitat. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

The **cooper's hawk** (*Accipiter cooperii*) is not listed under FESA or CESA but it is on the Watch List by CDFW and has heritage rankings of G5/S4. This species occurs in forested habitats, including cismontane woodlands and riparian forests. Cooper's hawk prefers open, interrupted, or marginal forests, allowing for increased foraging opportunities. Nest sites are usually in deciduous forested riparian areas. Suitable nesting habitat is available within the forested portions of the study area, although no nests of this species were observed during site visits. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

The **olive-sided flycatcher** (*Contopus cooperi*) is not listed under FESA or CESA, but it is a SSC by CDFW and has heritage rankings of G4/S3. This species occupies various forest and woodland habitats, including mixed coniferous-deciduous forest, and wetland/riparian forested areas. Nest sites are usually in coniferous trees, often with nearby large dead snags. Suitable nesting habitat is available within the forested portions of the study area. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

The **osprey** (*Pandion haliaetus*) is not listed under FESA or CESA but is on the Watch List by CDFW and has heritage rankings of G5/S4. This species can be found within riparian forests, shores, bays, lakes and larger streams. They build large nests on broken treetops or human-made structures within 15 miles of a fish-bearing body of water. Suitable nesting habitat is available within the forested portions of the study area, where some broken treetops were observed, although no nests of this species were observed during site visits. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

10.3 Fishes

There are no special-status fish with potential to occur within the study area due to lack of suitable stream connectivity and seasonal, ephemeral water flows.



10.4 Insects

There are no special-status insects with moderate or high potential to occur within the study area due to lack of adequate suitable habitat.

10.5 Mammals

The **pallid bat** (*Antrozous pallidus*) is not listed under FESA or CESA and has heritage rankings of G4/S3. This species inhabits a variety of forested habitats such as broadleaf upland forest, cismontane woodland, closed-cone conifer forest, lower and upper montane conifer forest, and north coast conifer forest. They are most common in open, dry habitats with rocky areas for roosting. A focused bat presence survey was not conducted, although limited suitable roosting habitat is available within the portions of the study area away from town. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts to roosting bats.

The **North American porcupine** (*Erethizon dorsatum*) is not listed under either FESA or CESA, but has a heritage ranking of G5/S3. This species is a generalist herbivore found in a wide variety of coniferous and mixed woodland habitat. They are commonly found on the ground or in trees. Denning can occur in rocky areas, or if not available, in hollowed-out trees. This species was not observed during site visits, although suitable habitat is available within the forested portions of the study area. Due to project activities being focused on existing infrastructure replacement within developed areas, this species is not expected to be affected by the project.

The **fringed myotis** (*Myotis thysanodes*) is not listed under either FESA or CESA but is considered a sensitive species by the Bureau of Land Management (BLM) and has a heritage ranking of G4/S3. This species feeds on beetles, moths, flies, leafhoppers, lacewings, crickets, spiders, harvestmen, and other invertebrates. The fringed myotis roosts in rock crevices, caves, buildings, and mines as well as large snags generally in small clusters of females. Males roost alone or in small separate colony. A focused bat presence survey was not conducted, although suitable habitat is available within the forested portions of the study area and adjacent buildings. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on roosting bats.

The **long-eared myotis** (*Myotis evotis*) is not listed under either FESA or CESA but is considered a sensitive species by the BLM and has a heritage ranking of G5/S3. This species feeds on a variety of arthropods including moths, flies, spiders, and especially beetles. The long-eared myotis roosts singly, or in small groups in buildings, crevices, spaces under bark and snags. Caves are used primarily as night roosts. A focused bat presence survey was not conducted, although suitable habitat is available within the forested portions of the study area and adjacent buildings. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on rooting bats.

The **Yuma myotis** (*Myotis yumanensis*) is not listed under either FESA or CESA but is considered a sensitive species by the BLM and has a heritage ranking of G5/S4. This species is found in a variety of western lowland habitats, from arid thorn scrub to coniferous forest, but always close to standing water such as lakes and ponds. This species may roost in a variety of places such as buildings and bridges, trees, and rocks. A focused bat presence survey was not conducted, although suitable habitat is available within the forested portions of the study area and adjacent buildings, though standing water is limited. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on rooting bats.



10.6 Reptiles

No special-status reptiles have potential to occur within the study area due to lack of suitable habitat.

10.7 Designated Critical Habitat

The nearest Designated Critical Habitat exists approximately 0.2 miles to the west within the Eel River and is mapped for Steelhead and Chinook salmon. This habitat is on the opposite side of U.S. Highway 101 from the project area; however, there is hydrologic connectivity through the five streams that occur within or adjacent to the study area. Streams will be avoided with suitable buffers, and proper stormwater best management practices (BMPs) will be utilized to prevent the introduction of sediment or other contaminants. As such, this habitat will not be affected by the project. The next nearest Designated Critical habitat exists approximately 2 miles to the northwest of the project area and is mapped for the marbled murrelet. This habitat will not be affected by the project due to its distance from the project areas.

10.8 Nesting Bird Habitat

All areas of vegetation and some urban development structures may provide suitable nesting habitat for a wide variety of birds. There is the potential for significant impacts to nesting birds during construction without the incorporation of mitigation. To minimize impacts to nesting bird species, pre-construction surveys for nesting birds are recommended as mitigation for the proposed project as described in Section 14.0 Recommendations.

10.9 Wildlife Movement Corridors

The ephemeral drainages, streams, grassland, and forested areas within the study area provide potential movement corridors for animals. These areas are to remain largely unimpacted and will not be significantly modified by project activities. The only permanent fencing proposed by the project is security fencing immediately around the proposed water tanks, which would not cause disruption of wildlife movement. Therefore, there are no anticipated negative effects on wildlife movement corridors as a result of the project.

10.10 Special-status Animal Species Summary

No special-status animal species were detected during the surveys, although it is possible that special-status species could be found within the project area at some point. However, the lack of high-quality habitat compared to the surrounding landscape makes it unlikely that special-status species would remain on site during construction.

11.0 Wetland and Other Waters Results

Wetland field investigations were conducted on April 12, 15, and 27, 2022, and February 17, and May 9 and 10, 2023. Ten wetland features and five streams were mapped within or near the study area. Streams and wetlands outside of the study area but immediately adjacent to proposed project activities were mapped for planning and setback purposes. The results from the wetland investigation within each of the study area sections are described below, including wetland and stream conditions. See Figure 1 for the location of each study area section, Figure 2 for Section 1 wetland and stream conditions, Figure 3 for Section 2 wetland and stream conditions, and Figure 4 for Section 3 wetland and stream conditions. The Wetland Determination Data Forms and OHWM Delineation Datasheets for each test pit and OHWM delineation point are included in Appendix 5.



11.1 Section 1—Wallan Tank Site and Pump Station

This area is a dry, sloping, well drained upland and had no evidence of wetland hydrology or hydrophytic vegetation; therefore, no test pits were excavated (Figure 2). The existing Wallan Tank has a small leak, which has created a small, isolated wet depression that was not considered to be a wetland due to its completely artificial nature in an otherwise upland and well-drained setting (Appendix 6, Photo 1).

A steep forested ravine immediately east of the Wallan Tank site contains Stream #1. Stream #1 is a seasonal intermittent stream flowing north to south within a steep ravine approximately 50 feet elevation lower than the location of Wallan Tank. The stream occurs approximately 100 feet east of the existing Wallan Tank at its nearest point and is outside of the study area (Figure 2). Approximately 191 feet of Stream #1 was mapped (Figure 2; Appendix 6, Photo 2); however, the stream reach up slope and downslope are unknown. It is likely that the stream flows through the steep forested ravine and into Bear Canyon which flows to the Eel River a Traditional Navigable Waterway (TNW). See Appendix 5, OHWM Datasheet 1 for detailed conditions within Stream #1.

The Wallan Pump Station in the southwestern portion of the Section 1 study site did not have any wetland or OHWM features and is very steep and well drained.

11.2 Section 2—Robertson Tank, Arthur Pump Station, and CalFire Station

Three wetlands were observed within this portion of the study area (Figure 3). Wetland #1 occurs within a roadside swale on the west side of Alderpoint Road across from the junction of Wallan Road and Alderpoint Road (Figure 3). Wetland conditions are restricted to the low point within the roadside swale (Appendix 6, Photo 3). While the roadside swale was constructed to capture stormwater, most of the swale is dry without wetland conditions. Wetland conditions are restricted to a 176-sqft area. Stormwater input likely enhances wetland conditions; however, the disappearance of wetland conditions within the swale downslope of Wetland #1 suggests that wetland conditions in Wetland #1 are a result of groundwater or other hydrologic input. The location of Wetland #1 is within a swale at the base of a large hillslope cut, and it is possible that a groundwater table was intercepted and is providing localized hydrologic input at this location. As such, this wetland is considered artificially induced, but has become a naturalized wetland. All three wetland parameters are present in Wetland #1 and the wetland likely has above-ground connectivity to Bear Canyon and the Eel River (a TNW), via the roadside ditch and other water conveyance infrastructure. Dominant species include common rush (Juncus effusus ssp. pacificus [FACW]), tall fescue (Festuca arundinacea [FAC]), and Himalayan blackberry (Rubus armeniacus [FAC]). Hydric soil indicators Depleted Matrix (F3) and Depleted Below a Dark Surface (A11) indicate localized long-term saturation. Wetland hydrology indicators of High-Water Table, Saturation, Geomorphic Position (artificial), and a vegetation community meeting the FAC-Neutral Test were present. See Table 3 for Cowardin classification and Figure 3 for the location of Wetland #1. See Appendix 5, TP1 Wetland Determination Data Form for detailed conditions within Wetland #1 and TP2 Data Form for upland conditions within the swale immediately downslope from Wetland #1.

Wetland #2 occurs within an artificial flat area downslope of the Robertson Tank and north of Alderpoint Road (Figure 3; Appendix 6, Photo 4). Stormwater from Alderpoint Road collects within this flat area, and leaks from the Robertson Tank have until recently flowed down the slope and into this flat area, likely enhancing wetland conditions within Wetland #2. Wetland #2 occupies approximately 428-sqft of the low-sloped area, specifically in low points that collect water. Wetland #2 likely has above-ground



connectivity to Bear Canyon and the Eel River (a TNW), via the roadside ditch and culvert under Alderpoint Road and other water conveyance infrastructure. Although this area is artificially manipulated, conditions within Wetland #2 have normalized, and it is considered a naturally-occurring wetland. All three wetland parameters are present in Wetland #2. Dominant species include spreading rush (*Juncus patens* [FACW]), pennyroyal (*Mentha pulegium* [OBL]), and Oregon ash (*Fraxinus latifolius* [FACW]). Hydric soil indicators Depleted Matrix (F3) and Depleted Below a Dark Surface (A11) show localized long-term saturation. Wetland hydrology indicators of an Algal Mat (B4), Drainage Patterns (B10), and a vegetation community that meets the FAC- Neutral Test (D5) were present. See Table 3 for Cowardin classification and Figure 3 for the location of Wetland #2. See Appendix 5, for the TP3 Wetland Determination Data Form for detailed conditions within Wetland #2 and TP4 Data Form for upland conditions around Wetland #2.

Wetland #3 occurs in a shallow swale at the break in slope where the steep hillslope meets the mostly flat topography of the hillside bench which contains the CalFire Station. Wetland #3 is approximately 2,244-sqft and appears to be mostly naturally-occurring as a result of the microtopography of the area and the movement of groundwater and surface water off of the hillslope, which has resulted in a seasonal seep that provides wetland hydrology during the wet season. A shallow artificial swale extends across the hillslope to the northwest, which captures stormwater from the slope and directs it to the wetland, which further enhances wetland hydrology conditions. This swale has in turn developed wetland conditions and is mapped as part of Wetland #3 (Figure 3; Appendix 6, Photo 7). All three parameters are present in Wetland #3, with vegetation dominance of Himalayan blackberry [FAC], Harford's sedge (Carex harfordii [OBL]), and rough-stalk blue grass (Poa trivialis [FAC]). The well-formed hydric soils denote long-term saturation, with indicators of Depleted Below Dark Surface (A11) and Depleted Matrix (F3). The soils were saturated up to 3 inches with a water table at 10 inches, meeting the hydrology indicators High Water Table (A2) and Saturation (A3), in addition to the Geomorphic Position (D2) and FAC-Neutral Test (D5). See Table 3 for Cowardin classification and location of Wetland #3. See Appendix 5, for the TP27 Wetland Determination Data Form for detailed conditions within Wetland #3 and TP28 Data Form for upland conditions around Wetland #3. Wetland #3 appears to be an isolated wetland with no evident above-ground connectivity to other features.

A small anthropogenic feature with three wetland parameters was found along the north side of Alderpoint Road near the CalFire Station. Exploratory pits were used to investigate this feature. It was determined not to be jurisdictional as the three-parameters are due only to its use as a stormwater conveyance feature for Alderpoint Road. It is actively maintained with regular mowing. There are tire tracks through it from road use. The substrate is composed of compacted gravel and asphalt.

No streams occur within Section 2 of the study area. A small ephemeral stream was observed just outside of the northwest corner of the study area near the CalFire entrance. This stream is culverted under Alderpoint Road and the CalFire Station and the outfall for this stream is unknown. No project activities are proposed in this area and the stream was not mapped due to lack of access to private property on the north side of Alderpoint Road.

11.3 Section 3—Tobin Well Site and Hurlbutt/Main Tank Sites

Seven wetlands and four streams occur within this portion of the study area (Figure 4) reflecting the more natural conditions and moist forested hillslope conditions surrounding downtown Garberville. All seven wetlands are in forested settings with seasonal to perennial saturation, and many have a history of excavation or other disturbance. Streams are seasonal intermittent or ephemeral streams. Wetlands are discussed in Section 11.3.1 and streams are described in Section 11.3.2.



No wetlands were observed within the Tobin Well portion of the study area. An undeveloped lot displayed weak hydrophytic vegetation dominance and evidence of hydrology as a result of stormwater flows from adjacent developed lots. This area was investigated with a test pit (Appendix 5, TP5) but no hydric soils indicators were observed, indicating transitory hydrology, which does not persist long enough for the development of hydric soils; therefore, no wetland is mapped at this location.

11.3.1 Section 3 Wetland Descriptions

Wetland #4 occurs within a roadside swale and on a portion of the slope above the east side of Hillcrest Drive (Figure 4). Wetland conditions begin on a slope above Hillcrest Drive within a naturally-occurring wetland seep; however, wetland hydrology was captured by the inboard ditch along Hillcrest Drive, which has caused the entire inboard ditch to develop persistent and pronounced wetland conditions (Appendix 6, Photo 8). Although the inboard ditch portion of the wetland was constructed, natural hydrologic input from the wetland seep and connectivity to the existing natural wetland has caused the inboard ditch to become a naturally-occurring wetland with artificial conditions present. Wetland conditions are restricted to a 564-sqft area. Stormwater input likely enhances wetland conditions within the inboard ditch portion of the wetland during storm events; however, the disappearance of wetland conditions within the inboard ditch further downslope suggests that persistent wetland conditions are a result of hydrologic input from the natural portion of the wetland on the slope above Hillcrest Drive. All three wetland parameters are present in Wetland #4. Dominant species include arroyo willow (Salix lasiolepis [FACW]), Pacific willow (Salix lasiandra var. lasiandra [FACW]), Himalayan blackberry, Henderson's sedge, and tall fescue. Hydric soil indicator Depleted Matrix (F3) indicates localized longterm saturation and wetland hydrology indicators of Saturation (A3) a Dry Season Water Table (C2), and a vegetation community meeting the FAC-Neutral Test (D5) were present. This wetland appears to be isolated with no observed above-ground connectivity to other wetland or other waters. See Table 3 for the Cowardin classification and location of Wetland #4. See Appendix 5, TP8 Wetland Determination Data Form for detailed conditions within Wetland #4, TP9 Data Form for upland conditions within the inboard ditch immediately downslope of Wetland #4, and TP7 Data Form for transitional conditions on the hillslope adjacent to Wetland #4.

Wetland #5 occurs on an embankment above the east side of Hilcrest Drive (Figure 4; Appendix 6, Photo 9). Wetland conditions are restricted to a 189-sqft area, some of which is outside of the study area. Hydrology is likely provided by groundwater at the surface as a result of a historical bank cut for the development of Hillcrest Drive. Although excavation of the slope for road development likely exposed groundwater, natural hydrologic input and the development of wetland conditions makes this an artificially induced but naturally-occurring wetland. All three wetland parameters are present in Wetland #5. Dominant species include California blackberry, pennyroyal, and velvet grass. Hydric soil indicator Depleted Matrix (F3) indicates localized long-term saturation and wetland hydrology indicators of Saturation (A3), Water-Stained Leaves (B9), and a vegetation community meeting the FAC-Neutral Test (D5) were present. Wetland #5 has above-ground connectivity to Stream #2, which flows through a series of streams to the Eel River (a TNW); however, wetland conditions are restricted to the area shown on Figure 4. See Table 3 for the Cowardin classification and location of Wetland #5. See Appendix 5, TP10 Wetland Determination Data Form for detailed conditions within Wetland #5, and TP11 Data Form for surrounding upland conditions.

Wetland #6 occurs within a basin created by historical fill placement for the Hillcrest Road prism within a naturally-occurring ravine containing Stream #2 (Figure 4; Appendix 6, Photo 10). Development of the roadway blocked Stream #2 (Appendix 6, Photo 11), which flows into Wetland #6 causing water to pool and develop wetland conditions. No culvert was observed within the basin and it appears that Stream



#2 flows are directed into the inboard ditch on the southeast side of Hillcrest Drive/Melville Road. Wetland conditions are restricted to the lowest elevations within the basin for a total of 385 sqft and the entire wetland is just outside of the study area. While development of Hillcrest Drive/Melville Road created a basin in which water can collect, it is located within a naturally-occurring ravine with a naturally-occurring stream making this an artificially induced but naturally-occurring wetland. Two wetland parameters are present in Wetland #6, with hydrophytic vegetation dominance lacking. Vegetation composition was determined to be problematic and does not reflect the wetland conditions evidenced by the presence of hydric soil and wetland hydrology. Dominant species include Himalayan blackberry, fringe cups (Tellima grandiflora [FACU]), sword fern, and English ivy. Recent vegetation removal and dominance by English ivy likely obscure hydrophytic vegetation dominance or have altered cover within the area such that it does not currently reflect wetland conditions. Hydric soil indicator Depleted Matrix (F3) indicates localized long-term saturation and wetland hydrology indicators of High-Water Table (A2), Saturation (A3), Drainage Patterns (B10), and Geomorphic Position (D2) were present. Wetland #6 has above-ground connectivity to Stream #2, which flows through a series of streams to the Eel River (a TNW); however, wetland conditions are restricted to the area shown on Figure 4. See Table 3 for Cowardin classification and location of Wetland #6. See Appendix 5, TP12 Wetland Determination Data Form for detailed conditions within Wetland #6, and TP13 Data Form for surrounding upland conditions.

Wetland #7 is located in a shallow swale between a trailer park and a motel at the base of a forested hillslope (Figure 4). Stormwater runoff from the trailer park above the wetland is directed to a swale that runs behind the motel building and into Wetland #7 (Appendix 6, Photo 12) likely enhancing wetland hydrologic conditions. All three wetland parameters occur within this wetland which is approximately 1,362 sqft. Dominant vegetation species are mostly non-native invasive species, including Himalayan blackberry, tall fescue, London plane tree (*Platanus hispanica* [NL]), and the native Harford's sedge. The soils have hydric indicators of Depleted Below Dark Surface (A11) and Depleted Matrix (F3), with hydrology indicators of Surface Water (A1), High Water Table (A2), Saturation (A3), and Geomorphic Position (D2). Because of the minimal swale depression in this graded surface, the outer boundaries of Wetland #7 were poorly defined with transitional edges, and the wetland appears to be artificially induced as a result of surrounding development. Wetland #7 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP21 Wetland Determination Data Form for detailed conditions within Wetland #7, and TP22 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #7.

Wetland #8 is located midslope within a dry, steeply-sloping forested hillside. Wetland #8 represents unique wetland seep habitat and appears to be naturally formed within a slope failure slump which has exposed the groundwater table to the surface (Figure 4; Appendix 6, Photo 13). It is approximately 483 sqft, and it is confined to the narrow slump feature. Wetland conditions diminish downslope of the slope failure slump and disappear as groundwater infiltrates back into the soil. All three wetland parameters were met at this site and are strongly developed. Dominant vegetation included arroyo willow, Himalayan blackberry, giant chain fern (*Woodwardia fimbriata* [FACW], western lady fern (*Athyrium filix-femina* var. *cyclosorum* [FAC], and English Ivy. Hydric soil indicators included Depleted Below Dark Surface (A11), Loamy Gleyed Matrix (F2), and Depleted Matrix (F3), with hydrology indicators of Surface Water (A1), Saturation (A3), Oxidized Rhizospheres along Living Roots (C3), Water-Stained Leaves (B9), Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5). Wetland #8 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP23 Wetland Determination Data Form for detailed conditions within Wetland #8, and TP24 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #8.



Wetland #9 is located on a slope above Redwood Drive. The hillslope has been cut to form a bank and graded pad for the existing motel, which is immediately downslope from the wetland (Figure 4; Appendix 6, Photo 14). The historical excavation appears to have intercepted a wet season water table, which seeps into and pools within the flat graded area below the excavated slope, creating an approximate 306-sqft wetland. All three wetland parameters were met at this site. Dominant vegetation within the wetland included arroyo willow, Himalayan blackberry, Scotch broom (*Cytisus scoparius* [NL]), spreading rush, and bigleaf periwinkle (*Vinca major* [FACU]). Hydric soil indicators observed included Depleted Below Dark Surface (A11) and Depleted Matrix (F3), with the wetland hydrology indicator, Saturation (A3), present at 10 inches. Wetland #9 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP27 Wetland Determination Data Form for detailed conditions within Wetland #9, and TP28 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #9.

Wetland #10 is a small 401-sqftwetland directly above U.S. Highway 101 (Figure 4; Appendix 6, Photo 15). This entire area was excavated for the construction of U.S. Highway 101, and the excavation appears to have intercepted a groundwater table, allowing for saturation at the surface even on a steep excavated slope. A naturally-occurring porous gravel layer over a thin clay duripan at 18 inches helps hold the seepage water long enough to create wetland habitat and support the development of wetland conditions. All three wetland parameters occur within this wetland. Dominant vegetation species included Douglas fir, arroyo willow, Scotch broom, Himalayan blackberry, and lady fern [FAC]. Hydric soil indicators observed were the Depleted Below Dark Surface (A11) and the Depleted Matrix (F3), with the primary wetland hydrology indicator Saturation (A3) at 10 inches. Wetland #10 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP19 Wetland Determination Data Form for detailed conditions within Wetland #10, and TP20 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #10.

One additional wetland is shown outside of the study area on Figure 4 near the Stream #5 drainage inlet (DI) east of U.S. Highway 101. This is shown for reference and setback and avoidance purposes only. This feature was not delineated, and the boundary and extent shown is an estimate.

11.3.2 Section 3 Stream Descriptions

Stream #2 is a seasonal intermittent stream flowing northwest toward the town of Garberville. The stream originates upslope of Hillcrest Drive outside of the study area, and this portion of the stream is not mapped. The stream flows through a culvert under Hillcrest Drive and into a steep ravine (Appendix 6, Photo 11). The stream passes in and out of the study area; however, a portion of the stream is mapped for approximately 255 feet as shown on Figure 4. The stream flows into Wetland #6 where OHWM conditions disappear. It is likely that most flows are infiltrated into the soil within the wetland and that larger stormwater related flows are directed into an inboard ditch along Melville Road, as no culvert exists under Hillcrest Drive. Stream flows are contained within the inboard ditch along the road for approximately 270 feet before flowing into a DI at the bottom of the slope. It is unknown where the culvert takes the stream flows and connectivity to other streams including the Eel River (a TNW), while assumed, is unknown. See Appendix 5, OHWM Datasheet 5 for detailed conditions within Stream #2.

Stream #3 is a seasonal intermittent stream flowing northwest toward the town of Garberville. The stream originates upslope of a private paved driveway outside of the study area, and this portion of the stream is not mapped. The stream flows through a culvert under the private driveway and into a steep ravine (Appendix 6, Photo 16), which is outside of the study area; however, a small portion of the stream



is mapped for approximately 84 feet as shown on Figure 4. It is unknown where the stream flows to beyond what is shown on Figure 4, and connectivity to other streams including the Eel River (a TNW), while assumed, is unknown. See Appendix 5, OHWM Datasheet 3 for detailed conditions within Stream #3.

Stream #4 is an ephemeral stream dependent upon storm events for flows. The stream headwaters occur within a partially excavated and manipulated swale that collects water from impervious surfaces associated with a residence and a sloping pasture surrounded by forested slopes. Stream conditions become more pronounced and incised with natural conditions down slope (Appendix 6, Photo 17) where pooled water was observed even during the July botanical surveys. A total of 427.72 linear feet of Stream #4 is mapped on Figure 4, which is the entire stream reach between the headwaters and the culvert under U.S. Highway 101. It is assumed that the stream flows under U.S. Highway 101 via the culvert and eventually into the Eel River (a TNW). See Appendix 5, OHWM Datasheet 2 for detailed conditions within Stream #4.

Stream #5 is a seasonal intermittent stream flowing west along the southern edge of the study area. No portion of this stream is within the study area and it was mapped for reference and setback purposes. The stream appears minimally disturbed within the mapped portion before it enters a culvert under U.S. Highway 101 (Appendix 6, Photo 18). Although the stream is outside of the study area, approximately 853 feet was mapped, as shown on Figure 4. It is unknown where the stream flows to beyond what is shown on Figure 4, and connectivity to other streams while assumed, is unknown; however, it likely flows to the Eel River (a TNW) on the west side of the highway. See Appendix 5, OHWM Datasheet 4 for detailed conditions within Stream #5.

12.0 Conclusions

12.1 Biological Results

This section summarizes the results of the research and field investigations conducted within the study area.

A total of 315 botanical species were observed within the study area (Appendix 3, Table 3), however no special-status botanical species were observed within the study area. Although potential habitat exists for several special-status botanical species, existing and surrounding development, and continuing and historical disturbance associated with roadsides, urban development, and water distribution maintenance make it unlikely that special-status species exist within the study area. See the Recommendations section for measures to reduce potential impacts to botanical species during the life of the proposed project.

Two sensitive vegetation communities were observed during seasonally-appropriate protocol surveys. This included purple needlegrass grassland and California oatgrass meadow, both of which are S3 sensitive vegetation communities. These vegetation communities were observed in multiple locations throughout the study area for a total of 26,977.87 sqft (0.62 ac) of purple needlegrass grassland mapped and a total of 5,063.86 sqft (0.12 ac) of California oatgrass meadow mapped. These sensitive vegetation communities should be avoided, and measures taken to reduce impacts. If impacts are unavoidable then the measures included in the Recommendations section of this report should be followed.

Although potential habitat exists for a number of special-status animal species (see Appendix 3, Table 2), existing and surrounding development, and continuing and historic disturbance in the majority of the



study area make it unlikely that any special-status animal species exist within the project footprint. The project activities will be conducted primarily within existing developed areas with temporary disturbance to wildlife. Critical habitat for Steelhead, Chinook salmon, and Marbled murrelet is mapped at such a distance and without direct connectivity from the study area to not be affected by the project (USFWS, 2022a). Some bats may have the potential to roost in crevices of the water tanks proposed for demolition, as well as any trees that may require trimming or removal as part of the project activities. Nearly all areas of the project may support native nesting birds during the breeding season (generally March 15 to August 31) and may be affected by construction activities. See the Recommendations section for measures to reduce potential impacts to roosting bats and nesting birds during the life of the proposed project.

12.2 Wetland and OHWM Results

A total of ten wetlands were observed within or immediately adjacent to the study area (Figures 2-4 and Table 3). Wetlands ranged between 176 and 2,244 sqft in open herbaceous dominated or forested settings for a total of 6,538 sqft of wetlands mapped, of which 5,838 sqft occurs within the study area (see Table 3). Of the 10 wetlands occurring within the study area, 3 are palustrine emergent (herbaceous dominated), 6 are palustrine forested, and 1 is palustrine shrub-scrub wetland. All wetlands displayed some form of historical or on-going anthropogenic disturbance mostly related to road development, reflecting the proximity of the study area to roadsides. Four of the wetlands (Wetland #1, #2, #5, and #6) have above-ground connectivity to a TNW; the remaining six wetlands appear to be isolated with no above-ground connectivity to additional wetlands or other waters. Wetlands with above-ground connectivity to a TNW have a total area of 1,178 sqft.

A total of five streams were mapped within the study area and the immediate vicinity of the study area (Figures 2-4 and Table 3). Of the five streams, four are seasonal intermittent (Streams #1, #2, #3, and #5) and one of the streams is ephemeral (Stream #4). Of the five streams, two do not enter the study area, but flow within the immediate vicinity of the study area. These were mapped for planning and setback purposes. Streams #2 and #4 have portions of the stream within the study area for a total of 538 linear feet of stream occurring within the study area. A total of 1,543 linear feet of streams have been mapped within and immediately adjacent to the study area. This represents a fraction of the total stream length within the area, as only sections of streams within or immediately adjacent to the study area were mapped.

All streams and wetlands are sensitive to disturbance and are protected within the state of California. Wetlands within roadside ditches and other regularly maintained areas that are subject to regular maintenance may not be impacted by the project beyond the normal disturbance regimes experienced in any given year. Impacts to streams and wetlands can be reduced using the measures included in Section 13. Table 2 lists all test pits excavated within the study area and includes the location and wetland parameters observed. Table 3 includes all wetlands and streams observed within or immediately adjacent to the study area, including a center point and Cowardin classification. The conclusions in this report represent conditions at the time of field work and it is possible that some species or wetland conditions were not present at the time of the fieldwork. This report documents the investigation conducted using the best professional judgment of SHN's biologists, botanists, and soil scientist.



Table 2. Parameters at Each Test Pit, April 2022, and February and April 2023
Garberville, Humboldt County, California

Garberville, Humboldt County, California							
TPa	Parameters	Parameter Type	Latitude/Longitude				
Number	Present						
TP1	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.107328°/ -123.785234°				
TP2	1	Hydrology	40.107276°/ -123.785288°				
TP3	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.105849°/ -123.786279°				
TP4	0	None	40.105832°/ -123.786248°				
TP5	2	Hydrophytic Vegetation, Hydrology	40.100379°/ -123.792372°				
TP6	0	None	40.095421°/-123.793278°				
TP7	2	Hydrophytic vegetation, Hydrology	40.097236°/-123.791489°				
TP8	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.097243°/-123.791494°				
TP9	0	None	40.097868°/-123.791623°				
TP10	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.097096°/-123.791654°				
TP11	0	None	40.097116°/-123.791507°				
TP12	2	Hydric soils, Hydrology	40.097742°/-123.792291°				
TP13	0	None	40.097752°/-123.792331°				
TP14	0	None	40.095442°/-123.793774°				
TP15	0	None	40.095160°/-123.792261°				
TP16	2	Hydrophytic vegetation, Hydrology	40.094943°/-123.792644°				
TP17	0	None	40.094654°/-123.793137°				
TP18	0	None	40.095018°/-123.793193°				
TP19	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.095418°/-123.794582°				
TP20	0	None	40.095396°/-123.794566°				
TP21	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.096789°/-123.794666°				
TP22	0	None	40.096873°/-123.794747°				
TP23	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.096128°/-123.793953°				
TP24	0	None	40.096152°/-123.793930°				
TP25	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.105112°/-123.789426°				
TP26	1	Hydric soils	40.105163°/-123.789394°				
TP27	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.096135°/-123.794846°				
TP28	1	Hydric soils	40.096109°/-123.794837°				

^a TP: test pit



Table 3. Wetland and OHWM Delineation Results Garberville, Humboldt County, California

Wetland	Cowardin Type	Latitude/Longitude	Area Mapped (Sq ft)	In Study Area (Sq ft)
Wetland #1	PEM1Bx0n ^a	40.107323°/ -123.785221°	176	26
Wetland #2	PEM1Bx0n ^a	40.105844°/ -123.786265°	428	428
Wetland #3	PEM1B0n ^b	40.105112°/-123.789426°	2,244	2,198
Wetland #4	PFO1Bx0n ^c	40.097241°/ -123.791494°	564	564
Wetland #5	PFO1Bx0n ^d	40.097097°/ -123.791654°	189	70
Wetland #6	PFO4Dx0n ^d	40.097741°/ -123.792289°	385	0
Wetland #7	PFO1Bx0n ^d	40.096789°/-123.794666°	1,362	1,362
Wetland #8	PFO1+3D0n ^e	40.096128°/-123.793953°	483	483
Wetland #9	PSS1Bx0n ^f	40.096135°/-123.794846°	306	306
Wetland #10	PFO4BxOn ^g	40.095418°/-123.794582°	401	401
	Total Wetland Area		6,538	5,838

Stream	Cowardin Type	Latitude/Longitude	Segment Mapped (feet)	In Study Area (feet)
Stream #1	R4SB3+4 ^h	40.107649°, -123.769978°	191	0
Stream #2	R4SB3+5 ⁱ	40.097571°, -123.791894°	255	110
Stream #3	R4SB3+4 ^h	40.096173°, -123.792022°	84	0
Stream #4	R6SB4+5 ^j	40.095392°, -123.793482°	160	428
Stream #5	R4SB3+4 ^h	40.093909°, -123.793151°	853	0
	1,543	538		

^a PEM1Bx0n: Palustrine emergent persistent seasonally saturated, excavated, freshwater, mineral soils



^b PEM1B0n: Palustrine emergent persistent seasonally saturated, freshwater, mineral soils

^c PFO1Bx0n: Palustrine forested broad-leaved deciduous seasonally saturated, excavated, freshwater, mineral soils

^d PFO4Dx0n: Palustrine forested needle-leaved evergreen continuously saturated, excavated, freshwater, mineral soils

^e PFO1+3D0n: Palustrine forested broad-leaved deciduous seasonally and continuously saturated, excavated, freshwater, mineral soils

f PSS1Bx0n: Palustrine scrub-shrub broad-leaved deciduous seasonally saturated, excavated, freshwater, mineral soils

g PFO4BxOn: Palustrine forested needle-leaved evergreen seasonally saturated, excavated, freshwater, mineral soils

^h R4SB3+4: Riverine, intermittent, streambed cobble-gravel and sand.

¹ R4SB3+5: Riverine, intermittent, streambed cobble-gravel and mud

^j R6SB4+5: Riverine, ephemeral, streambed sand and mud

13.0 Recommendations

SHN recommends that the following measures be implemented prior to or during project activities to minimize the potential impacts to special-status plant and animal species, sensitive habitat, and wetlands:

- Implement the following avoidance and protection measures for sensitive natural communities (purple needlegrass grassland and California oatgrass grassland) that would not be impacted during project construction:
 - 1. Attempt to avoid or minimize impacts to sensitive natural communities to the greatest extent feasible in the final design plans.
 - 2. Sensitive natural communities should be clearly identified in the construction documents and reviewed by the District prior to issuing for bid to ensure they are clearly marked as equipment exclusion zones during construction.
 - 3. Prior to construction, temporary fencing should be installed between the sensitive vegetation communities and the project if construction activities will occur within 50 feet of the sensitive vegetation community, to prevent accidental incursion.
- If impacts to mapped sensitive natural communities (purple needlegrass grassland and California oatgrass grassland) are unavoidable and mapped purple needlegrass grassland or California oatgrass grassland is removed or detrimentally impacted, mitigation should occur. A Mitigation and Monitoring Plan should be prepared in coordination with the CDFW. The Plan should be acceptable to the CDFW and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. The ratio and conditions of mitigation would be negotiated in consultation with the CDFW. The Plan would be implemented by the District.
- Implement the following avoidance and protection measures for Waters of the United States and Waters of the State that would not be impacted (filled or excavated) during project construction:
 - 1. The District should attempt to avoid or minimize impacts to wetlands/waters to the greatest extent feasible in the final design plans.
 - 2. Wetlands/waters should be clearly identified in the construction documents and reviewed by the District prior to issuing for bid to ensure they are clearly marked as equipment exclusion zones during construction.
 - 3. Suitable perimeter control BMPs, such as silt fences, or straw wattles should be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These BMPs should be installed prior to any clearing or grading activities.
- Avoid fill of jurisdictional wetlands and waters to the extent feasible. If fill cannot be avoided, the
 District should compensate for the loss of wetland habitat so that there is no net loss in
 wetlands. The District should compensate for impacts to identified wetlands through
 restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1. A Mitigation
 and Monitoring Plan should be prepared in coordination with the North Coast Regional Water
 Quality Control Board (NCRWQCB), the USACE and CDFW. Compensation for wetlands should



occur so there is no net loss of wetland habitat at ratios to be determined in consultation with the NCRWQCB. The Plan should be acceptable to the regulatory agencies with jurisdiction over wetlands and waters and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. The Plan would be implemented by the District.

- Within two weeks prior to construction, a qualified bat biologist should conduct habitat surveys for special-status bats. Survey methodology should include visual examination of suitable habitat areas and signs of bat use. Trees, water tanks, Pump Stations, and other potential bat habitats within at least 100 feet of construction activities should be examined. If habitat exists, species presence and site use patterns should be documented by using ultrasonic detectors to determine if special-status bat species are present on site. Bat presence in the project area may vary seasonally and annually. Surveys should be conducted in a manner to detect the presence of hibernating or torpid bats, reproductive colonies and/or migratory stop-over roosts. If no bat utilization or roosts are found, then no further study or action is required. If bats are found to be present within an area of potential impact, or presence is assumed, a bat specialist should be engaged to advise the best method to prevent impact. This may include, but would not be limited to:
 - Consultation with the CDFW to determine appropriate measures for protecting bats with young if present, and for implementing measures to exclude non-breeding bat colonies during construction process.
 - For trees, phased removal of trees where selected limbs and branches not containing cavities are removed on the first day, with the remainder of the tree removed on the second day.
 - For structures, gradual modification of the habitat itself discouraging continued roosting by any bats that may be present, followed by installing physical barriers to prevent bats from entering the structure(s).
- To avoid potential impacts to nesting birds, in accordance with the Migratory Bird Treaty Act (MBTA), one of the following shall be implemented:
 - Conduct vegetation removal and other ground-disturbance activities associated with any construction activities between September and mid-March, when birds are not typically nesting,
 - If vegetation removal, structure modification or removal, or ground-disturbing activity is to take place during the nesting season (March 15 to August 31 for most birds), a qualified biologist shall conduct a pre-construction nesting bird survey. Preconstruction surveys for nesting pairs, nests, and eggs shall occur within the construction limits and within 100 feet (200 feet for raptors) of the construction limits. If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the USFWS and CDFW, and implemented to prevent abandonment of the active nest.



14.0 References Cited

- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (eds). (2012). *The Jepson Manual: Vascular Plants of California, Second Edition*. Berkeley, CA:University of California Press, Berkeley.
- Calflora. (2022). Information on California plants for education, research and conservation. California: The Calflora Database. Accessed July 2022 at: URL: http://www.calflora.org/.
- California Department of Conservation. (2010). Geologic Map of California. California Geological Survey. Accessed April 2022 at: https://maps.conservation.ca.gov/cgs/gmc/.
- California Department of Fish and Wildlife (CDFW). (2018). Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities. Sacramento, CA:CDFW.
- ---. (2020). VegCamp. Accessed at: https://wildlife.ca.gov/Data/VegCAMP.
- ---. (2022a). California Natural Diversity Database (CNDDB). Accessed September 2019 at: URL: http://www.dfg.ca.gov/biogeodata/cnddb/.
- ---. (2022b). Biogeographic Information and Observation System. Accessed at:URL:http://bios.dfg.ca.gov/.
- ---. (2022c). Special Animals List. Accessed at:URL: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline.
- California Native Plant Society (CNPS). (2022). Inventory of Endangered Plants (online edition v8-03). Accessed September 2019 at: http://www.cnps.org/inventory.
- Consortium of California Herbaria (CCH). (2022). Data provided by the participants of the Consortium of California Herbaria. Accessed September 2019 at: URL: http://ucjeps.berkeley.edu/consortium/.
- Environmental Laboratory. (1987). Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. Vicksburg, MS:USACE Waterways Experiment Station.
- Google Earth. (April 2022). 40.097983°/-123.794282° central location. Accessed April 2022 NR:Google Earth.
- Maxar Technologies. (2021). Images from 9/24/2022.
- Munsell Color (Firm). (2009). Munsell Soil Color Charts: with Genuine Munsell Color Chips. Grand Rapids, MI:Munsell Color.
- National Drought Monitoring Center (NDMC). (2022). <u>https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CA</u>.
- National Oceanic and Atmospheric Administration (NOAA). (2023). Climate Graphs. National Weather Service Forecast Office, Eureka, California. Accessed at: https://www.weather.gov/wrh/Climate?wfo=eka
- Sawyer, J.O., T. Keeler-Wolf, and J Evans. (2009). A Manual of California Vegetation, Second Edition. Sacramento, CA:CNPS Press.
- University of California, Berkeley (UCB). (2022). "Jepson eFlora." Accessed April 2022 at: http://ucjeps.berkeley.edu/eflora/.



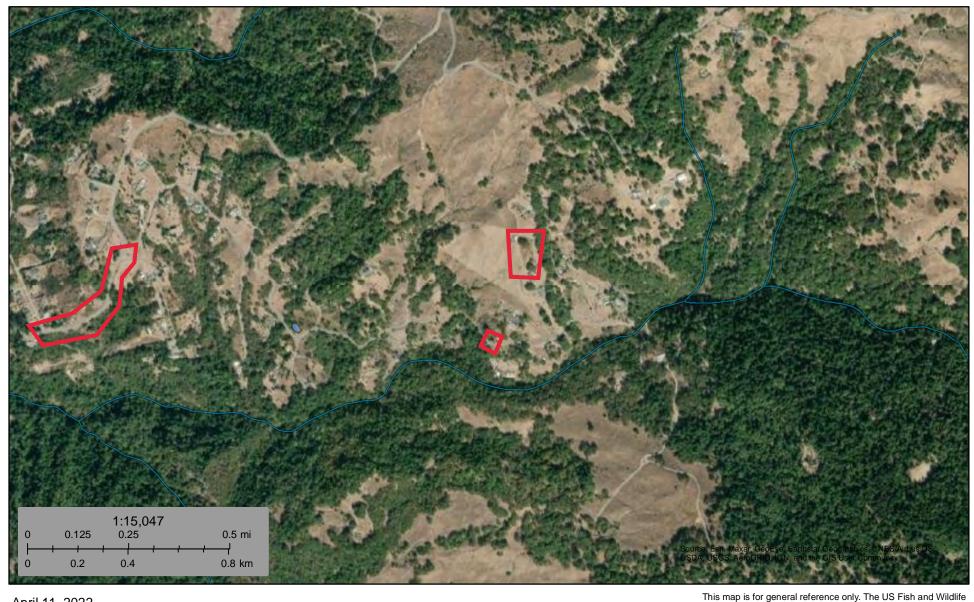
- U.S. Army Corps of Engineers (USACE). (2010). *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valleys, and Coast Region*, J.S. Wakeley, R.W. Lichvar, and C.V. Noble (eds) ERDC/EL TR-08-03. Vicksburg, MS:USACE Research and Development Center.
- ---. (2014). A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States, M. K. Mersel and R. W. Lichvar (eds) ERDC/CRREL TR-14-13. Vicksburg, MS: USACE Research and Development Center.
- ---. (2020). Western Mountains, Valleys, and Coast: 2020 Regional Wetland Plant List, Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin (eds), ERDC/CRREL. Vicksburg, MS:USACE Research and Development Center.
- U.S. Department of Agriculture, Natural Resources Conservation Service. (2018). *Field Indicators of Hydric Soils in the United States, Version 8.2.* G.W. Hurt, L.M. Vasilas (eds.). NR: USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils. Version 8.2.
- ---. (2022a). WETS Database. Scotia, CA. Accessed at: http://agacis.rcc-acis.org/?fips=06023.
- ---. (2022b). Web Soil Survey. Accessed at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.
- U.S. Fish and Wildlife Service. (USFWS). (April 2022a). National Wetlands Inventory. Accessed at: http://www.fws.gov/wetlands/data/mapper.HTML/.
- ---. (2022b). "IPaC Trust Resources Report." Accessed September 2022 at: https://ecos.fws.gov/ipac/.
- ---. (2022c). "Critical Habitat Portal." Accessed September 2022 at: http://ecos.fws.gov/crithab/.



National Wetland Inventory and Drought Monitor

U.S. Fish and Wildlife Service **National Wetlands Inventory**

Alderpr-WallanRd



April 11, 2022

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Other

Riverine

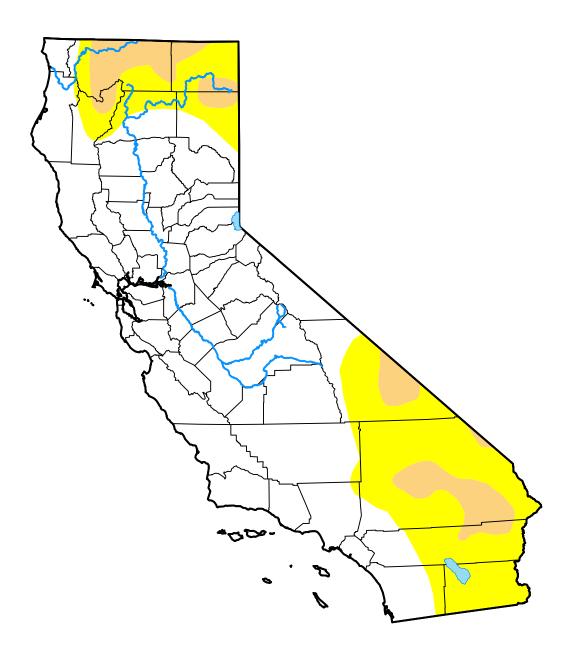
Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

U.S. Drought Monitor

California

April 11, 2023

(Released Thursday, Apr. 13, 2023)
Valid 8 a.m. EDT



Intensity:

None

D0 Abnormally Dry

D1 Moderate Drought

D2 Severe Drought

D3 Extreme Drought

D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

David Simeral
Western Regional Climate Center









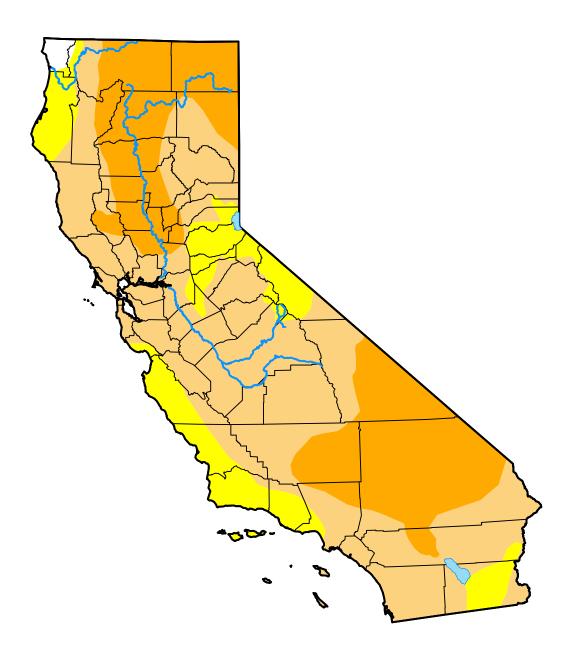
droughtmonitor.unl.edu

U.S. Drought Monitor

California

February 14, 2023

(Released Thursday, Feb. 16, 2023)
Valid 7 a.m. EST



Intensity:

None

D0 Abnormally Dry

D1 Moderate Drought

D2 Severe Drought

D3 Extreme Drought

D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

Brian Fuchs
National Drought Mitigation Center









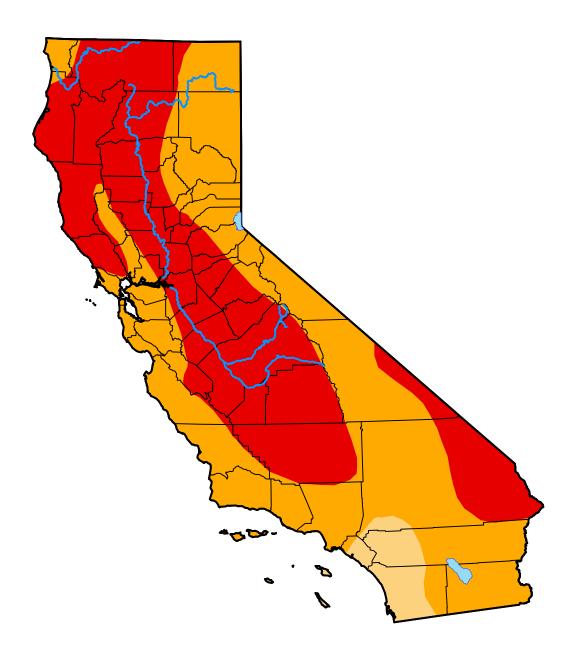
droughtmonitor.unl.edu

U.S. Drought Monitor

California

April 12, 2022

(Released Thursday, Apr. 14, 2022)
Valid 8 a.m. EDT



Intensity:

None

D0 Abnormally Dry

D1 Moderate Drought

D2 Severe Drought

D3 Extreme Drought

D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

Richard Tinker CPC/NOAA/NWS/NCEP









droughtmonitor.unl.edu

U.S. Fish and Wildlife Service National Wetlands Inventory

Garberville town



April 11, 2022

Wetlands Freshwater Emergent Wetland Lake Estuarine and Marine Deepwater Freshwater Forested/Shrub Wetland Other Estuarine and Marine Wetland Freshwater Pond Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



NRCS Natural

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

AlderpointRd



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
Soil Map	
Soil Map	
Legend	
Map Unit Legend	8
Map Unit Descriptions	8
Humboldt County, South Part, California	10
402—Tannin-Wohly-Rockyglen complex, 50 to 75 percent slopes	10
452—Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	13
667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	16

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Ar

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

-

Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

(c) B

Blowout

 \boxtimes

Borrow Pit

Ж

Clay Spot

^

Closed Depression

Š

Gravel Pit

.

Gravelly Spot

0

Landfill

٨.

Lava Flow

Marsh or swamp

@

Mine or Quarry

栄

Miscellaneous Water

0

Perennial Water

. .

Rock Outcrop

+

Saline Spot

. .

Sandy Spot

-

Severely Eroded Spot

_

Sinkhole

8

Slide or Slip

Ø

Sodic Spot

LLOLIND

8

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

_

Streams and Canals

Transportation

ransp

Rails

~

Interstate Highways

US Routes

 \sim

Major Roads Local Roads

~

Background

No.

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
402	Tannin-Wohly-Rockyglen complex, 50 to 75 percent slopes	0.1	1.2%
452	Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	0.3	3.5%
667	Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	6.9	95.3%
Totals for Area of Interest	,	7.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

402—Tannin-Wohly-Rockyglen complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: hs6x Elevation: 330 to 3,280 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 55 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 50 percent Wohly and similar soils: 20 percent Rockyglen and similar soils: 15 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tannin

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 6 inches: gravelly loam
Bt1 - 6 to 15 inches: gravelly loam
Bt2 - 15 to 27 inches: gravelly loam
Bt3 - 27 to 43 inches: gravelly loam
Bt4 - 43 to 68 inches: gravelly loam
Bt5 - 68 to 79 inches: gravelly loam

Properties and qualities

Slope: 50 to 75 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.06 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Wohly

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Parent material: Residuum weathered from mudstone and/or residuum weathered

from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 3 inches: loam

Bt1 - 3 to 8 inches: paragravelly loam
Bt2 - 8 to 19 inches: paragravelly clay loam
BCt - 19 to 36 inches: gravelly sandy clay loam

Ct - 36 to 79 inches: paragravel

Properties and qualities

Slope: 50 to 75 percent

Depth to restrictive feature: 20 to 39 inches to strongly contrasting textural

stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.14 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Ecological site: F005XZ009CA - Very Deep Mesic Hills 40-60"ppt

Hydric soil rating: No

Description of Rockyglen

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 1 inches: very gravelly slightly decomposed plant material

A - 1 to 3 inches: very gravelly loam

ABt - 3 to 9 inches: very gravelly loam

Bt - 9 to 24 inches: very gravelly loam
Bw - 24 to 47 inches: extremely cobbly loam
C - 47 to 79 inches: extremely cobbly loam

Properties and qualities

Slope: 50 to 75 percent

Surface area covered with cobbles, stones or boulders: 5.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Minor Components

Burgsblock

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

452—Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hs7g Elevation: 200 to 3,280 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Burgsblock and similar soils: 35 percent Coolyork and similar soils: 30 percent Tannin and similar soils: 20 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum

weathered from mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 4 inches: gravelly loam

Bt1 - 4 to 14 inches: very gravelly clay loam Bt2 - 14 to 51 inches: very gravelly clay loam Bt3 - 51 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Coolyork

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone and/or residuum weathered from schist

Typical profile

A1 - 0 to 8 inches: loam
A2 - 8 to 14 inches: loam
Bt1 - 14 to 23 inches: clay loam
Bt2 - 23 to 41 inches: clay
Bt3 - 41 to 57 inches: clay
Bt4 - 57 to 63 inches: clay

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C/D

Ecological site: F005XZ020CA - Very Deep Mesic Mountains 40-60"ppt

Hydric soil rating: No

Description of Tannin

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 7 inches: loam ABt - 7 to 13 inches: loam

Bt1 - 13 to 26 inches: sandy clay loam Bt2 - 26 to 38 inches: sandy clay loam Bt3 - 38 to 79 inches: sandy clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Minor Components

Rockyglen

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Wohly

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Chalkmountain

Percent of map unit: 3 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Yorknorth

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: v6lh Elevation: 200 to 2,490 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Dryfield and similar soils: 40 percent Yorknorth and similar soils: 30 percent Witherell and similar soils: 15 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dryfield

Setting

Landform: Ridges, mountain slopes

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from sandstone and/or residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam
Bt1 - 4 to 19 inches: fine sandy loam
Bt2 - 19 to 41 inches: fine sandy loam
Bt3 - 41 to 59 inches: fine sandy loam

Bt4 - 59 to 79 inches: loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: F005XZ013CA - Thermic Mountains

Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Parent material: Colluvium derived from sandstone and/or earthflow deposits

derived from schist

Typical profile

A1 - 0 to 6 inches: loam
A2 - 6 to 19 inches: loam
ABt - 19 to 26 inches: silt loam
Bt1 - 26 to 35 inches: clay loam
Bt2 - 35 to 53 inches: clay
C1 - 53 to 60 inches: clay loam

C2 - 60 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: R005XZ005CA - Thermic Hills

Hydric soil rating: No

Description of Witherell

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: loam Bw - 3 to 8 inches: loam

Bt - 8 to 12 inches: gravelly loam C - 12 to 79 inches: gravel

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: 10 to 14 inches to strongly contrasting textural

stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.14 to 1.42 in/hr) Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: R005XZ005CA - Thermic Hills

Hydric soil rating: No

Minor Components

Coolyork

Percent of map unit: 10 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Burgsblock

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

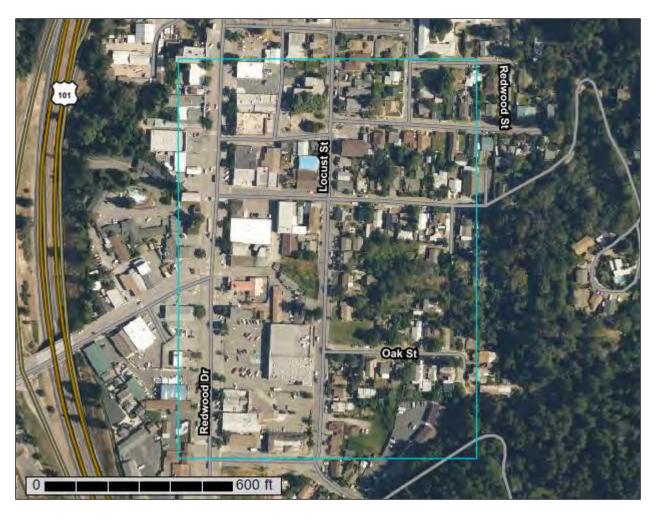


NRCS

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

Garberville town soils



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

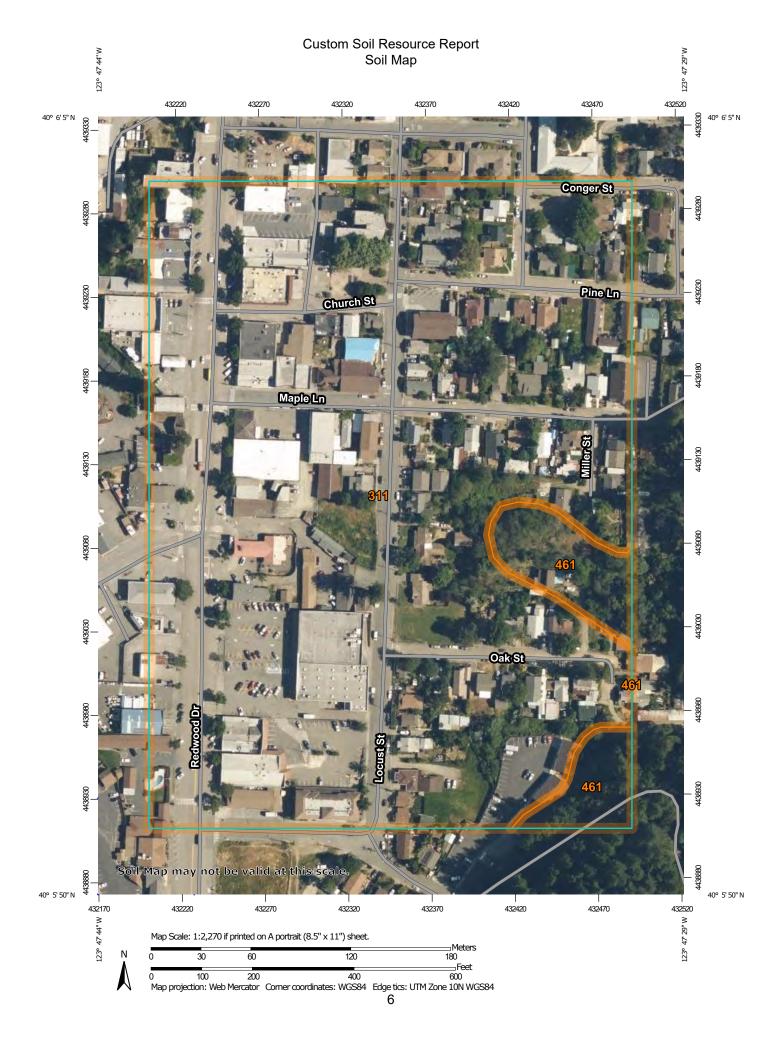
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
Soil Map	
Soil Map	
Legend	
Map Unit Legend	
Map Unit Descriptions	
Humboldt County, South Part, California	
311—Urban land-Garberville complex, 5 to 15 percent slopes	
461—Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

(o)

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit **Gravelly Spot**

Landfill Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole Slide or Slip

Sodic Spot

å

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

00

Major Roads Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21. 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
311	Urban land-Garberville complex, 5 to 15 percent slopes	26.2	94.0%
461	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	1.7	6.0%
Totals for Area of Interest	,	27.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

311—Urban land-Garberville complex, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qds5

Elevation: 200 to 660 feet

Mean annual precipitation: 49 to 70 inches Mean annual air temperature: 48 to 59 degrees F

Frost-free period: 240 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent

Garberville and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Description of Garberville

Setting

Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: loam AB - 7 to 20 inches: loam Bw1 - 20 to 33 inches: loam

Bw2 - 33 to 47 inches: sandy clay loam Bw3 - 47 to 71 inches: sandy clay loam

Properties and qualities

Slope: 5 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R004BI202CA - Loamy Uplands

Hydric soil rating: No

Minor Components

Parkland

Percent of map unit: 10 percent Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread

Down-slope shape: Concave, linear Across-slope shape: Linear, concave

Hydric soil rating: No

Gibsoncreek

Percent of map unit: 3 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Leggettcreek

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

461—Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: xhvy Elevation: 200 to 4,000 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 55 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 40 percent Burgsblock and similar soils: 25 percent Rockyglen and similar soils: 20 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tannin

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 7 inches: loam
AB - 7 to 24 inches: loam

Bt1 - 24 to 43 inches: gravelly loam
Bt2 - 43 to 59 inches: gravelly clay loam
Bt3 - 59 to 79 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: gravelly slightly decomposed plant material

A - 1 to 8 inches: very gravelly silt loam
AB - 8 to 22 inches: very gravelly silt loam
Bt1 - 22 to 47 inches: very gravelly clay loam
Bt2 - 47 to 67 inches: very gravelly clay loam
Bt3 - 67 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Rockyglen

Settina

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 2 inches: very gravelly slightly decomposed plant material

A1 - 2 to 6 inches: gravelly loam
A2 - 6 to 12 inches: very gravelly loam

Bw1 - 12 to 26 inches: extremely gravelly loam Bw2 - 26 to 45 inches: extremely gravelly loam C - 45 to 79 inches: extremely gravelly loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 5.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Minor Components

Wohly

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No



Natural

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

Garberville tank sites



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

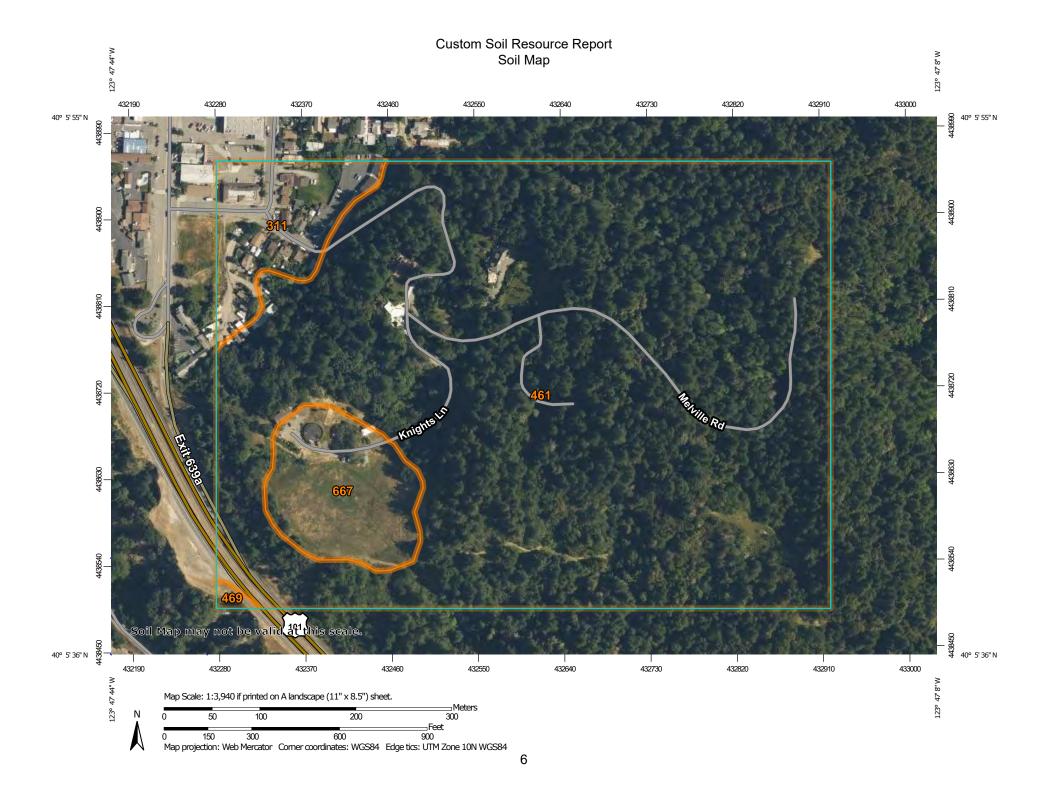
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
Soil Map	
Soil Map	
Legend	
Map Unit Legend	
Map Unit Descriptions	
Humboldt County, South Part, California	10
311—Urban land-Garberville complex, 5 to 15 percent slopes	
461—Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes.	11
469—Tannin-Burgsblock-Rockyglen complex, 50 to 75 percent slopes.	15
667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	18

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Ar

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

-

Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

(c) B

Blowout

 \boxtimes

Borrow Pit

Ж

Clay Spot

^

Closed Depression

Š

Gravel Pit

.

Gravelly Spot

0

Landfill

٨.

Lava Flow

Marsh or swamp

@

Mine or Quarry

栄

Miscellaneous Water

0

Perennial Water

. .

Rock Outcrop

+

Saline Spot

. .

Sandy Spot

-

Severely Eroded Spot

_

Sinkhole

8

Slide or Slip

Ø

Sodic Spot

LLOLIND

8

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

_

Streams and Canals

Transportation

ransp

Rails

~

Interstate Highways

US Routes

 \sim

Major Roads

~

Local Roads

Background

Marie Control

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
311	Urban land-Garberville complex, 5 to 15 percent slopes	4.7	6.3%
461	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	63.8	86.3%
469	Tannin-Burgsblock-Rockyglen complex, 50 to 75 percent slopes	0.2	0.3%
667	Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	5.3	7.2%
Totals for Area of Interest		73.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

311—Urban land-Garberville complex, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qds5

Elevation: 200 to 660 feet

Mean annual precipitation: 49 to 70 inches Mean annual air temperature: 48 to 59 degrees F

Frost-free period: 240 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent

Garberville and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Description of Garberville

Setting

Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: loam AB - 7 to 20 inches: loam Bw1 - 20 to 33 inches: loam

Bw2 - 33 to 47 inches: sandy clay loam Bw3 - 47 to 71 inches: sandy clay loam

Properties and qualities

Slope: 5 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R004BI202CA - Loamy Uplands

Hydric soil rating: No

Minor Components

Parkland

Percent of map unit: 10 percent Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread

Down-slope shape: Concave, linear Across-slope shape: Linear, concave

Hydric soil rating: No

Gibsoncreek

Percent of map unit: 3 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Leggettcreek

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

461—Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: xhvy Elevation: 200 to 4,000 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 55 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 40 percent Burgsblock and similar soils: 25 percent Rockyglen and similar soils: 20 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tannin

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 7 inches: loam
AB - 7 to 24 inches: loam

Bt1 - 24 to 43 inches: gravelly loam
Bt2 - 43 to 59 inches: gravelly clay loam
Bt3 - 59 to 79 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: gravelly slightly decomposed plant material

A - 1 to 8 inches: very gravelly silt loam
AB - 8 to 22 inches: very gravelly silt loam
Bt1 - 22 to 47 inches: very gravelly clay loam
Bt2 - 47 to 67 inches: very gravelly clay loam
Bt3 - 67 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Rockyglen

Settina

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 2 inches: very gravelly slightly decomposed plant material

A1 - 2 to 6 inches: gravelly loam
A2 - 6 to 12 inches: very gravelly loam

Bw1 - 12 to 26 inches: extremely gravelly loam Bw2 - 26 to 45 inches: extremely gravelly loam C - 45 to 79 inches: extremely gravelly loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 5.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Minor Components

Wohly

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

469—Tannin-Burgsblock-Rockyglen complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: xhw0 Elevation: 200 to 3,280 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 40 percent Burgsblock and similar soils: 25 percent Rockyglen and similar soils: 20 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tannin

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 9 inches: loam ABt - 9 to 22 inches: loam

Bt1 - 22 to 35 inches: sandy clay loam

Bt2 - 35 to 67 inches: gravelly sandy clay loam BCt - 67 to 79 inches: gravelly sandy clay loam

Properties and qualities

Slope: 50 to 75 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum

weathered from mudstone

Typical profile

A - 0 to 7 inches: very gravelly loam

Bt1 - 7 to 24 inches: very gravelly loam

Bt2 - 24 to 39 inches: very gravelly clay loam

Bt3 - 39 to 55 inches: very gravelly clay loam

Bt4 - 55 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 50 to 75 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Rockyglen

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or residuum weathered

from sandstone

Typical profile

Oi - 0 to 2 inches: gravelly slightly decomposed plant material

A - 2 to 9 inches: very gravelly loam

AB - 9 to 22 inches: very gravelly loam

Bt1 - 22 to 39 inches: very gravelly loam

Bt2 - 39 to 63 inches: extremely gravelly loam

BC - 63 to 79 inches: extremely gravelly sandy clay loam

Properties and qualities

Slope: 50 to 75 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Minor Components

Wohly

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: v6lh Elevation: 200 to 2,490 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Dryfield and similar soils: 40 percent Yorknorth and similar soils: 30 percent Witherell and similar soils: 15 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dryfield

Setting

Landform: Ridges, mountain slopes

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from sandstone and/or residuum weathered

from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam

Bt1 - 4 to 19 inches: fine sandy loam

Bt2 - 19 to 41 inches: fine sandy loam

Bt3 - 41 to 59 inches: fine sandy loam

Bt4 - 59 to 79 inches: loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: F005XZ013CA - Thermic Mountains

Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Parent material: Colluvium derived from sandstone and/or earthflow deposits

derived from schist

Typical profile

A1 - 0 to 6 inches: loam
A2 - 6 to 19 inches: loam
ABt - 19 to 26 inches: silt loam
Bt1 - 26 to 35 inches: clay loam
Bt2 - 35 to 53 inches: clay
C1 - 53 to 60 inches: clay loam

C2 - 60 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: R005XZ005CA - Thermic Hills

Description of Witherell

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: loam Bw - 3 to 8 inches: loam

Bt - 8 to 12 inches: gravelly loam C - 12 to 79 inches: gravel

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: 10 to 14 inches to strongly contrasting textural

stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.14 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: R005XZ005CA - Thermic Hills

Hydric soil rating: No

Minor Components

Coolyork

Percent of map unit: 10 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Burgsblock

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex



Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

WallanRd



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map	9
Legend	10
Map Unit Legend	11
Map Unit Descriptions	11
Humboldt County, South Part, California	13
452—Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	13
667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	16
673—Coolyork-Yorknorth complex, 30 to 50 percent slopes	19
References	23

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

-

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

(0)

Blowout

 \boxtimes

Borrow Pit

Ж

Clay Spot

Gravel Pit

 \wedge

Closed Depression

Š

۰

Gravelly Spot

0

Landfill Lava Flow

٨.

Marsh or swamp

2

Mine or Quarry

栄

Miscellaneous Water

0

Perennial Water
Rock Outcrop

į.

Saline Spot

. .

Sandy Spot

. .

Severely Eroded Spot

Sinkhole

6

Slide or Slip

Ø

Sodic Spot

8

Spoil Area



Stony Spot

00

Very Stony Spot

8

Wet Spot Other

Δ.

Special Line Features

Water Features

_

Streams and Canals

Transportation

ransp

Rails

~

Interstate Highways

~

US Routes

~

Major Roads Local Roads

 \sim

Background

Marie Control

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
452	Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	0.0	0.1%
667	Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	5.3	70.4%
673	Coolyork-Yorknorth complex, 30 to 50 percent slopes	2.2	29.4%
Totals for Area of Interest		7.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

452—Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hs7g Elevation: 200 to 3,280 feet

Mean annual precipitation: 49 to 90 inches
Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Burgsblock and similar soils: 35 percent Coolyork and similar soils: 30 percent Tannin and similar soils: 20 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum

weathered from mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 4 inches: gravelly loam

Bt1 - 4 to 14 inches: very gravelly clay loam Bt2 - 14 to 51 inches: very gravelly clay loam Bt3 - 51 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Description of Coolyork

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone and/or residuum weathered from schist

Typical profile

A1 - 0 to 8 inches: loam
A2 - 8 to 14 inches: loam
Bt1 - 14 to 23 inches: clay loam
Bt2 - 23 to 41 inches: clay
Bt3 - 41 to 57 inches: clay
Bt4 - 57 to 63 inches: clay

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hvdrologic Soil Group: C/D

Ecological site: F005XZ020CA - Very Deep Mesic Mountains 40-60"ppt

Hydric soil rating: No

Description of Tannin

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 7 inches: loam ABt - 7 to 13 inches: loam

Bt1 - 13 to 26 inches: sandy clay loam Bt2 - 26 to 38 inches: sandy clay loam Bt3 - 38 to 79 inches: sandy clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F005XZ022CA - Mesic Mountains >60"ppt

Hydric soil rating: No

Minor Components

Rockyglen

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Wohlv

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Chalkmountain

Percent of map unit: 3 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Yorknorth

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: v6lh Elevation: 200 to 2,490 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Dryfield and similar soils: 40 percent Yorknorth and similar soils: 30 percent Witherell and similar soils: 15 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dryfield

Setting

Landform: Ridges, mountain slopes

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Colluvium derived from sandstone and/or residuum weathered

from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam

Bt1 - 4 to 19 inches: fine sandy loam

Bt2 - 19 to 41 inches: fine sandy loam

Bt3 - 41 to 59 inches: fine sandy loam

Bt4 - 59 to 79 inches: loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: F005XZ013CA - Thermic Mountains

Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Parent material: Colluvium derived from sandstone and/or earthflow deposits

derived from schist

Typical profile

A1 - 0 to 6 inches: loam
A2 - 6 to 19 inches: loam
ABt - 19 to 26 inches: silt loam
Bt1 - 26 to 35 inches: clay loam
Bt2 - 35 to 53 inches: clay
C1 - 53 to 60 inches: clay loam

C2 - 60 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: R005XZ005CA - Thermic Hills

Hydric soil rating: No

Description of Witherell

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: loam Bw - 3 to 8 inches: loam

Bt - 8 to 12 inches: gravelly loam C - 12 to 79 inches: gravel

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: 10 to 14 inches to strongly contrasting textural

stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.14 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: R005XZ005CA - Thermic Hills

Hydric soil rating: No

Minor Components

Coolyork

Percent of map unit: 10 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Burgsblock

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

673—Coolyork-Yorknorth complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: v6lj Elevation: 200 to 2,490 feet

Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F

Frost-free period: 240 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Coolyork and similar soils: 45 percent Yorknorth and similar soils: 40 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Coolyork

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from

sandstone and/or residuum weathered from schist

Typical profile

A - 0 to 6 inches: loam

ABt - 6 to 19 inches: clay loam Bt1 - 19 to 31 inches: clay loam Bt2 - 31 to 49 inches: clay

C1 - 49 to 63 inches: gravelly clay loam C2 - 63 to 79 inches: gravelly clay

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: F005XZ020CA - Very Deep Mesic Mountains 40-60"ppt

Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Parent material: Colluvium derived from sandstone and/or residuum weathered from schist and/or earthflow deposits derived from mudstone

Typical profile

A - 0 to 2 inches: loam

ABt - 2 to 12 inches: loam

Bt1 - 12 to 29 inches: clay loam

Bt2 - 29 to 33 inches: clay

Bt3 - 33 to 46 inches: clay

Bt4 - 46 to 50 inches: gravelly clay BCt - 50 to 71 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: R005XZ005CA - Thermic Hills

Hydric soil rating: No

Minor Components

Witherell

Percent of map unit: 5 percent Landform: Mountain slopes

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Mountainflank

Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Dryfield

Percent of map unit: 4 percent Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Burgsblock

Percent of map unit: 3 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes

Landform position (two-dimensional): Shoulder, backslope, footslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex

Across-slope shape: Convex Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2 053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

Scientific	Common	r	Fed	Cal	Other			RPlant	Bloom	Company Halbitan	Micro-	Potential of
Name	Name	Family	List	List	Status	GRank	SRank	Rank	Period	General Habitat	Habitat	Occurrence
Arabis mcdonaldiana	McDonald's rockcress	Brassicaceae	E	E	SB_Berr ySB; SB_CalB G/RSAB G	G3	S3	1B.1	May-Jul	Lower montane coniferous forest, upper montane coniferous forest.	Rocky outcrops, ridges, slopes, and flats on serpentine. 150- 1830 m.	low
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	None	None	BLM_S; SB_CalB G/RSAB G; SB_USD A	G3T2	S2	1B.1	Feb-Apr	Chaparral, Lower montane coniferous forest.	Disturbed openings in partially timbered forest lands; also along ridgelines; south aspects. 115-670 m.	low
Astragalus agnicidus	Humboldt County milk-vetch	Fabaceae	None	E	SB_Berr ySB; SB_CalB G/RSAB G	G2	S2	1B.1	Apr-Sep	Broadleaved upland forest, North Coast coniferous forest.	Disturbed areas, Openings, Roadsides (sometimes). 120-800 m above sea level.	low
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	None	None	-	G4T4	54	4.3	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest.	30-825 m above sea level.	low
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	None	None	-	G4	S4	4.2	May- Aug	Bogs and fens, broadleaved upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest.	Mesic. Up to 455 m above sea level.	low



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

	Ι _		1	T	1	1	1		<u> </u>			
Scientific	Common	Family	Fed	Cal	Other	GRank	SRank	RPlant	Bloom	General Habitat	Micro-	Potential of
Name	Name		List	List	Status			Rank	Period		Habitat	Occurrence
Calamagrostis foliosa	leafy reed grass	Poaceae	None	None	-	G3	S3	4.2	May- Sep	Coastal bluff scrub, North Coast coniferous forest.	Rocky cliffs and ocean-facing bluffs. 0-1220 m.	low
Carex arcta	northern clustered sedge	Cyperaceae	None	None	IUCN_L C	G5	S1	2B.2	Jun-Sep	Bogs and fens, North Coast coniferous forest.	Mesic sites. 60- 1405 m.	moderate
Castilleja litoralis	Oregon coast paintbrush	Orobranchacea e	None	None	-	G3	S3	2B.2	Jun	Coastal bluff scrub, Coastal dunes, Coastal scrub.	15-100 m above sea level.	none
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobranchacea e	None	None	BLM_S	G2	S2	1B.2	Apr-Aug	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub.	Often on sea bluffs or cliffs in coastal bluff scrub or prairie. 3-70 m.	none
Ceanothus foliosus var. vineatus	Vine Hill ceanothus	Rhamnaceae	None	None	-	G3T1	S1	1B.1	Mar- May	Chaparral.	Sandy, acidic soil in chaparral. 45- 305 m.	none
Ceanothus gloriosus var. exaltatus	glory brush	Rhamnaceae	None	None	-	G4T4	S4	4.3	Mar-Jun (Aug)	Chaparral.	30-610 m above sea level.	none
Coptis laciniata	Oregon goldthread	Ranunculaceae	None	None	-	G4?	S3?	4.2	(Feb) Mar- May	Meadows and seeps.	Mesic sites such as moist streambanks. 0- 1000 m.	low
Cypripedium californicum	California lady's- slipper	Orchidaceae	None	None	IUCN_E N	G4	S4	4.3	Jul-Sep	Broadleaved upland forest, North Coast coniferous forest.	Rocky (sometimes), Sandy (sometimes). 45-1800 m above sea level.	low



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

	Garbervine and Surrounding 7.5 min Quadrangles											
Scientific Name	Common Name	Family	Fed List	Cal List	Other Status	GRank	SRank	RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Epilobium septentrionale	Humboldt County fuchsia	Onagraceae	None	None	-	G4	S4	3	Jun-Oct	Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest.	Mesic, Rocky. 30-1100 m above sea level.	moderate
Erigeron biolettii	streamside daisy	Asteraceae	None	None	-	G3?	S3?	3	Jun-Oct	Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest.	Mesic, Rocky. 30-1100 m.	moderate
Erigeron robustior	robust daisy	Asteraceae	None	None	-	G3	S3	4.3	Jun-Jul	Lower montane coniferous forest, Meadows and seeps.	Serpentinite (sometimes). 200-610 m.	low
Eriogonum kelloggii	Kellogg's buckwheat	Polygonaceae	None	E	BLM_S	G2	S2	1B.2	(May) Jun-Aug	Lower montane coniferous forest.	Rocky, serpentine sites. 910-1190 m.	low
Erythronium citrinum var. citrinum	lemon- colored fawn lily	Liliaceae	None	None	-	G4T3T4	S 3	4.3	Mar- May	Chaparral, Lower montane coniferous forest.	Serpentinite (usually). 150- 1300 m above sea level.	low
Erythronium oregonum	giant fawn lily	Liliaceae	None	None	-	G4G5	S2	2B.2	Mar-Jun (Jul)	Cismontane woodland, Meadows and seeps.	Openings, Rocky, Serpentinite (sometimes). 100-1150 m.	low
Erythronium revolutum	Coast fawn lily	Liliaceae	None	None	-	G4G5	S3	2B.2	Mar-Jul (Aug)	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest.	Mesic, Streambanks. 0- 1600 m above sea level.	moderate
Gentiana setigera	Mendocino gentian		None	None	BLM_S	G2	S2	1B.2	(Apr-Jul) Aug-Sep	Lower montane coniferous forest, meadows and seeps.	Meadows, seeps and bogs. Serpentine substrates. 120- 1070 m.	low



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

				- Cui DC	VIIIC alla	Juli Juli	8 7.5 1	· · · · · · · · · · · · · · · · · · ·	1 4116163			
Scientific Name	Common Name	Family	Fed List	Cal List	Other Status	GRank	SRank	RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniceae	None	None	-	G5T3	S2	1B.2	Apr-Aug	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland.	5-1665 m above sea level.	low
Hemizonia congesta ssp. tracyi	Tracy's tarplant	Asteraceae	None	None	-	G5T4	S4	4.3	(Mar) May-Oct	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest.	Openings, Serpentinite (sometimes). 120-1200 m.	low
Hosackia gracilis	harlequin lotus	Fabaceae	None	None	SB_CalB G/RSAB G; SB_UCS C	G3G4	S3	4,2	Mar-Jul	Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland.	Roadsides. 0-700 m.	low
Howellia aquatilis	water howellia	Fabaceae	Del	None	-	G3	S2	2B.2	Jun	Marshes and swamps.	1085-1290 m above sea level.	none
Kopsiopsis hookeri	small groundcon e	Polemoniaceae	None	None	-	G4?	S1S2	2B.3	Apr-Aug	North coast coniferous forest.	Open woods, shrubby places, generally on Gaultheria shallon. 120- 1435 m.	low
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	None	None	-	G4?	S4?	4.2	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland.	55-1500 m above sea level.	moderate



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

Scientific	Common		Fed	Cal	Other			RPlant	Bloom		Micro-	Potential of
Name	Name	Family	List	List	Status	GRank	SRank	Rank	Period	General Habitat	Habitat	Occurrence
Leptosiphon latisectus	broad- lobed leptosiphon	Polemoniaceae	None	None	-	G4	S4	4.3	May-Jul	Cismontane woodland, Lower montane coniferous forest.	Gravelly (sometimes), Rocky (sometimes). 1700-2000 m.	moderate
Leptosiphon rattanii	Rattan's leptosiphon	Polemoniaceae	None	None	-	G4	S4	4.3	May-Jul	Cismontane woodland, Lower montane coniferous forest.	Gravelly (sometimes), Rocky (sometimes). 1700-2000 m.	low
Lilium rubescens	redwood lily	Liliaceae	None	None	SB_USD A	G3	S3	4.2	Apr-Aug (Sep)	Broadleaved upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest.	Roadsides (sometimes), Serpentinite (sometimes). 30- 1910 m.	low
Listera cordata	heart- leaved twayblade	Orchidaceae	None	None	-	G5	S4	4.2	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest.	5-1370 m.	moderate
Lomatium engelmannii	Engelmann' s lomatium	Apiaceae	None	None	-	G4	S3	4.3	May- Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest.	870-2740 m.	low
Lycopus uniflorus	Northern bugleweed	Lamiaceae	None	- No ne	-	G5	S4	4.3	Jul-Sep	Bogs and fens, Marshes and swamps.	5-2000 m above sea level.	low
Mitellastra caulescens	leafy- stemmed miterwort	Saxifrgiaceae	None	None	-	G5	S4	4.2	(Mar) Apr-Oct	Broadleaved upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest.	Mesic, Roadsides (sometimes). 5- 1700 m.	low



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

Scientific	Common		Fed	Cal	Other			RPlant	Bloom		Micro-	Potential of
Name	Name	Family	List	List	Status	GRank	SRank	Rank	Period	General Habitat	Habitat	Occurrence
Montia howellii	Howell's montia	Montiaceae	None	None	-	G3G4	S2	2B.2	(Feb) Mar- May	Meadows and seeps, North Coast coniferous forest, Vernal pools.	Roadsides (sometimes), Vernally Mesic. 0-835 m.	low
Piperia candida	white- flowered rein orchid	Orchidaceae	None	None	-	G3	S3	1B.2	(Mar) May- Sep	Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest.	Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m.	Moderate
Pityopus californicus	California pinefoot	Ericaceae	None	None	-	G4G5	S4	4.2	(Mar- Apr) May- Aug	Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	15-2225 m above sea level.	low
Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	None	T	SB_Berr ySB; SB_CalB G/RSAB G	G2	S2	1B.1	Apr-Jun	Broadleaved upland forest, Meadows and seeps, North Coast coniferous forest.	10-671 m above sea level.	moderate
Sedum eastwoodiae	Red Mountain stonecrop	Crassulaceae	None	None	BLM_S	G5T2	S2	1B.2	May-Jul	Lower montane coniferous forest.	600-1200 m above sea level.	low
Sidalcea malachroides	maple- leaved checker- bloom	Malvaceae	None	None	-	G3	S3	4.2	(Mar) Apr-Aug	Broadleaf upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland.	Woodlands and clearings near coast; often in disturbed areas. 4-765 m.	low
Sidalcea malviflora ssp. patula	Siskiyou checker- bloom	Malvaceae	None	None	-	G5T2	S2	1B.2	(Mar) May- Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest.	15-1230 m above sea level.	moderate



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/23

				1	VIIIC alla	Juli Touli t	7.5 1	_				
Scientific	Common	Family	Fed	Cal	Other	CDank	SRank	RPlant	Bloom	General Habitat	Micro-	Potential of
Name	Name	Family	List	List	Status	GRAIIK	Skalik	Rank	Period	General Habitat	Habitat	Occurrence
Silene bolanderi	Bolander's catchfly	Caryophyllaceae	None	None	-	G2	S 2	1B.2	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest.	Openings (usually), Roadsides (sometimes), Rocky (sometimes), Serpentinite (sometimes). 420-1150 m.	low
Silene greenei ssp. angustifolia	Red Mountain catchfly	Caryophyllaceae	None	E	BLM_S	G5T1	S1	1B.2	May-Jun	Chaparral, Lower montane coniferous forest.	Peridotite, Rocky, Serpentinite (usually). 425- 2085 m.	low
Tracyina rostrata	Beaked tracyina	Asteraceae	None	None	USFS_S	G2	S2	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland.	Open grassy meadows usually within oak woodland and grassland habitats. 150- 795 m.	low
Usnea Iongissimi	Methuselah 's beard lichen		None	None	BLM_S	G4	S4	4.2	N/A	Broadleaf upland forest, North Coast coniferous forest.	Grows in the "redwood zone" on tree branches of a variety of trees, including big leaf maple, oaks, ash, Douglas-fir, and bay. 45-1465 m in California.	moderate
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	None	None	-	G4G5	S3?	2B.3	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest.	215-1400 m above sea level.	low



Regionally Occurring Special-status Plant Species Scoping List CNDDB, CNPS, IPaC **Garberville Sanitation District 5/1/23**

Garberville and Surrounding 7.5 min Quadrangles

Scientific Name	Common Name	Family	Fed List	Cal List	Other Status	GRank	SRank	RPlant Bloom General Habita 2. Species Heritage rank as assigned by California		General Habitat	Micro- Habitat	Potential of Occurrence
1. Species inc	dicator status as	assigned by Federa	l Endanger	ed Species	Act (FESA), C	California	2. 9	pecies Herita	age rank as a	assigned by California Dep	partment of Fish an	d Wildlife (CDFW)

1. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)

C: candidate

CT: candidate threatened

D: delisted

DPS: distinct population segment

endangered

ESU: evolutionarily significant unit

FP: fully protected

PT: proposed threatened

SSC: species of special concern

T: threatened

WL: watch list

G1/S1: critically imperiled

G2/S2: imperiled G3/S3: vulnerable

G4/S4: apparently secure

G5/S5: secure



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
						Amphibians			
Ascaphus truei	Pacific tailed frog	None	None, SSC	G4	S3S4	Aquatic, Klamath/ N. coast flowing waters, Lower montane conifer, N. coast conifer, Redwood, and Riparian forests	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	None. No suitable habitat present.
Rana boylii	foothill yellow- legged frog	None	E (excluding the North Coast Clade), SSC	G3	53	Aquatic, Chaparral, Cismontane woodland, coast scrub, Klamath/N. coast flowing waters, lower montane conifer forest, meadow & seep, riparian forest and woodland	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg- laying. Need at least 15 weeks to attain metamorphosis.	Low. Dispersal/wintering habitat
Rhyacotriton variegatus	southern torrent salamander	None	None, SSC	G3G4	S2S3	Lower montane conifer forest, old-growth, redwood forest, riparian forest.	Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	None. No suitable habitat present.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
Taricha rivularis	Red-bellied newt	None	None, SSC	G2	52	Broadleaved upland forest, North coast coniferous forest, Redwood, Riparian forest, Riparian woodland	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Moderate. Suitable non- breeding habitat available.
						Birds		<u>'</u>	
Accipiter cooperii	Cooper's hawk	None	None, WL	G5	S4	Cismontane woodland, riparian forest, upper montane coniferous forest.	Woodland, chiefly of open, interrupted, or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood plains; also, live oaks.	High. Suitable habitat present in forested areas of study area.
Brachyramp hus marmoratus	marbled murrelet	Т	E	G3G4	S1	Lower montane conifer forest, Old growth Redwood	Feeds near-shore; nests inland along coast from Eureka to Oregon border.	Nests in old-growth redwood-dominated forests, up to 6 mi. inland, often in Douglas-fir.	None. No suitable habitat present.
Charadrius alexandrinu s nivosus	western snowy plover	Т	None, SSC	G3T3	S2S3	Great Basin standing waters, Sand shore, Wetland	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	None. No suitable habitat present.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Т	E	G5T2T3	S1	Riparian forest	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	None. No suitable habitat present.
Contopus cooperi	Olive-sided flycatcher	None	None, SSC	G4	S3	Occupy various forest and woodland habitats, including mixed coniferous-deciduous forest, burned-over forest, forested wetlands, and forested edges of riparian areas.	During non-breeding season, occupy wide variety of habitats from forested woodland to open areas with scattered trees, especially snags.	Nests are placed most often in conifers on horizontal limbs. Most nesting sites contain dead standing trees, used for singing and feeding perches.	High. Suitable habitat present in forested areas and forest edges within study area.
Empidonax traillii brewsteri	little willow flycatcher	None	E, BCC	G5T3T4	S1S2	Meadow & seep, Riparian woodland	Mountain meadows and riparian habitats in the Sierra Nevada and Cascades.	Nests near the edges of vegetation clumps and near streams.	Low. Potential migration stop over habitat, no suitable nesting habitat.
Falco peregrinus anatum	American peregrine falcon	D	D	G4T4	S3S4	Coniferous, hardwood and mixed woodlands, cliffs, bare rock.	Often near water bodies (lagoon, bay, river mouth), herbaceous wetland. Often forages in urban areas.	Nests on cliff leges, sometimes in hollow or broken snags or large trees. Also uses ledges of buildings, bridges, or other structures.	Moderate. Suitable habitat present in portions of the study area.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
Haliaeetus leucocephal us	Bald eagle	D	Е	G5		Lower montane coniferous forest Old growth.	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old- growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low. Suitable habitat may be available in the forested portion of the study area, foraging habitat adjacent.
Pandion haliaetus	osprey	None	None, WL	G5	S4	Riparian forest	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish- producing body of water.	Moderate. Suitable habitat may be available in the forested portion of the study area, foraging habitat adjacent.
Pelecanus occidentalis californicus	California brown pelican	D	D, FP	G4T3T4	S3	Offshore islands, harbors, estuaries and bays. Sometimes hunt at sea.	Rocky or vegetated islands, marinas, and shallow breakwaters.	Nest in colonies in secluded areas (often islands), vegetated sand dunes, shrubs and mangroves.	None. No suitable habitat present.
Psiloscops flammeolus	Flammulated owl	None	None	G4	S2S4	Mature mountain forests.	Relatively open, mature stands of Douglas-fir, fir, limber pine, and yellow pine, including burned forests. Prefer middle and upper slopes, avoiding lower elevations and valleys.	Breeds in dry mature mountain forests of ponderosa pine or other large coniferous trees.	Low. No typical habitat within the study area, though possibly surrounding.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name northern	FedList	CalList	GRank G3T3	SRank S2S3	Habitats North coast conifer	General Habitat Old-growth forests or	Micro-Habitat High, multistory	Potential of Occurrence Low, Isolated and
occidentalis caurina	spotted owl					forest, Old growth Redwood	mixed stands of old- growth & mature trees. Occasional in younger forests w/ patches of big trees.	canopy dominated by big trees, many trees w/cavities or broken tops, woody debris & space under canopy.	no typical habitat within the study area, though possibly surrounding.
						Fish			
Accipenser meditostris pop. 2	Green sturgeon (northern DPS)	None	None, SSC	G2T1	S1	its life cycle in coastal	Trinity, South Fork Trinity, and Eel Rivers in	Specific spawning and rearing habitats are poorly known and increasingly uncommon in major rivers within its range.	None. No suitable habitat present. No adequate aquatic connectivity.
Entosphenus tridentatus	Pacific lamprey	None	None, SSC	G4	S3	Aquatic, river mouth, tidal river, bay/sound	north of San Luis Obispo County, however, regularly runs in Santa Clara River. Size of runs is declining.	Swift-current gravel- bottomed areas for	None. No suitable habitat present.
Oncorhynch us kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Т	Т	G4T2Q	S2?	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters	Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California.	the Oregon border and	None. No suitable habitat present. No adequate aquatic connectivity.
Oncorhynch us mykiss irideus pop. 16	steelhead – N. California DPS	Т	None	G5T2- T3Q	S2S3	Aquatic Sacramento/San Joaquin flowing waters	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	Cool, swift, shallow water & clean loose gravel for spawning	None. No suitable habitat present. No adequate aquatic connectivity.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
Oncorhynch us mykiss irideus pop. 36	summer-run steelhead trout	None	C, SSC	G5T4Q	S2	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters	No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.	Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.	None. No suitable habitat present. No adequate aquatic connectivity.
Oncorhynch us tshawytscha pop. 17	chinook salmon - California coastal ESU	Т	None	G5T2Q	S 2	Aquatic, Northern California flowing waters.	Includes naturally spawned populations spawning in streams from Redwood Creek, Humboldt County, south through the Russian River, Sonoma County, California	Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth and survival.	None. No suitable habitat present. No adequate aquatic connectivity.
Bombus caliginosus	Obscure bumblebee	None	None	G2G3	S1S2	Coastal prairies and coast range meadows.	Coastal areas from Santa Barbara County to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Low. Limited suitable habitat available.
Bombus occidentalis	western bumble bee	None	None	G2G3	S1	Pollinates a wide variety of flowers. Will gnaw through flowers to obtain nectar their tongues are too short to reach.	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Nest in cavities or abandoned burrows.	Low. Limited suitable habitat available.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name Monarch	FedList	CalList None	GRank	SRank SNR	Habitats North American	General Habitat Overwintering habitats	Micro-Habitat Breeding areas	Potential of Occurrence Low. No
plexippus	butterfly		None	U4	JIVIX	populations highly migratory.	include coastal California conifer or Eucalyptus groves.	virtually all patches of milkweed in North America.	milkweed present. Limited suitable overwintering habitat available.
						Mammals			
Antrozous pallidus	Pallid bat	None	None	G4	S3	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland.	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate. Suitable habitat available in portions of the study area.
Arborimus pomo	Sonoma tree vole	None	None, SSC	G3		forest	N. coast fog belt from Oregon border to Sonoma Co. In Douglas-fir, redwood & montane hardwood-conifer forests.	Will occasionally take needles of grand fir,	Low. No typical habitat within the study area, though possibly surrounding.
Erethizon dorsatum	North American porcupine	None	None	G5		cismontane woodland, closed-cone & N Coast conifer forest, lower & upper montane conifer	Forested habitat in the Sierra Nevada, Cascade, and Coast ranges, scattered observations from forested areas in the Transverse Ranges	Wide variety of coniferous and mixed woodland habitat.	Moderate. Suitable habitat available in forested portions of the study area.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
Martes caurina humboldten sis	Humboldt marten	None	E, SSC	G4G5T1	S1	North coast conifer forest old-growth, Redwood forest	redwood zone from the	Associated with late- successional coniferous forests, prefer forests with low, overhead cover.	None. No suitable habitat present.
Myotis evotis	long-eared myotis	None	None	G5	S3	Roosts in a wide range of substrate.		Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	Moderate. Suitable habitat within portions of the study area.
Myotis thysanodes	Fringed myotis	None	None	G4	S3	Low desert scrub, montane evergreen forest, and oak woodlands.	In a wide variety of habitats, optimal habitats are pinyon- juniper, valley foothill hardwood and hardwood-conifer.	Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Moderate. Suitable habitat within portions of the study area.
Myotis yumanensis	Yuma myotis	None	None	G5	S4	Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest.	with sources of water over which to feed.	tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Moderate. Suitable habitat within portions of the study area.
Pekania pennanti	fisher (No. Calif./So. Oregon DPS)	None	None, SSC	G5	S2S3		Intermediate to large-tree stages of conifer forests & deciduous-riparian areas w/ high % canopy closure.	& rocky areas for cover & denning. Needs large	Low. No typical habitat within the study area, though possibly surrounding.



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023

Garberville and Surrounding 7.5 min Quadrangles

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence				
	Reptiles												
Emys marmorata	western pond turtle	None	None, SSC	G3G4	53	Aquatic, artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Low. Minimal, seasonal habitat available.				
						Mollusks							
Anodonta californiensi s	California floater	None	None	G3Q	S2?	Freshwater, shallow rivers, pools, creeks	Low elevation species found in both lakes and lake-like stream environments.	Slow-moving freshwater streams with mud or sand substrates, though have been found in rivers and creeks with gravel substrates.	suitable habitat				
Anodonta oregonensis	Oregon floater	None	None	G5	S2?	Aquatic	Low gradient rivers, lakes, and reservoirs.	Often share habitat with <i>A. californiensis</i> where their ranges overlap.	None. No suitable habitat present. No adequate aquatic connectivity.				
Noyo interessa	Ten mile shoulderban d	None	None	G2	S2	Coastal dunes, Coastal scrub, Redwood, Riparian forest.	Found in coastal dunes, coastal scrub, and riparian redwood forest habitats.		None. No suitable habitat present. No adequate aquatic connectivity.				

1. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)

C: candidate E: endangered SSC: species of special concern

CT: candidate threatened ESU: evolutionarily significant unit T: threatened D: delisted FP: fully protected WL: watch list

DPS: distinct population segment PT: proposed threatened



Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC

Garberville Sanitation District 5/1/2023
Garberville and Surrounding 7.5 min Ouadrangles

							<u>. </u>		
Scientific	Common	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of
Name	Name	realist	ist Cailist	GRAIIK SK	Skalik	nabitats	General Habitat	WIICI O-Habitat	Occurrence

2. Species Heritage rank as assigned by California Department of Fish and Wildlife (CDFW)

G1/S1: critically imperiled

G2/S2: imperiled G3/S3: vulnerable

G4/S4: apparently secure

G5/S5: secure



Scientific Name	le Sanitary District Study Are Common Name		Native?
Scientific Name		Family	Native?
A	Trees		
Acacia dealbata	silver wattle	Fabaceae	l l
Acer macrophyllum	big leaf maple	Aceraceae	Y
Aesculus californica	California buckeye	Sapindaceae	Y
Alnus rhombifolia	white alder	Betulaceae	Y
Arbutus menziesii	madrone	Ericaceae	Y
Betula papyrifera	paper birch	Betulaceae	N
Crataegus monogyna	English hawthorne	Rosaceae	I
Fraxinus latifolia	Oregon ash	Oleaceae	Y
Liquidamber styraciflua	liquid amber	Hamamelidaceae	N
Malus pumila	cultivated apple	Rosaceae	N
Notholithocarpus densiflorus var. densiflorus	tanoak	Fagaceae	Υ
Pinus ponderosa	ponderosa pine	Pinaceae	Υ
Pinus radiata	Monterey pine	Pinaceae	N
Pinus sylvestris	Scotch pine	Pinaceae	N
Platanus x hispanica	London plane tree	Platanaceae	N
Populus alba	white cottonwood	Salicaceae	N
Prunus avium	sweet cherry	Rosaceae	N
Prunus cerasifera	wild plum	Rosaceae	1
Pseudotsuga menziesii var. menziesii	Douglas fir	Pinaceae	Υ
Quercus chrysolepis	canyon live oak	Fagaceae	Υ
Quercus garryana var. garryana	Oregon white oak	Fagaceae	Υ
Quercus kelloggii	California black oak	Fagaceae	Y
Rosa californica	California wild rose	Rosaceae	Y
Salix lasiandra var. lasiandra	Pacific willow	Salicaceae	Y
Salix lasiolepis	arroyo willow	Salicaceae	Y
Salix sitchensis	Sitka willow	Salicaceae	Y
Sequoia sempervirens	coast redwood	Cupressaceae	Y
Umbellularia californica	California bay tree	Lauraceae	Y
	Shrubs	23.3.3.3.3.3	•
Arctostaphylos manzanita ssp. manzanita	common manzanita	Ericaceae	Y
Baccharis pilularis ssp. consanguinea	coyote brush	Asteraceae	Y
Ceanothus thyrsiflorus var. thyrsiflorus	blue blossom	Rhamnaceae	Y
Corylus cornuta ssp. californica	beaked hazelnut	Betulaceae	Y
Cotoneaster franchetii	Franchett cotoneaster	Rosaceae	· ·
Cytisus scoparius	Scotch broom	Fabaceae	1
Diplacus aurantiacus	sticky monkey flower	Phrymaceae	Y
Frangula californica ssp. californica	California coffee berry	Rhamnaceae	Y
Genista monspessulana	French broom	Fabaceae	1
Heteromeles arbutifolia			Y
•	toyon	Rosaceae	
Holodiscus discolor var. discolor	ocean spray	Rosaceae	Y
Phoradendron leucarpum ssp. tomentosum	oak mistletoe	Viscaceae	Y
Pyracantha angustifolia	firethorn	Rosaceae	



	Appendix 3, Table 3		
	oserved 4/27/22, 5/9, 5/10, 7/5		
	lle Sanitary District Study Area		
Scientific Name	Common Name	Family	Native?
Rosa californica	California rose	Rosaceae	Υ
Rosa gymnocarpa var. gymnocarpa	wood rose	Rosaceae	Υ
Rosa rubiginosa	sweetbriar	Rosaceae	N
Rubus armeniacus	Himalayan blackberry	Rosaceae	I
Rubus leucodermis	California raspberry	Rosaceae	Υ
Rubus parviflorus	thimbleberry	Rosaceae	Υ
Rubus ursinus	California blackberry	Rosaceae	Υ
Symphoricarpos albus	snowberry	Caprifoliaceae	Υ
Vaccinium ovatum	evergreen huckleberry	Ericaceae	Υ
	Sedges and Rushes		
Carex globosa	round fruit sedge	Cyperaceae	Υ
Carex harfordii	Harford sedge	Cyperaceae	Υ
Carex hendersonii	Henderson's sedge	Cyperaceae	Υ
Carex leptopoda	slender foot sedge	Cyperaceae	Υ
Carex tumulicola	foothill sedge	Cyperaceae	Υ
Cyperus eragrostis	tall flat sedge	Cyperaceae	Υ
Isolepis cernua	low bulrush	Cyperaceae	Υ
Juncus bolanderi	Bolander's rush	Juncaceae	Υ
Juncus bufonius var. bufonius	toad rush	Juncaceae	Υ
Juncus capitatus	leafy bracted dwarf rush	Juncaceae	N
Juncus effusus ssp. pacificus	Pacific rush	Juncaceae	Υ
Juncus occidentalis	Western rush	Juncaceae	Υ
Juncus patens	spreading rush	Juncaceae	Υ
Juncus tenuis	slender rush	Juncaceae	Υ
Luzula comosa var. comosa	hairy woodrush	Juncaceae	Υ
Luzula subsessilis	Pacific woodrush	Juncaceae	Y
Scirpus microcarpus	small fruit bulrush	Cyperaceae	Y
	Ferns and Allies	31	
Adiantum jordanii	maidenhair fern	Pteridaceae	Υ
Athyrium filix-femina var. cyclosorum	lady fern	Athyriaceae	Y
Cystopteris fragilis	brittle fern	Cystopteridaceae	Y
Dryopteris arguta	California wood fern	Dryopteridaceae	Y
Equisetum telmateia var. braunii	large horsetail	Equisetaceae	Y
Equistum arvense	common horsetail	Equisetaceae	Y
Pentagramma triangularis ssp. triangularis	gold back fern	Pteridaceae	Y
Polypodium glycyrrhiza	licorice fern	Polypodiaceae	Y
Polystichum munitum	Western sword fern	Dryopteridaceae	Y
Pteridium aquilinum var. pubescens	hairy bracken fern	Dennstaedtiaceae	Y
Woodwardia fimbriata	Western chain fern	Blechnaceae	Y
	Grasses	1 2 1 1 2 2 2 2	
Agrostis stolonifera	creeping bentgrass	Poaceae	ı
Aira caryophyllea	silver hairgrass	Poaceae	N
Alopecurus pratensis	meadow foxtail	Poaceae	1



Scientific Name	Common Name	Family	Native?
Anthoxanthum odoratum	sweet vernal grass	Poaceae	I
Avena barbata	wild oat	Poaceae	I
Briza maxima	large quaking grass	Poaceae	I
Briza minor	small quaking grass	Poaceae	N
Bromus catharticus	rescue grass	Poaceae	I
Bromus diandrus	ripgut brome	Poaceae	I
Bromus hordeaceus	softchess	Poaceae	I
Bromus laevipes	narrow flowered brome	Poaceae	Y
Bromus madritensis ssp. madritensis	foxtail chess	Poaceae	I
Bromus sitchensis var. carinatus	California brome	Poaceae	Y
Bromus sterilis	poverty brome	Poaceae	N
Bromus vulgaris	common brome	Poaceae	Y
Cortaderia jubata	jubata grass	Poaceae	I
Cortaderia selloana	pampas grass	Poaceae	I
Cynodon dactylon	Bermuda grass	Poaceae	I
Cynosurus echinatus	dogtail grass	Poaceae	I
Dactylis glomerata	orchard grass	Poaceae	I
Danthonia californica	California oatgrass	Poaceae	Y
Deschampsia elongata	slender hairgrass	Poaceae	Y
Elymus caput-medusae	Medusa head	Poaceae	I
Elymus glaucus ssp. glaucus	blue wildrye	Poaceae	Υ
Festuca arundinacea	tall fescue	Poaceae	I
Festuca bromoides	brome fescue	Poaceae	N
Festuca californica	California fescue	Poaceae	Y
Festuca myuros	rattail sixweeks grass	Poaceae	N
Festuca occidentalis	Western fescue	Poaceae	Y
Festuca perennis	Italian ryegrass	Poaceae	I
Festuca rubra	red fescue	Poaceae	Y
Gastridium phleoides	nit grass	Poaceae	N
Holcus lanatus	velvet grass	Poaceae	I
Hordeum marinum ssp. gussoneanum	Mediterranean barley	Poaceae	N
Hordeum murinum ssp. glaucum	blue foxtail	Poaceae	I
Hordeum murinum ssp. murinum	wall barley	Poaceae	N
Hordeum vulgare	common barley	Poaceae	N
Melica geyeri	Geyer's melic	poaceae	Y
Melica subulata	Alaska melic	Poaceae	Y
Paspalum dilatatum	dallis grass	Poaceae	N
Phalaris aquatica	harding grass	Poaceae	I
Poa annua	annual bluegrass	Poaceae	N
Poa bulbosa ssp. vivipara	bulbous bluegrass	Poaceae	N
Poa trivialis	rough bluegrass	Poaceae	N
Polypogon monspeliensis	rabbits foot grass	Poaceae	
Rhytidosperma penicillatum	hairy oat grass	Poaceae	I



Appendix 3, Table 3 Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023 Garberville Sanitary District Study Area Scientific Name Common Name Family

Garberville Sanitary District Study Area					
Scientific Name	Common Name	Family	Native?		
Stipa pulchra	purple needlegrass	Poaceae	Υ		
Trisetum cernuum	nodding trisetum	Poaceae	Υ		
	Herbs				
Acmispon brachycarpus	short podded lotus	Fabaceae	Υ		
Acmispon parviflorus	hill lotus	Fabaceae	Y		
Adenocaulen bicolor	trail plant	Asteraceae	Υ		
Agapanthus praecox	African lily	Liliaceae	N		
Allium triquetrum	three cornered leek	Alliaceae	N		
Anisocarpus madioides	woodland madia	Asteraceae	Y		
Aphanes occidentalis	Western lady's mantle	Rosaceae	Υ		
Apocynum cannabinum	Indian hemp	Apocynaceae	Y		
Asyneuma prenanthoides	California hairbell	Campanulaceae	Y		
Bellis perennis	English daisy	Asteraceae	N		
Brassica nigra	black mustard	Brassicaceae	I		
Callitriche heterophylla var. heterophylla	water starwort	Plantaginaceae	Y		
Calochortus tolmiei	hairy star tulip	Liliaceae	Y		
Calypso bulbosa var. occidentalis	fairy slipper	Orchidaceae	Y		
Calystegia occidentalis ssp. occidentalis	chaparral false bindweed	Convulvaceae	Υ		
Capsella bursa-pastoris	shepherds' purse	Brassicaceae	N		
Cardamine californica	California milkmaids	Brassicaceae	Υ		
Cardamine oligosperma	bitter cress	Brassicaceae	Υ		
Carduus pycnocephalus ssp. pynocephalus	Italian thistle	Asteraceae	1		
Centaurea solstitialis	yellow star thistle	Asteraceae	I		
Centranthus ruber	Jupiter's beard	Valerianaceae	N		
Cerastium fontanum ssp. vulgare	mouse ear chickweed	Caryophyllaceae	N		
Chlorogalum pomeridianum var. pomeridianum	common soaproot	Agavaceae	Y		
Cichorium intybus	chicory	Asteraceae	N		
Cirsium vulgare	bull thistle	Asteraceae	l l		
Claytonia parviflora ssp. parviflora	miner's lettuce	Montiaceae	Y		
Clinopodium douglasii	yerba buena	Lamiaceae	Y		
Conium maculatum	poison hemlock	Apiaceae	l l		
Convolvulus arvensis	field bindweed	Convolvulaceae	N		
Crassula connata	sand pigmy weed	Crassulaceae	Y		
Crocosmia x crocosmiiflora	montebretia	Iridaceae	I		
Croton setiger	turkey mullein	Euphorbiaceae	Y		
Daucus carota	Queen Anne's lace	Apiaceae	N		
Delphinium nudicaule	canyon larkspur	Ranunculaceae	Υ		
Dicentra formosa ssp. formosa	bleeding heart	Papaveraceae	Y		
Dichelostemma ida-maia	firecracker brodiaea	Themidaceae	Y		
Diplacus douglasii	purple mouse ears	Phrymaceae	Y		
Dipsacus fullonum	wild teasel	Dipsacaceae	I		
Dipterostemon capitatus	blue dicks	Themidaceae	Y		
Drymocallis glandulosa var. glandulosa	sticky cinquefoil	Rosaceae	Y		



Garberville Sanitary District Study Area					
Scientific Name	Common Name	Family	Native?		
Epilobium brachycarpum	annual fireweed	Onagraceae	Y		
Epilobium ciliatum ssp. ciliatum	willowherb	Onagraceae	Υ		
Epilobium densiflorum	willowherb	Onagraceae	Υ		
Erigeron canadensis	Canada horseweed	Asteraceae	Υ		
Erigeron karvinskianus	fleabane	Asteraceae	N		
Eriophyllum lanatum var. achilleoides	yarrow leaved woolly sunflower	Asteraceae	Y		
Erodium circutarium	common stork's bill	Geraniaceae	I		
Erodium moschatum	white stem filaree	Geraniaceae	N		
Erythranthe guttata	seep monkeyflower	Phrymaceae	Y		
Eschscholzia californica	California poppy	Papaveraceae	Υ		
Euphorbia maculata	spotted spurge	Euphorbiaceae	N		
Euphorbia oblongata	eggleaf spurge	Euphorbiaceae	N		
Euphorbia peplus	petty spurge	Euphorbiaceae	N		
Euphorbia serpillifolia ssp. serpillifolia	thyme leaf spurge	Euphorbiaceae	Y		
Eurybia radulina	rough leaf aster	Asteraceae	Υ		
Foeniculum vulgare	fennel	Apiaceae	ı		
Fragaria vesca	wild strawberry	Rosaceae	Y		
Galium aparine	cleaver plant	Rubiaceae	Y		
Galium californicum ssp. californicum	California bedstraw	Rubiaceae	Υ		
Galium muricatum	Humboldt bedstraw	Rubiaceae	Y		
Galium parisiense	wall bedstraw	Rubiaceae	N		
Gamochaeta ustulata	featherweed	Asteraceae	Υ		
Geranium dissectum	cutleaf geranium	Geraniaceae	I		
Geranium molle	crane's bill	Geraniaceae	N		
Geranium robertianum	Robert geranium	Geraniaceae	N		
Heuchera micrantha	alum root	Saxifragaceae	Υ		
Hieracium albiflorum	white hawksbeak	Asteraceae	Y		
Hirschfeldia incana	Mediterranean hoary mustard	Brassicaceae	I		
Hyacinthioides nonscripta	bluebells	Asparagaceae	N		
Hypericum calycinum	St. John's wort	Hypericaceae	N		
Hypericum perforatum ssp. perforatum	Klamathweed	Hypericaceae	I		
Hypochaeris glabra	smooth cat's-ear	Asteraceae	N		
Hypochaeris radicata	hairy cat's-ear	Asteraceae	I		
Iris douglasii	Douglas iris	Iridaceae	Y		
Iris germanica	German iris	Iridaceae	N		
Iris purdyi	Purdy's iris	Iridaceae	Y		
Kickxia elatine	sharp point fluellin	Plantaginaceae	N		
Kniphofia uvaria	firepoker	Asphodelaceae	I		
Lactuca serriola	prickly lettuce	Asteraceae	N		
Lamium purpureum	purple dead nettle	Lamiaceae	N		
Lapsana communis	common nipplewort	Asteraceae	N		



Scientific Name	Common Name	Family	Native?	
Lathyrus angulatus	angled pea vine	Fabaceae	N	
Lathyrus latifolius	sweet pea	Fabaceae	N	
Lathyrus sulphureus	sulphur pea	Fabaceae	Υ	
Lathyrus vestitus var. vestitus	hillside pea	Fabaceae	Υ	
Leontodon saxatilis ssp. saxatilis	hawkbit	Asteraceae	N	
Lepidium didymum	lesser swinecress	Brassicaceae	N	
Leptosiphon bicolor	true babystars	Polemoniaceae	Υ	
Leucanthumum vulgare	oxeye daisy	Asteraceae	I	
Linum bienne	flax	Linaceae	N	
Lippia nodiflora	common lippia	Verbenaceae	Υ	
Logfia gallica	narrowleaf cottonrose	Asteraceae	N	
Lotus corniculatus	bird's foot trefoil	Fabaceae	N	
Lupinus bicolor	annual lupine	Fabaceae	Υ	
Lysimachia arvensis	scarlet pimpernel	Myrsinaceae	N	
Lysimachia latifolia	Pacific starflower	Myrsinaceae	Y	
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae	I	
Madia gracilis	gumweed	Asteraceae	Y	
Malva neglecta	dwarf mallow	Malvaceae	N	
Marah oregana	coast man-root	Cucurbitaceae	Y	
Matricaria discoidea	pineapple weed	Asteraceae	Y	
Medicago polymorpha	bur clover	Fabaceae	I	
Melilotus albus	white sweet clover	Fabaceae	N	
Melissa officinalis	lemon balm	Lamiaceae	N	
Mentha pulegium	pennyroyal	Lamiaceae	I	
Modiola caroliniana	Carolina bristle mallow	Malvaceae	N	
Myosotis latifolia	forget-me-not	Boraginaceae	I	
Narcissus pseudonarcissus	daffodil	Amaryllidaceae	N	
Navarretia squarrosa	skunkweed	Polemoniaceae	Y	
Nemophila heterophylla	canyon nemophila	Hydrophyllaceae	Y	
Osmorhiza berteroi	sweet cicely	Apiaceae	Y	
Oxalis articulata ssp. rubra	windowbox sorrel	Oxalidaceae	N	
Oxalis corniculata	creeping wood sorrel	Oxalidaceae	N	
Oxalis pes-caprae	Bermuda butterup	Oxalidaceae	I	
Pedicularis densiflora	indian warrior	Orobanchaceae	Y	
Phacelia bolanderi	redwood phacelia	Hydrophyllaceae	Y	
Phacelia heterophylla var. virgata	varied leaf phacelia	Hydrophyllaceae	Y	
Pisum sativum	garden pea	Fabaceae	N	
Plantago lanceolata	English plantain	Plantaginaceae	I	
Plantago major	common plantain	Plantaginaceae	N	
Polycarpon tetraphyllum var. tetraphyllum	all seed	Caryophyllaceae	N	
Polygonum aviculare ssp. aviculare	prostrate knotweed	Polygonaceae	N	
Poterium sanguisorba	garden burnet	Rosaceae	N	
Prosartes smithii	large fairy bells	Liliaceae	Υ	



Scientific Name	ville Sanitary District Study Area Common Name	Family	Native?
Prunella vulgaris var. lanceolata	selfheal	Lamiaceae	Y
Prunella vulgaris var. vulgaris	selfheal	Lamiaceae	N
Pseudognaphalium beneolens	cudweed	Asteraceae	Y
Pseudognaphalium californicum	ladies' tobacco	Asteraceae	Y
Pseudognaphalium luteoalbum	Jersey cudweed	Asteraceae	N
Pseudognaphalium stramineum	cottonbatting plant	Asteraceae	Y
Psilocarphus tenellus	slender woolly marbles	Asteraceae	Y
Ranunculus muricatus	sunshine buttercup	Ranunculaceae	N
Ranunculus occidentalis var. occidentalis	Western buttercup	Ranunculaceae	Y
	•	Ranunculaceae	1
Ranunculus repens	creeping buttercup California milkwort	-	Y
Rhinotropis californica		Polygalaceae	Y
Rumex acetosella	sheep sorrel	Polygonaceae	l I
Rumex conglomeratus	green dock	Polygonaceae	N
Rumex crispus	curly dock	Polygonaceae	1
Rumex pulcher	fiddleleaf dock	Polygonaceae	N
Sagina decumbens ssp. occidentalis	pearlwort	Caryophyllaceae	Y
Sanicula bipinnatifida	purple sanicle	Apiaceae	Υ
Sanicula crassicaulis	Pacific sanicle	Apiaceae	Υ
Scrophularia californica	California bee plant	Scrophulariaceae	Υ
Senecio vulgaris	common groundsel	Asteraceae	N
Silene gallica	common catchfly	Caryophyllaceae	N
Sisyrinchium bellum	Western blue-eyed grass	Iridaceae	Υ
Soleirolia soleirolii	babies tears	Urticaceae	N
Soliva sessilis	South American soliva	Asteraceae	N
Sonchus asper ssp. asper	prickly sow thistle	Asteraceae	N
Sonchus oleraceus	common sow thistle	Asteraceae	N
Spergula arvensis	corn spurrey	Caryophyllaceae	N
Spergularia rubra	purple sand spurrey	Caryophyllaceae	N
Stachys arvensis	field hedenettle	Lamiaceae	N
Stachys rigida var. quercetorum	rough nettle	Lamiaceae	Υ
Stachys rigida var. rigida	rough hedge nettle	Lamiaceae	Υ
Stellaria media	chickweed	Caryophyllaceae	N
Taraxacum officinale	dandelion	Asteraceae	N
Tellima grandiflora	fringe cups	Saxifragaceae	Y
Torilis arvensis	field hedge parsley	Apiaceae	I
Trifolium dubium	shamrock clover	Fabaceae	N
Trifolium fragiferum	strawberry clover	Fabaceae	N
Trifolium gracilentum	pinpoint clover	Fabaceae	Υ
Trifolium hirtum	rose clover	Fabaceae	I
Trifolium incarnatum	crimson clover	Fabaceae	N
Trifolium repens	white clover	Fabaceae	N
Trifolium subterraneum	subterranean clover	Fabaceae	N
Trifolium willdenovii	tomcat clover	Fabaceae	Y



Appendix 3, Table 3 Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023 **Garberville Sanitary District Study Area Scientific Name Common Name Family** Native? Trillium ovatum ssp. ovatum western trillium Melanthiaceae Υ Triphysaria pusilla little owl's clover Orobranchaceae Triteleia laxa Ithuriel's spear Themidaceae Υ Veronica arvensis speedwell Plantaginaceae Ν Vicia hirsuta hairy vetch Fabaceae Ν small common vetch Fabaceae Ν Vicia sativa ssp. nigra Vicia sativa ssp. sativa spring vetch Fabaceae Ν four-seeded vetch Ν Vicia tetrasperma Fabaceae Vicia villosa ssp. villosa Ν hairy vetch Fabaceae Vinca major vinca I Apocynaceae Vinca minor common periwinkle Apocynaceae Ν Viola glabella stream violet Violaceae Υ Viola odorata Violaceae English white violet Ν Yabea macrocarpa California hedge parsley Apiaceae Υ Zantedeschia aethiopica calla lily Araceae Muehlenberg's centaury Zeltnera muehlenbergii Gentianaceae Υ **Vines** Hedera helix English ivy Araliaceae Lonicera hipsidula pink honeysuckle Caprifoliaceae Υ Symphoricarpos mollis creeping snowberry Caprifoliaceae Υ Toxicodendron diversilobum Υ poison oak Anacardiaceae California grape Vitis californica Vitaceae Υ Vitis vinifera Ν cultivated grape Vitaceae Υ Whipplea modesta modesty Hydrangeaceae 50% **Total: 315 Species Native**



Appendix 3, Table 4 Animal Species Observed 7/1/2022 Garberville Sanitary District Study Areas

Garberville Sanitary District Study Areas							
Scientific Name Common Name	Family	Nesting/Breeding Habit	Status				
An	Amphibians						
Pseudacris regilla Northern Pacific tree-fro	og Hylidae	freshwater	NL				
	Birds						
Aphelo California scrub-jay	Corvidae	trees	NL				
Buteo jamaicensis red-tailed hawk	Accipitridae	trees	NL				
Buteo lineatus red-shouldered hawk	Accipitridae	trees	NL				
Cardellina pusilla Wilson's warbler	Parulidae	ground	NL				
Catharus guttatus hermit thrush	Turdidae	ground	NL				
Cathrates aura turkey vulture	Cathartidae	cliffs	NL				
Chamaea faciata wrentit	Sylviidae	shrub	NL				
Corvus brachyrhynchos American crow	Corvidae	Trees	NL				
Corvus corax common raven	Corvidae	Cliffs, trees & man- made structures	NL				
Cyanocitta stelleri Steller's jay	Corvidae	trees and shrubs	NL				
Empidonax difficilis Pacific-slope flycatcher	Tyrannidae	cavities	NL				
Geothlypis tolmiei MacGillivray's warbler	Parulidae	shrubs	NL				
Haemorhous mexicanus house finch	Fringillidae	trees	NL				
Junco hyemalis dark-eyed junco	Passerellidae	ground	NL				
Melanerpes formicivorus acorn woodpecker	Picidae	cavities	NL				
Passer domesticus house Sparrow	Passeridae	Cavities, eves, crevices, buildings	NN				
Patagioenas fasciata band-tailed pigeon	columbidae	trees	NL				
Pipilo maculatus spotted towhee	Passerellidae	ground	NL				
Piranga ludoviciana western tanager	Cardinalidae	trees	NL				
Poecile rufescens chestnut-backed chickadee	Paridae	cavities	NL				
Sitta canadensis red-breasted nuthatch	Sittidae	cavities	NL				
Streptopelia decaocto Eurasian collared dove	Columbidae	trees	NN				
Tachycineta bicolor tree swallow	Hirundinidae	cavities	NL				
Vireo gilvus warbling vireo	Vireonidae	trees	NL				
Vireo huttoni Hutton's vireo	Vireonidae	trees	NL				
N	lammals						
Sciurus griseus western gray squirrel	Sciuridae	trees	NL				
Urocyon cinereoargenteus gray fox (sign)	Canidae	burrows	NL				
	Reptiles						
Sceloporus occidentalis western fence lizard	Phrynosomatidae	N/A	NL				
	Insects						
Libellula saturate flame skimmer	Libellulidae	N/A	NL				
Elberrara Satarate Harrie Skiriffet	Libellallaac	14// (INL				

NL=Not Listed NN=Not Native



Vegetation Rapid Assessment and Releve' Forms

Combined Vegetation Rapid Assessment and Relevé Field Form

Field Reconnaissance (Revised March 27, 2018) For Office Use: Final database #: Alliance Final vegetation type: Association I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION circle: Relevé or RA Database #: Name of recorder: Other surveyors: UID: Location Name: Purple Needle GPS name: (IM) For Relevé only: Bearing, left axis at ID point of Long / Short side UTME **UTMN** NAD83 GPS error: ft./ m./ PDOP 1. 7m Zone: 11 Decimal degrees: GPS within stand? Yes / No If No, cite from GPS to stand: distance (m) П and record: Base point ID Projected UTMs: UTME UTMN Camera Name: 500000 Cardinal photos at ID point: ***See notes on bottom of pg 2; record info on photo sheet Other photos: Stand Size (acres): (<1,) 1-5, >5 | Plot Area (m²): 100 / ____ | Plot Dimensions | D NE NW SE (SW) Flat Variable | Steepness, Actual °: Topography: Macro: top (upper) mid lower bottom | Micro: convex flat flat undulating Geology code: Soil Texture code: (Upland) or Wetland/Riparian (circle one) % Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud) H20: BA Stems: 50 Litter: 43 Bedrock: 5 Boulder: Stone: Cobble: Gravel: Fines: 2 % Current year bioturbation 2 Past bioturbation present? (Yes)/ No % Hoof punch < Fire evidence: (Yes) / No (circle one) If yes, describe in Site history section, including date of fire, if known, Site history, stand age, comments: Marks and debris on old Da Roadedness, Clearing or other conditions (disturbances, sudden oak death, ect.) Wester expect the stand. Disturbance code / Intensity (L,M,H): II. HABITAT DESCRIPTION Tree DBH: T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) Herbaceous: H1 <12" plant ht.).(H2 (\$12" ht.) Desert Riparian Tree/Shrub: 1 (2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) III. INTERPRETATION OF STAND Field-assessed vegetation Alliance name: 1, 2 Field-assessed Association name (optional): Adjacent Alliances/direction: Confidence in Alliance identification: L Explain:

> 1000 purpleheedle grans individual 1) Sensitive or herbaceous map to alliance I note sensitive associations within each stand.

of individual target species (e.g. redwood within Redwood Forest Alliance)

Tree

Shrub

Phenology (E,P,L): Herb

Other identification or mapping information:

Combined Vegetation Rapid Assessment and Relevé Field Form (Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type: Alliance Association
I, LOCATIONAL	/ENVIRONMENTAL	
Database #:	Date:	Name of recorder: Total
	4/27/2	Other surveyors:
	UID:	Location Name: Releve 2, Downora Californica
GPS name: Trink	1.01	
SPS name: I(W/L	HE LI	For Relevé only: Bearing°, left axis at ID point of Long / Short side
JTME	UTN	MN Zone: 11 NAD83 GPS error: ft./ m./ PDOP
Decimal degrees:	LAT 4 0.	07534 LONG-123.770332°
	d? Yes No If No	o, cite from GPS to stand: distance (m) bearing ° inclination ° Projected UTMs: UTME UTMN
		photos at ID point: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Other photos:	Weiserig Cardinar	photos at 1D point. 129
		2 10
		SE SW Flat Variable Steepness, Actual ": 35 0" 1-5" > 5-25"
	Soil Text	mid lower bottom Micro: convex flat concave undulating ture code: Upland or Wetland/Riparian (circle one)
% Surface cover: H20: A Ster	ns: 40 Litter: 40	ncl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud) Bedrock: Boulder: Stone: Cobble: Gravel: Fines: 2 =100%
		Past bioturbation present? Vel / No % Hoof punch
		yes, describe in Site history section, including date of fire, if known.
		californica scarsland. Surranded by non-native gravitands which helping in Arbutus merulesii. Untelliularia californica tylicumbusus to (N). Just and certificated to edge of voordland ones (disturbances, sudden oak death, ect.) The lad likely climated partons of his veg. community. There are rounded.
Disturbance code /	Intensity (L,M,H):	//
I. HABITAT DES	SCRIPTION	
ree DBH : T1 (<1	"dbh), T2 (1-6" dbh). T	C3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)
		g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)
0	12" plant ht.), H2 (>12"	
1		
		em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)
		diameter), 2 (1.5-6" diam.), 3 (>6" diam.)
I. INTERPRETA	ATION OF STAND	
ield-assessed vege	etation Alliance name	1, 2
ield-assessed Asse	ociation name (options	al):
	direction: Hardw	
onfidence in Allia	ance identification: I	M (H) Explain:
henology (E,P,L)	: Herb P Shrub	Tree Other identification or mapping information:
		ood within Redwood Forest Alliance)
200 Dontoni	- 1 to 1	

Sensitive or herbaceous map to alliance - note sensitive associations within each stand.
 Non-sensitive upland map to alliance - map sensitive associations.

Wetland
Determination and
Ordinary High Water
Mark Data Forms

onsulting Engineers & Geologists, Inc.	ATA FORM -	- Western Moun	tains, Valleys, ar	nd Coast Region
Project/Site: Garberville	City	/County: Humboldt		_ Sampling Date: 4/12/27_
Applicant/Owner: Garberylle Sanitary Di	strict	, oodiniy.	State: CA	Sampling Point: TP I
Investigator(s): Joseph Saler, Cindy Wilcox		ction, Township, Ran		_ Camping rout.
Landform (hillslope, terrace, etc.): Hilly of Gavale			onvex, none): Canco	3VCSlope (%): 5
Subregion (LRR): A, MLRA-4B	Lat 40.	07328	Long: -123.785	234° Datum: WGS 84
Soil Map Unit Name: 667: Dryfield-Yorknor	1- Withere	11 Cando 5-	30% Allaff alpacit	Section: None
Are climatic / hydrologic conditions on the site typical for the				
Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology			eded, explain any answ	present? Yes No No
			•	
SUMMARY OF FINDINGS – Attach site map		mpling point lo	cations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes Yes	No	Is the Sampled	Area	
	No No	within a Wetland	d? Yes X	No
Remarks: Study area is experiencing extreme di		Prought Monitori		
TP excavated in roadside	swale v	Achis prima	rily dry, exa	ept at this location.
VEGETATION Use scientific names of pla				
		ominant Indicator	Dominance Test wo	rksheet:
Tree Stratum (Plot size:)	<u>% Cover Si</u>	pecies? Status	Number of Dominant That Are OBL, FACW	
2. Jaga Shating as Daysh	0 0000	Sulate	, -	,
3 1/00 2110011010 1 01 DIA 216	and allowe	730000	Total Number of Dom Species Across All St	
4. Not Counted			Percent of Dominant	Species La A 1/
Sapling/Shrub Stratum (Plot size: 5++	=	Total Cover	That Are OBL, FACW	
1. Ruber ormeacus	15	FAC	Prevalence Index wo	orksheet:
2			Total % Cover of	Multiply by:
3				x 1 =
4				x 2 =
5			•	x 3 =
544	15_=	Total Cover		x 4 =
Herb Stratum (Plot size: JT1) 1. JW(US & FUND SSD. DA(HCW)	40	- FOIN	Column Totals:	x 5 =
2. Holow landers	-5	FAC	Column Totals.	(A)(B)
3 fortug anndinacea	40	FAC	Prevalence Inde	
4. Runex Caspus.	2	FAC	Hydrophytic Vegeta	
5. Vicia Sativa	15	UPL	2 - Dominance To	r Hydrophytic Vegetation
6. Briza Maxima	- 15	NL	3 - Prevalence In	est is >50%
7. Gerain dissection	1	NL	_	I Adaptations ¹ (Provide supporting
8. Sancher Oleraceus	-1	WPL	data in Rema	rks or on a separate sheet)
9. Hypochaeris, Cadicata	1	FACH	5 - Wetland Non-	-Vascular Plants ¹
10. Carex headersail	2	FACH	Problematic Hyde	rophytic Vegetation¹ (Explain)
11,				soil and wetland hydrology must
NOTE 18 18 18 18 18 18 18 18 18 18 18 18 18	<u> </u>	otal Cover 56	be present, unless di	sturbed or problematic.
Woody Vine Stratum (Plot size:)		24.1		
1.			Hydrophytic	1
2.			Vegetation Present?	Yes No
% Bare Ground in Herb Stratum		Total Cover		
Remarks: \	1.1	0 1	1.05	1
Tree stratum doer not reflect isol	ard me	and condi	1100	

Profile Description: (Describe to the depth needed to document of the Depth Matrix Rec	lox Features	the absence of malcate	.,
inches) Color (moist) % Color (moist)	% Type' Loc²	Texture _	Remarks
1-3 7.5 YR 3/2 10()		Loom	
10VP 11/2 VE 75 VO 11/	TE (M/o)	CI	
1-15 107K 4/2 13 1.5 YK 4/6	15 0 1110		
5-17+2.5Y 6/2 70 7.5YR4/6	30 C MIPL	Sick_	
			
		21	No. 1100 - 1100 - 1100
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, C			Pore Lining, M=Matrix. Diematic Hydric Soils ³ :
lydric Soil Indicators: (Applicable to all LRRs, unless oth			
Histosol (A1) Sandy Redox		2 cm Muck (A1	
Histic Epipedon (A2) Stripped Matr		Red Parent Ma	
	/ Mineral (F1) (except MLRA 1)		ark Surface (TF12)
Hydrogen Sulfide (A4)Loamy Gleye		Other (Explain	in Remarks)
Depleted Below Dark Surface (A11) — Depleted Mat			
Thick Dark Surface (A12) Redox Dark S	Surface (F6)	_	phytic vegetation and
	k Surface (F7)		gy must be present,
Sandy Gleyed Matrix (S4) Redox Depre	ssions (F8)	unless disturbed	or problematic.
estrictive Layer (if present):			
Туре:			Y
Depth (inches):		Hydric Soil Present?	Yes No
YDROLOGY			
YDROLOGY Vetland Hydrology Indicators:	only)	Secondary Indic	elors (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that any surface (Mater S.	1000	- Charles and a second	ators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that ar Surface Water (A1) Water-S	Stained Leaves (B9) (except	Water-Stain	ed Leaves (B9) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1) Water-S High Water Table (A2) MLR	Stained Leaves (B9) (except A 1, 2, 4A, and 4B)	Water-Stain 4A, and	ed Leaves (B9) (MLRA 1, 2, 4B)
/DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required: check all that are Surface Water (A1) Water-S High Water Table (A2) MLR Saturation (A3) Salt Cru	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) ist (B11)	Water-Stain 4A, and Drainage Pa	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1) Water-S High Water Table (A2) Salt Cru Saturation (A3) Salt Cru Water Marks (B1) Aquatic	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) ist (B11) Invertebrates (B13)	Water-Stain 4A, and Drainage Pa Dry-Season	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2)
VOROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that any Surface Water (A1) Water-S High Water Table (A2) Salt Cru Saturation (A3) Salt Cru Water Marks (B1) Aquatic Sediment Deposits (B2) Hydroge	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) ast (B11) Invertebrates (B13) an Sulfide Odor (C1)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (CS
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1)	Stained Leaves (B9) (except IA 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1) In Rhizospheres along Living Roo	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Vots (C3)	ed Leaves (B9) (MLRA 1, 2 4B) utterns (B10) Water Table (C2) /isible on Aerial Imagery (CS : Position (D2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1)	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) ast (B11) Invertebrates (B13) an Sulfide Odor (C1)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation	ed Leaves (B9) (MLRA 1, 2, 4B) utterns (B10) Water Table (C2) /isible on Aerial Imagery (C9 : Position (D2)
Vetland Hydrology Indicators: Inimary Indicators (minimum of one required; check all that are Surface Water (A1) Water-S High Water Table (A2) MLR Saturation (A3) Salt Cru Water Marks (B1) Aquatic Sediment Deposits (B2) Hydroge Drift Deposits (B3) Oxidizer Algal Mat or Crust (B4) Presence	Stained Leaves (B9) (except IA 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1) In Rhizospheres along Living Roo	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) /isible on Aerial Imagery (C9 : Position (D2) uitard (D3)
Verland Hydrology Indicators: Inimary Indicators (minimum of one required; check all that are 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) Verland Indicators: Water Marks (B1) Aquatic Aquatic Oxidized Presence	Stained Leaves (B9) (except (A 1, 2, 4A, and 4B) (Inst (B11) (Invertebrates (B13) (Invertebra	Water-Stain 4A, and — Drainage Pa — Dry-Season — Saturation V Ots (C3) Geomorphic — Shallow Aqu FAC-Neutra	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) /isible on Aerial Imagery (C9 : Position (D2) uitard (D3)
Vetland Hydrology Indicators: Irimary Indicators (minimum of one required; check all that are Surface Water (A1) Water-S High Water Table (A2) MLR Saturation (A3) Salt Cru Water Marks (B1) Aquatic Sediment Deposits (B2) Hydroge Drift Deposits (B3) Oxidized Algal Mat or Crust (B4) Presence Iron Deposits (B5) Recent Surface Soil Cracks (B6) Stunted	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Inst (B11) Invertebrates (B13) In Sulfide Odor (C1) In Rhizospheres along Living Roce of Reduced Iron (C4) Iron Reduction in Tilled Soils (C6)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra N Raised Ant	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (Cs : Position (D2) uitard (D3) I Test (D5)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required: check all that are Surface Water (A1) Water-S High Water Table (A2) MLR Saturation (A3) Salt Cru Water Marks (B1) Aquatic Sediment Deposits (B2) Hydroge Drift Deposits (B3) Oxidized Algal Mat or Crust (B4) Presence Iron Deposits (B5) Recent Surface Soil Cracks (B6) Stunted	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Inst (B11) Invertebrates (B13) In Sulfide Odor (C1) In Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra N Raised Ant	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (C5 Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A)
/DROLOGY // Vetland Hydrology Indicators: // Irimary Indicators (minimum of one required: check all that any Surface Water (A1) Water-S High Water Table (A2) MLR Saturation (A3) Salt Cru Water Marks (B1) Aquatic Sediment Deposits (B2) Hydroge Drift Deposits (B3) Oxidized Algal Mat or Crust (B4) Presence Iron Deposits (B5) Recent Surface Soil Cracks (B6) Stunted Inundation Visible on Aerial Imagery (B7) Other (B) Sparsely Vegetated Concave Surface (B8)	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Inst (B11) Invertebrates (B13) In Sulfide Odor (C1) In Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra N Raised Ant	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (C9 Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A)
Vetland Hydrology Indicators: Irimary Indicators (minimum of one required; check all that any Surface Water (A1) Water-Size MLR Surface Water (A2) MLR Saturation (A3) Salt Crust Water Marks (B1) Aquatic Sediment Deposits (B2) Hydroge Drift Deposits (B3) Oxidized Present Iron Deposits (B5) Recent Surface Soil Cracks (B6) Stunted Inundation Visible on Aerial Imagery (B7) Other (BS) Sparsely Vegetated Concave Surface (B8)	Stained Leaves (B9) (except (A 1, 2, 4A, and 4B) (ast (B11) (Invertebrates (B13) (en Sulfide Odor (C1) (d Rhizospheres along Living Roc (ce of Reduced Iron (C4) (Iron Reduction in Tilled Soils (C6) (or Stressed Plants (D1) (LRR A) (Explain in Remarks)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra N Raised Ant	ed Leaves (B9) (MLRA 1, 2, 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (C9; Position (D2) aitard (D3) I Test (D5) Mounds (D6) (LRR A)
Verland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are 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) Surface Water Present? Yes No Depth	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) (except B 1) (except B	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra N Raised Ant	ed Leaves (B9) (MLRA 1, 2, 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (C9; Position (D2) aitard (D3) I Test (D5) Mounds (D6) (LRR A)
Verland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1) High Water Table (A2) 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) Field Observations: Surface Water Present? Ves No Depth Vater Table Present? Ves No Depth Depth	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1) Ind Rhizospheres along Living Roc De of Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 Or Stressed Plants (D1) (LRR A Explain in Remarks) (inches):	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra Raised Ant Frost-Heave	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (C9 Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A) Hummocks (D7)
Voltand Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1) High Water Table (A2) 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) Field Observations: Surface Water Present? Vater Table Present? Ves No Depth Saturation Present? Ves No Depth Saturation Present? Vater Table Present Prese	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1) In Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A Explain in Remarks) (inches):	Water-Stain 4A, and Drainage Pa Dry-Season Saturation V Ots (C3) Geomorphic Shallow Aqu FAC-Neutra N Raised Ant	ed Leaves (B9) (MLRA 1, 2 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (CS Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A) Hummocks (D7)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that are Surface Water (A1) High Water Table (A2) 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) Field Observations: Surface Water Present? Ves No Depth Saturation Present? Yes No Depth	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1) In Reduction (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A Explain in Remarks) (inches): (i	Water-Stain 4A, and Drainage Pa Dry-Season Saturation N Ots (C3) X Geomorphic Shallow Aqu FAC-Neutra Raised Ant Frost-Heave	ed Leaves (B9) (MLRA 1, 2, 4B) atterns (B10) Water Table (C2) fisible on Aerial Imagery (C9; Position (D2) aitard (D3) I Test (D5) Mounds (D6) (LRR A) Hummocks (D7)
VDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one required; check all that any Surface Water (A1)	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along Living Roc ee of Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A Explain in Remarks) (inches):	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Nots (C3) FAC-Neutra Raised Ant Frost-Heave and Hydrology Present if available;	ed Leaves (B9) (MLRA 1, 2, 4B) Atterns (B10) Water Table (C2) fisible on Aerial Imagery (C9; Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A) Hummocks (D7)
Verland Hydrology Indicators: Primary Indicators (minimum of one required: check all that any Surface Water (A1) High Water Table (A2) MLR 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) Field Observations: Surface Water Present? Ves No Depth Saturation Present? Ves No Depth Saturation Present? Ves No Depth Saturation Present? Ves No Depth Social Cracked Data (stream gauge, monitoring well, aerial concave) Describe Recorded Data (stream gauge, monitoring well, aerial concave) Surface Water Principle Describe Recorded Data (stream gauge, monitoring well, aerial concave) Surface Water Principle Describe Recorded Data (stream gauge, monitoring well, aerial concave)	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along Living Roc ee of Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A Explain in Remarks) (inches):	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Nots (C3) FAC-Neutra Raised Ant Frost-Heave and Hydrology Present if available;	ed Leaves (B9) (MLRA 1, 2 4B) Atterns (B10) Water Table (C2) //isible on Aerial Imagery (C5 Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A) P Hummocks (D7)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that any 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) Surface Water Present? Vater Table Present? Vater Table Present? Ves No Depth Saturation Present? Ves No Depth Saturation Present? Ves No Depth Saturation Present? Ves No Depth Social Cracks (B6) Depth Saturation Present? Ves No Depth Social Cracks (B6) Depth Saturation Present? Ves No Depth Social Cracks (B6) Depth Saturation Present? Ves No Depth Social Cracks (B6) Stunted Other (B	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1) In Reduction (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A Explain in Remarks) (inches): (i	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Nots (C3) FAC-Neutra Raised Ant Frost-Heave and Hydrology Present if available;	ed Leaves (B9) (MLRA 1, 2 4B) Atterns (B10) Water Table (C2) //isible on Aerial Imagery (C5 Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A) P Hummocks (D7)
Vetland Hydrology Indicators: Irimary Indicators (minimum of one required; check all that any Surface Water (A1)	Stained Leaves (B9) (except A 1, 2, 4A, and 4B) Ist (B11) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along Living Roc ee of Reduced Iron (C4) Iron Reduction in Tilled Soils (C6 or Stressed Plants (D1) (LRR A Explain in Remarks) (inches):	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Nots (C3) FAC-Neutra Raised Ant Frost-Heave and Hydrology Present if available;	ed Leaves (B9) (MLRA 1, 2 4B) Atterns (B10) Water Table (C2) //isible on Aerial Imagery (C5 Position (D2) uitard (D3) I Test (D5) Mounds (D6) (LRR A) P Hummocks (D7)

Consulting Engineers & WETLAND DETERMINATION D	DATA FORM – Western	Mountains, Valleys, a	nd Coast Region
Project/Site: Garberville	City/County: Hu	mboldt	_ Sampling Date: 4/12/22
Applicant/Owner: Garberville Sovitary Dis		State: CA	Sampling Point: TP 2
Investigator(s): Joseph Saler, Cindy Wilcox		nip, Range:	
Landform (hillslope, terrace, etc.): Hills ope Sw	Ale Local relief (cor	cave, convex, none): (M)	ave Slope (%): 7
	Lat: 40.10727		
Soil Map Unit Name: 667: Dryfield-Yorkno			
Are climatic / hydrologic conditions on the site typical for t	The state of the s	The state of the s	
Are Vegetation, Soil, or Hydrology		Are "Normal Circumstances	
Are Vegetation, Soil, or Hydrology	_ naturally problematic?	(If needed, explain any ansv	
SUMMARY OF FINDINGS - Attach site ma	n showing sampling n	oint locations transact	ts important features etc
	V 1	omi ioodiiono, iranocci	is, important routures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes Yes	No X Is the Sa	mpled Area	
Wetland Hydrology Present?	No within a	Wetland? Yes	No <u>X</u>
Remarks: Study area is experiencing severe d	drought (U.S. Drought Me	onitoring).	
TP excavated in roadsides	male approx 12	ff downshipe from	m TPI
	11.	THE SERVICE R. P. LANS.	2011 2011 20
VEGETATION – Use scientific names of pla	ants.	V 25	
Tree Stratum (Plot size:)	Absolute Dominant Indi % Cover Species? Sta	atue	
1	70 COVET CDECICS? OR	Number of Dominant That Are OBL, FACW	
2.			
3,		Total Number of Dom Species Across All S	
4		Percent of Dominant	Species A
Sapling/Shrub Stratum (Plot size: 5++	= Total Cover	That Are OBL, FACV	
1. Rubus armaiacus	2 F/	C Prevalence Index w	
2.		Total % Cover of	
3			x1=
4			x 2 =
5		FAC species	x4=
Herb Stratum (Plot size: 5 ft)	= Total Cover		x 5 =
1. Briza maxima	70 V N		(A)(B)
2. Bromw dignary	$-\frac{1}{20}$	Prevalence Ind	
3. foericulum, my gare		Hydrophytic Vegeta	-
4. Branus hardeagers	_ 2 FA	()	r Hydrophytic Vegetation
5. (scraying dissection	_ 1 ,		
6 SouchW pleraceus	_ _ W	3 - Prevalence Ir	ndex is ≤3.0¹
7. Vicia sativa	- 		Adaptations (Provide supporting
8. testica annolyacea		data in Rema	rks or on a separate sheet)

= Total Cover

= Total Cover

not reflect swale conditions

Woody Vine Stratum (Plot size:

% Bare Ground in Herb Stratum

10.

Remarks:

5 - Wetland Non-Vascular Plants1

Hydrophytic Vegetation Present?

Problematic Hydrophytic Vegetation¹ (Explain)

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

Depth Matrix		
	Redox Features	Parada
(inches) Color (moist) %	Color (moist), % Type Loc²	Texture Remarks
0-9 7.5483/2 79	7.5 VK 4/4 1 C M	Sice
9-17+2.544/3 96	1048 4/6 4 C M	SICL
		01.50
		· -
	the second second second second	
- AV-		
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		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA	1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		V
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
IVDDOLOGV		
Wetland Hydrology Indicators:	and shock all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Coots (C3) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	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 R Presence of Reduced Iron (C4)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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)	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 Researce of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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)	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks)	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) C6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (B	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks)	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) C6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (E	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks)	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) C6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) Depth (inches):	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) C6) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (Esparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present?	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): Depth (inches):	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) C6) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (Based of Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): 13 in No Depth (inches): 13 in No No Depth (inches): 15 in No No Depth (inches): 16 in No No No Depth (inches): 17 in No No No No Depth (inches): 18 in No	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) C6) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (ES) Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe)	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): Depth (inches):	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) C6) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (Based of Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): 13 in No Depth (inches): 13 in No No Depth (inches): 15 in No No Depth (inches): 16 in No No No Depth (inches): 17 in No No No No Depth (inches): 18 in No	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) C6) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No
Primary Indicators (minimum of one require 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, manual processing processes)	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 Researce of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Monoritoring well, aerial photos, previous inspections	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) Shallow Aquitard (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No s), if available:
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (ES) Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, mage)	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 Researce of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Monoritoring well, aerial photos, previous inspections	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) 8 A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No s), if available:
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, manual contents) Remarks: Fieldwach Concave Surface	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 R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): With Inches In	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) C6) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one require 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 (Based of Concave Surface) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Remarks: Field Water Amanual Company (Based of Concave Surface) Remarks: Field Water Amanual Company (Based of Concave Surface) Remarks: Field Water Amanual Company (Based of Concave Surface) Remarks: Field Water Amanual Company (Based of Concave Surface) Remarks: Field Water Amanual Company (Based of Concave Surface) Remarks:	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 Researce of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Monoritoring well, aerial photos, previous inspections	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) Shallow Aquitard (D3) FAC-Neutral Test (D5) 8 A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) etland Hydrology Present? Yes No s), if available:

Ulling Engineers WETLAND DETERMINATION	N DATA FOR	M – Western Mou	ntaine Valleve an	d Coast Region
Geologists, Inc. Project/Site: Garberville	, , , , , , , , , , , , , , , , , , ,		ilianis, valleys, all	11/12/2
Applicant/Owner: Garbetville Sovitary 1	District		State: CA	Sampling Point: TP 3
nvestigator(s): Joseph Saler, Cindy Wilcox		Section, Township, Rai		
andform (hillslope, terrace, etc.):	at	Local relief (concave	convex, none): Nove	Slope (%): 2
Subregion (LRR): A, MLRA-4B	101.4/	11058490	1000 -123 786	279° Datum: WGS 84
Soil Map Unit Name: 667: Dry field - York				
Are climatic / hydrologic conditions on the site typical				V 7
Are Vegetation, Soil, or Hydrology			Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally pro	oblematic? (If ne	eded, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site i	map showing	sampling point le	ocations, transects	s, important features, e
Hydrophytic Vegetation Present? Yes X	No			
Hydric Soil Present? Yes X	No	Is the Sampled	Area	/
Wetland Hydrology Present? Yes	No	within a Wetlar	id? Yes 📈	No
Remarks: Study area is experiencing extre	edrought (U.	S. Drought Monitor	ing).	65
TP excavated within wetland	1.1 ah : II.	acod by for	on leading tool	1105/000
IT EXCUSACE WHAN METIONS	limely inti-	unces ex ion	ner reaving runu	e apropo.
EGETATION – Use scientific names of	plants.		,	
206	Absolute	Dominant Indicator	Dominance Test wor	ksheet:
Free Stratum (Plot size 30++)		Species? Status	Number of Dominant S	
trakinw outsia		FACW	That Are OBL, FACW,	
2.			Total Number of Bend	
3			Total Number of Domii Species Across All Str	
4			· .	
5-4	10	= Total Cover	Percent of Dominant S That Are OBL, FACW,	
Sapling/Shrub Stratum (Plot size: 54+	3	CN	Prevalence Index wo	
- FORM DELLANDERS		+AC	Total % Cover of:	
2,				x1=
B				x2=
				x3=
),			FACU species	x s
T. T		_ = Total Cover	UPL species	x5=
Herb Stratum (Plot size: 5ft)	70	CALL		X5 (A) (
Jyrcus paters		FACW	Column Totals.	(A) (
Cythan Hysopitalia	75	OBL	Prevalence Inde	x = B/A =
Mesta Presim			Hydrophytic Vegetat	ion Indicators:
testuca prupolnacoa	2	FAC	1 - Rapid Test for	Hydrophytic Vegetation
Juneus bolandert			2 - Dominance Te	st is >50%
Jacia Satva		UPL	3 - Prevalence Inc	lex is ≤3.0 ¹
Cyper w eragrostis	2_	FACW	4 - Morphological	Adaptations ¹ (Provide suppor
B			data in Remark	(s or on a separate sheet)
9			5 - Wetland Non-\	/ascular Plants ¹
10			Problematic Hydro	ophytic Vegetation ¹ (Explain)
11				oil and wetland hydrology mus
-	(13	= Total Cover 565	be present, unless dis	turbed or problematic.
Woody Vine Stratum (Plot size:)		226		
1,		·	Hydrophytic	
2			Vegetation	V
			Present? Y	es 🔨 No

= Total Cover

Remarks:

% Bare Ground in Herb Stratum

Depth	Matrix		th needed to docur	x Feature				
	Color (moist)	%	Color (moist)	_%	Type'	Loc2	Texture	Remarks
1-2 11	178 3/2	100		/	/	/	SiL	
20+ 2	544/2	88	10 VR 5/8	6	-	MAC	SiL	OCC. Charcon
	.,,	-00	1000414	1	-	1/1/01	1	oct. d victori
-		_	TO AK TY D	0		TOPPE	_	
		**						
							_	
	200		- TANKE -			527753	- 2.	
			=Reduced Matrix, C:			ed Sand Gr		ocation: PL=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
-		able to all	LRRs, unless othe		ea.)			
Histosol (A1)			Sandy Redox (cm Muck (A10)
Histic Epiped			Stripped Matrix		4) /	4 841 D 4 41	· 	led Parent Material (TF2) ery Shallow Dark Surface (TF12)
Black Histic			Loamy Mucky I			t WILKA 1)		ery Shallow Dark Surface (1F12) Other (Explain in Remarks)
Hydrogen St	low Dark Surfac	o (A11)	Depleted Matrix		2)		_ ~	rulei (Explain in Nemarks)
	Surface (A12)	E (A 1 1)	Redox Dark Su	. ,	١		³ Indic	ators of hydrophytic vegetation and
	y Mineral (S1)		Depleted Dark	•	•			etland hydrology must be present,
	ed Matrix (S4)		Redox Depress	,	,			less disturbed or problematic.
Restrictive Laye								
Туре:								/
Depth (inches	i):						Hydric S	oil Present? Yes No
Wetland Hydrol	ogy Indicators:		adi ahaak all that ann	la A			So	condany Indicators (2 or more required)
Wetland Hydrol Primary Indicato	ogy Indicators: rs (minimum of c		ed; check all that app		(P0) (Se	condary Indicators (2 or more required)
Wetland Hydrol Primary Indicato Surface Wat	ogy Indicators: rs (minimum of c ter (A1)		Water-Sta	ained Lea		except	Se	Water-Stained Leaves (B9) (MLRA 1, 2
Wetland Hydrol Primary Indicato Surface Wat High Water	ogy Indicators: rs (minimum of c ter (A1) Table (A2)		Water-Sta	ained Lea 1, 2, 4A,		except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrol Primary Indicato Surface Wat High Water Saturation (A	ogy Indicators: rs (minimum of c ter (A1) Table (A2) A3)		Water-Sta MLRA Salt Crus	ained Lea . 1, 2, 4A, t (B11)	and 4B)	except		Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10)
Vetland Hydrol Primary Indicato Surface Wat High Water Saturation (A Water Marks	ogy Indicators: rs (minimum of c ter (A1) Table (A2) A3) s (B1)		Water-Sta MLRA Salt Crusi Aquatic Ir	ained Lea 1, 2, 4A, t (B11) overtebrat	and 4B) es (B13)	except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Dry-Season Water Table (C2)
Vetland Hydrol Primary Indicato Surface Wat High Water Saturation (Water Marks Sediment Do	ogy Indicators: rs (minimum of c ter (A1) Table (A2) A3) s (B1) eposits (B2)		Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen	ained Lea 1, 2, 4A, t (B11) overtebrat s Sulfide C	and 4B) es (B13) Odor (C1)		<u>×</u>	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
Vetland Hydrol Primary Indicato Surface Wat High Water Saturation (Water Marks Sediment Do Drift Deposit	ogy Indicators: rs (minimum of c ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)		Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized	ained Lear 1, 2, 4A, t (B11) overtebrat o Sulfide C Rhizosph	and 4B) es (B13) Odor (C1) eres along	J Living Ro	<u>×</u>	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)
Vetland Hydrol Primary Indicato Surface Wat High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or	ogy Indicators: rs (minimum of c ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4)		Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence	ained Lear 1, 2, 4A, t (B11) avertebrat a Sulfide C Rhizospha of Reduc	es (B13) Odor (C1) eres along ed Iron (C	J Living Ro	ots (C3)	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)
Primary Indicato Surface Wat High Water Saturation (Water Marks Sediment Do Drift Deposit Algal Mat or	ogy Indicators: rs (minimum of c ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) rs (B5)		Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir	ained Lear 1, 2, 4A, t (B11) overtebrat o Sulfide C Rhizospho of Reduction Reduction	es (B13) Odor (C1) eres along ed Iron (C	J Living Ro (4) ed Soils (C	ots (C3)	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)
Vetland Hydrol Primary Indicato Surface Wat High Water Saturation (A Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit	ogy Indicators: rs (minimum of conter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6)	one require	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted o	ained Lear 1, 2, 4A, t (B11) overtebrat a Sulfide C Rhizospho of Reduct on Reduct or Stresse	and 4B) es (B13) Odor (C1) eres along ed Iron (C) tion in Tille d Plants (I	J Living Ro	ots (C3)	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)
Primary Indicato Surface Wat High Water Saturation (A Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \	rs (minimum of coter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) s (B5) I Cracks (B6) //sible on Aerial	ne require	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of	ained Lear 1, 2, 4A, t (B11) overtebrat a Sulfide C Rhizospho of Reduct on Reduct or Stresse	and 4B) es (B13) Odor (C1) eres along ed Iron (C) tion in Tille d Plants (I	J Living Ro (4) ed Soils (C	ots (C3)	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)
Primary Indicato Surface Wal High Water Saturation (A Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve	rs (minimum of coter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) //sible on Aerial egetated Concav	ne require	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of	ained Lear 1, 2, 4A, t (B11) overtebrat a Sulfide C Rhizospho of Reduct on Reduct or Stresse	and 4B) es (B13) Odor (C1) eres along ed Iron (C) tion in Tille d Plants (I	J Living Ro (4) ed Soils (C	ots (C3)	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)
Primary Indicato Surface Wat High Water Saturation (A Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve Field Observati	rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) Cracks (B6) //isible on Aerial egetated Concav	lmagery (E e Surface	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lear 1, 2, 4A, t (B11) Invertebrat In Sulfide Control Rhizosphor Reduct In Stresser In Stresser In Reduct In Rhizosphor Reduct	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	J Living Ro (4) ed Soils (C	ots (C3)	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)
Primary Indicato Surface Wat High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve Field Observati Surface Water P	rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) cs (B5) Cracks (B6) //sible on Aerial egetated Concav ons:	Imagery (E e Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lear 1, 2, 4A, t (B11) evertebrat s Sulfide C Rhizosphe of Reduct on Reduct or Stresses splain in R	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	J Living Ro (4) ed Soils (C	ots (C3)	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)
Primary Indicato Surface Wal High Water Saturation (A Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve Field Observati Surface Water P	rs (minimum of coter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) //sible on Aerial egetated Concav ons: resent?	Imagery (E e Surface 'es	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of Other (Ex (B8) No Depth (in	ained Lear 1, 2, 4A, t (B11) nvertebrat s Sulfide C Rhizosph of Reduct on Reduct or Stresses splain in R	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	J Living Roo (4) ed Soils (Ci (1) (LRR A	ots (C3)	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)
Primary Indicato Surface Wat High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation \ Sparsely Ve Field Observati Surface Water P Water Table Pre Saturation Prese	rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) l Cracks (B6) //sible on Aerial egetated Concav ons: eresent?	Imagery (E e Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lear 1, 2, 4A, t (B11) nvertebrat s Sulfide C Rhizosph of Reduct on Reduct or Stresses splain in R	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	J Living Roo (4) ed Soils (Ci (1) (LRR A	ots (C3)	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)
Primary Indicato Surface Water High Water Saturation (AM) Water Markston Sediment Deposition Deposition Surface Soil Inundation Notes Sediment Deposition Surface Water Proposition Presedincludes capilla	logy Indicators: rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) cs (B5) I Cracks (B6) //sible on Aerial getated Concav ons: resent?	Imagery (E e Surface 'es 'es	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of Other (Ex (B8) No Depth (in	ained Lear 1, 2, 4A, t (B11) Invertebrat In Sulfide C Rhizosphi In Reduct In Stresser Inches):	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	Living Root4) ed Soils (Ci	ots (C3)	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)
Primary Indicato Surface Wal High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation N Sparsely Ve Field Observati Surface Water P Water Table Prese (includes capilla	logy Indicators: rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) cs (B5) I Cracks (B6) //sible on Aerial getated Concav ons: resent?	Imagery (E e Surface 'es 'es	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Extended) No Depth (in Depth (in	ained Lear 1, 2, 4A, t (B11) Invertebrat In Sulfide C Rhizosphi In Reduct In Stresser Inches):	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	Living Root4) ed Soils (Ci	ots (C3)	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)
Perimary Indicato Surface Water High Water Saturation (A) Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation N Sparsely Ver Field Observati Surface Water P Water Table Pre Saturation Prese (includes capilla Describe Record	logy Indicators: rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) cs (B5) I Cracks (B6) //sible on Aerial getated Concav ons: resent? ry fringe) ded Data (stream	Imagery (Ee Surface 'es 'es n gauge, m	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex (B8) No Depth (ir No Depth (ir nonitoring well, aerial	ained Lear 1, 2, 4A, t (B11) Invertebrat In Sulfide C Rhizosphi In Reduct In Stresser Inches): Inches): Inches): Inches, p	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	ULIVING ROPE LEVING ROPE LEVING ROPE LEVING ROPE LEVING ROPE Wet Spections)	ots (C3)	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)
Petiand Hydrol Primary Indicato Surface Wat High Water Saturation (A) Water Marks Sediment Do Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation N Sparsely Verield Observati Surface Water P Water Table Prese	logy Indicators: rs (minimum of oter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) cs (B5) I Cracks (B6) //sible on Aerial getated Concav ons: resent? ry fringe) ded Data (stream	Imagery (Ee Surface 'es 'es n gauge, m	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex (B8) No Depth (ir No Depth (ir nonitoring well, aerial	ained Lear 1, 2, 4A, t (B11) Invertebrat In Sulfide C Rhizosphi In Reduct In Stresser Inches): Inches): Inches): Inches, p	es (B13) Odor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	ULIVING ROPE LEVING ROPE LEVING ROPE LEVING ROPE LEVING ROPE Wet Spections)	ots (C3)	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

usulting Engineers WETLAND DETERMINATION Geologists, Inc.	N DATA FORM – Western I	Mountains, Valleys, aı	nd Coast Region
Project/Site: Garberville	City/County:_Hum	nboldt	_ Sampling Date: 4/12/22
Applicant/Owner: Garberville Sanitory D			_ Sampling Point: TP 4
Investigator(s): Joseph Saler, Cindy Wilcox		p, Range:	_ ====
Landform (hillslope, terrace, etc.): Hillslope for		cave, convex, none): Non	€ Slope (%): 2*
Subregion (LRR): A, MLRA-4B	Lat: 40.105832	Long -123.786	248 Datum: WGS 84
Soil Map Unit Name: 667: Dryfield - York			
Are climatic / hydrologic conditions on the site typical			14
Are Vegetation, Soil, or Hydrology	(-) T		
Are Vegetation, Soil, or Hydrology		(If needed, explain any answ	
SUMMARY OF FINDINGS – Attach site r			
Hydrophytic Vegetation Present? Yes			\/
Hydric Soil Present? Yes	within a W	npled Area Vetland? Yes	No X
Remarks: Study area is experiencing street	No	nitoring)	
Harand teal at the 1992 that	Morought (0.5, Drought Mo	leaking 10	b.1.1.1
Uplamed test pit to TP3. WH	land from waterfai	nkabowe, pomore	hydrology of not
VEGETATION – Use scientific names of	plants.)	7011139
Tree Stratum (Plot size: 30f+	Absolute Dominant Indic		rksheet:
1. Traxinu (Plot size: 1071)	% Cover Species? Stat	I Montiber of Dominiant	
		That Are OBL, FACW	/, or FAC:(A)
2		Total Number of Dom	
3		Species Across All St	rata: (B)
Sapling/Shrub Stratum (Plot size:	2 = Total Cover	Percent of Dominant That Are OBL, FACW	
1	la.	Prevalence Index we	orksheet:
2.		Total % Cover of	Multiply by:
3.		3.	x 1 =
4			x 2 =
5		FAC species	x3=
70	= Total Cover	· ——	x 4 =
Herb Stratum (Plot size) + T	1 515 1 19		x 5 =
1 Lathynus latitelius		Column Totals:	(A) (B)
2. Brown hordeaceur			ex = B/A =
3. Propur diandru			tion Indicators:
4. Lysimachy grensis		1 - Rapid Test fo	r Hydrophytic Vegetation
5. Germin dissection	IB NL		est is >50%
6. testuca myuros		J-1 EVAICING III	dex is ≤3.0¹
7. Frodium Constanium	2 N L		Adaptations (Provide supportin
8. Avera barbata	<u> </u>		rks or on a separate sheet)
9. Rytidospema percillation	7 N		COST OF THE COST O
10.			ophytic Vegetation¹ (Explain)
11	100 - 50	be present, unless di	oil and wetland hydrology must -
Woody Vine Stratum (Plot size:	= Total Cover 5	. 3 prosent, amoss an	F. 2010
1	ZI		w
2	<u> </u>	Hydrophytic Vegetation	V
O	= Total Cover		'es No
% Bare Ground in Herb Stratum			
Remarks:			10

inches)	Color (moist)	%	Color (moist)	%	Type	Loc2	Texture	Remarks
)-3	2.54 413	100		/	/	/	SiL	
-11	2.51514	80	104R 416	18	c	m	sicu	FILL
		-	cophaltchun		-	-	/	
1-19	Asstaltan	ve an			-	_		· ·
	Asphalt chu	10				-		Pill
4 4 4	2.54514		a av wla	_	<u> </u>	_	Sicv	
9-24	2.54 514	95	2.57 413				SICV	
Type: C=Co	encentration, D=Dep	letion, RM	=Reduced Matrix, C	S=Covered	d or Coate	ed Sand Gr		ocation: PL=Pore Lining, M=Matrix.
			LRRs, unless othe				Indicat	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)				m Muck (A10)
	ipedon (A2)		Stripped Matrix					d Parent Material (TF2)
_ Black His	, ,		Loamy Mucky (t MLRA 1)		ry Shallow Dark Surface (TF12)
	n Sulfide (A4)	- (011)	Loamy Gleyed		<u>(1)</u>	1.	_ Ot	her (Explain in Remarks)
	l Below Dark Surface irk Surface (A12)	3 (ATT)	Depleted Matrix Redox Dark Su		ı	7.	³ Indica	tors of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark					and hydrology must be present,
-	leyed Matrix (S4)		Redox Depress	•	_			ess disturbed or problematic.
	ayer (if present):							
Type:								
	-h\.							
Depth (ind	:nes):						Hydric So	il Present? Yes No
Remarks:	GY						Hydric So	
Remarks: YDROLO Vetland Hyd	GY drology Indicators:							140°
Remarks: YDROLO Vetland Hyd	GY drology Indicators:		ed; check all that app	77.7			Sec	ondary Indicators (2 or more required)
YDROLO Vetland Hydrimary India Surface	GY drology Indicators: cators (minimum of c Water (A1)		Water-Sta	ained Leav		except	Sec	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLO Vetland Hy Primary India Surface High Wa	GY drology Indicators: cators (minimum of c Water (A1) uter Table (A2)		Water-Sta	ained Leav		except	Sec	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLO Vetland Hyv Primary India Surface High Wa Saturatia	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3)		Water-Sta MLRA Salt Crus	ained Leav 1, 2, 4A , t (B11)	and 4B)	except	Sec	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLO Vetland Hy Primary India Surface High Wa Saturati Water N	GY drology Indicators: eators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1)		Water-Sta MLRA Salt Crus Aquatic Ir	ained Leav 1, 2, 4A, it (B11) nvertebrate	and 4B) es (B13)	except	Sec —	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLO Vetland Hydromary India Surface High Water Mater Mate	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide C	and 4B) es (B13) odor (C1)		Sec	ondary 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
YDROLO Vetland Hydrimary India Surface High Wa Saturatia Water W Sedimel Drift De	GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide Co Rhizosphe	and 4B) es (B13) odor (C1) eres along	J Living Ro	Sec	ondary 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)
YDROLO Vetland Hydrimary India Surface High Wa Saturati Water M Sedimei Drift Det Algal Ma	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Leav 1, 2, 4A, it (B11) invertebrate 1 Sulfide C Rhizosphe 2 of Reduc	and 4B) es (B13) edor (C1) eres along ed Iron (C	J Living Ro	Sec	ondary 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)
YDROLO Vetland Hydrimary India Surface High Wa Saturati Water N Sedimed Drift Det Algal Ma	GY drology Indicators: cators (minimum of c Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leaven 1, 2, 4A, at (B11) Invertebrate Consultation Sulfide Consultation Reduction Reducti	and 4B) es (B13) edor (C1) eres along ed Iron (C	j Living Ro (4) ed Soils (C	Sec	ondary 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 (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLO Vetland Hydrimary India Surface High Water M Sedimet Drift Det Algal Ma Iron Det Surface	drology Indicators: cators (minimum of control of contr	one require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe is of Reduct ion Reduct or Stressed	and 4B) es (B13) edor (C1) eres along ed Iron (C tion in Tille d Plants (I	j Living Ro (4) ed Soils (C	Sec	ondary 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)
POROLO Vetland Hyvirimary India Surface High Wa Saturatia Water M Sedimer Drift Der Algal Ma Iron Der Surface Inundati	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial	ne require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe is of Reduct ion Reduct or Stressed	and 4B) es (B13) edor (C1) eres along ed Iron (C tion in Tille d Plants (I	j Living Ro (4) ed Soils (C	Sec	ondary 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 (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLO Vetland Hyv Primary India Surface High Wa Saturatia Water M Sedimea Drift De Algal Ma Iron Dep Surface Inundati Sparsel	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav	ne require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe is of Reduct ion Reduct or Stressed	and 4B) es (B13) ed (C1) eres along ed Iron (C cion in Tille d Plants (I emarks)	j Living Ro (4) ed Soils (C	Sec	ondary 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)
YDROLO Vetland Hydrimary India Surface High Water M Sedimen Drift Det Algal Ma Iron Dep Surface Inundati Sparsely	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations:	Imagery (E e Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide C Rhizosphe of Reduct on Reduct or Stressed xplain in Re	and 4B) es (B13) edor (C1) eres along ed Iron (C tion in Tille d Plants (I	j Living Ro (4) ed Soils (C	Sec	ondary 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)
YDROLO Vetland Hydrimary India Surface High Water M Sedimen Drift Der Algal Ma Iron Der Surface Inundati Sparsely Field Obser	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations: er Present?	Imagery (E e Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct ron Reduct or Stressed xplain in Re-	and 4B) es (B13) ed (C1) eres along ed Iron (C cion in Tille d Plants (I emarks)	j Living Ro (4) ed Soils (C	Sec	ondary 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)
YDROLO Vetland Hyder Surface High Water M Sediment Drift Det Algal Mater Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation Perincludes cal	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations: er Present? Present?	Imagery (Ee Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent ir Stunted of Other (Ex	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide C Rhizosphe of Reduct or Stressed explain in Re nches):	es (B13) bdor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks) N/A N/A	J Living Ro (4) ed Soils (C (1) (LRR A	ots (C3) 6) A)	ondary 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)
YDROLO Vetland Hydrimary India Surface High Water M Sedimen Drift Den Algal Ma Iron Den Surface Inundati Sparsely Field Obser Surface Water Table Saturation Princludes can	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations: er Present? Present?	Imagery (Ee Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex) (B8) Depth (in	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide C Rhizosphe of Reduct or Stressed explain in Re nches):	es (B13) bdor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks) N/A N/A	J Living Ro (4) ed Soils (C D1) (LRR A	ots (C3) 6) A)	ondary 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)

onsulting Engineers WETLAND DETERMINATION DA	TA FOR	M – Western Mou	ntains, Valleys, and Coast Region
Project/Site: Garberville		City/County: Humboldt	Sampling Date: 4/12/22
Applicant/Owner Garberville Santary District	ct	only, oddinky.	State: CA Sampling Point:
		Section, Township, Rar	
Landform (hillslope, terrace, etc.): Terrace			convex, none): None Slope (%): 0-1
Subregion (LRR): A, MLRA-4B			Long: -123. 792 372 Datum: WGS 84
Soil Map Unit Name: 311: Urbanland-Garbervi	le Como	ex,5-15%	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology s			Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology n			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	ehowina		
		sampling point it	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N N	0	Is the Sampled	Area
Wetland Hydrology Present? Yes N	-	within a Wetlan	. /
Remarks: Study area is experiencing extreme dro	ught (U.S	Drought Monitori	ng).
In vacant lot. Drainge from upslop	e proper	ty. Bonely form	ing welland. Hydricsoils not guite
alulopedand therefore not cla	551 fred	as 3-parame	ter wetland.
VEGETATION – Use scientific names of plan	ts.		
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Indicator Species? Status	Dominance Test worksheet:
1	70 00101	Openes: Otalus	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			
3.			Total Number of Dominant Species Across All Strata: (B)
4			Percent of Dominant Species
Sagling/Shrub Stratum (Plot size:)	1	= Total Cover	That Are OBL, FACW, or FAC:
1.			Prevalence Index worksheet:
2			Total % Cover of:Multiply by:
3,			OBL species x 1 = FACW species x 2 =
4			FAC species x 3 =
5		- Tatal Causa	FACU species x 4 =
Herb Stratum (Plot size: 5ft)		= Total Cover	UPL species x 5 =
1. Planson 11/0 10r	40	FAC	Column Totals: (A) (B)
2. Poa triviales	10	- FAC	Prevalence Index = B/A =
3. Crow eragiostis	10	- FACW	Hydrophytic Vegetation Indicators:
5. Runex orspir	20	- FAC	1 - Rapid Test for Hydrophytic Vegetation
6. Holais Janatus	7.0	FAC	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
7. Junius promus	3	#ACW	4 - Morphological Adaptations ¹ (Provide supporting
8 Medicago Polymorpha	6	FACM	data in Remarks or on a separate sheet)
a hadiela pardiniana	_1_	- FACU	5 - Wetland Non-Vascular Plants ¹
10. Allrun triquetum	3	NL NL	Problematic Hydrophytic Vegetation ¹ (Explain)
11,	105	= Total Cover 52.5	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	100	= Total Cover 2	
1			Hydrophytic
2			Vegetation Present? Yes No
% Bare Ground in Herb Stratum		= Total Cover	Les VI VO
	1	111	1
Veguation composition reflects int	own, d	isturbed condi	tions.

Depth Matrix	oth needed to document the indicator or confi Redox Features	
nches) Color (moist) 4, %	Color (moist) % Type Loc2	Texture Remarks
1-13 7.5 YR361 100	The second second	51
3-24+10 YR 5/2 85	7.5 yr 4/6 15 C M	5:(]
2-71-1016111	1.7/1 1/8 13 0 11	0100
-		
	D. J. and Markey CS-Covered as Control Sand	Grains. ² Location: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, RN lydric Soil Indicators: (Applicable to al	M=Reduced Matrix, CS=Covered or Coated Sand	Indicators for Problematic Hydric Soils ³ :
		2 cm Muck (A10)
_ Histosol (A1)	Sandy Redox (S5)	Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)	
_ Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loarny Gleyed Matrix (F2)	Other (Explain III Remains)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	3 Indicators of hydrophytic vacatation and
_ Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrology must be present
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
	ric-not an indicator-Al	
YDROLOGY		
YDROLOGY Wetland Hydrology Indicators:		
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require	red; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require X Surface Water (A1)	red; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requirement) Surface Water (A1) High Water Table (A2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requirement) Surface Water (A1) High Water Table (A2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	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)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	red; check all that apply) Water-Stained Leaves (B9) (except	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)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	red; check all that apply) Water-Stained Leaves (B9) (except	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one required) 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)	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one required 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)	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RAA) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the primary Indicators) 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 Sparsely Vegetated Concave Surface	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RAA) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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 Sparsely Vegetated Concave Surface Field Observations:	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7) 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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RAA) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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 Sparsely Vegetated Concave Surface Field Observations:	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7)) Other (Explain in Remarks) No Depth (inches):	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RAA) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the content of the cont	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7)) Other (Explain in Remarks) (B8) No Depth (inches): 1.75	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) Roots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) — FAC-Neutral Test (D5) RR A) — Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7) Other (Explain in Remarks) (B8) No Depth (inches): 1.75	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RAA) Raised Ant Mounds (D6) (LRR A)
Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? Ves Vincludes capillary fringe)	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7) Other (Explain in Remarks) e (B8) No Depth (inches):	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? Ves Vincludes capillary fringe)	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7)) Other (Explain in Remarks) (B8) No Depth (inches): 1.75	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Water Table Present? Ves Saturation Present? Ves (Includes capillary fringe) Describe Recorded Data (stream gauge,	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR (B7) Other (Explain in Remarks) e (B8) No Depth (inches):	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge,	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches):	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) Roots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) RRA) — Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Ves Saturation Present? Saturation Present? Ves Cincludes capillary fringe) Describe Recorded Data (stream gauge,	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches):	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) Roots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) RRA) — Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Primary Indicators (minimum of one required 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Water Table Present? Ves Saturation Present? Ves (Includes capillary fringe) Describe Recorded Data (stream gauge,	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches):	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) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) RR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No

outsulting Engineers WETLAND DETERMINATION DATA FORM – & Geologists, Inc.	- Western Mounta	ins, Valleys, and C	Coast Region
	/County: Humboldt	Sa	amalina Data: 4/15/22
		State: CA Sa	
January Cala Office 1989	ction, Township, Range:		amping Folit.
Landform (hillslope, terrace, etc.): Hillslupe Swale Loc	cal relief (concave, conv	(ex none): Man	Slong (%): 8
Subregion (LRR): A, MLRA-4B	195421° 10	nn -123.793.23	7 R Datum: WGS 84
Soil Map Unit Name: Dry field-Yorknorth-witherell cor	molex 5-30% 51	lone NIA/I classification	on: None
Are climatic / hydrologic conditions on the site typical for this time of year?			
Are Vegetation, Soll, or Hydrology significantly disto		mal Circumstances" pres	V
Are Vegetation, Soil, or Hydrology naturally problem		d, explain any answers i)
SUMMARY OF FINDINGS - Attach site map showing sa			·
Hydrophytic Vegetation Present? Yes No X			
Hydric Soil Present? Yes No	is the Sampled Are		🗸
Wetland Hydrology Present? Yes No X	within a Wetland?		No 🔨
Remarks: Study area is experiencing extreme drought (U.S.	Drought Monitoring	g).	1
TO excavated in hillshope smale excavated f	for drainage of	adi divergy	and imperior where
VEGETATION – Use scientific names of plants.	J		
Absolute Do		ominance Test worksho	eet:
Tree Stratum (Plot size:) % Cover Sp		umber of Dominant Spec	
2	Th	nat Are OBL, FACW, or F	FAC: (A)
3		otal Number of Dominant	
4.	Sp	pecies Across All Strata:	(B)
		ercent of Dominant Spec nat Are OBL, FACW, or F	
1. Quercus Religiais 3	NL Pr	evalence Index worksh	neet:
2.		Total % Cover of:	Multiply by:
3		BL species	
4		CW species	
5			x 3 =
3 = T	i diai Cover I	ACU species	
Herb Stratum (Plot size) 5ft) = T			x 5 = (A) (B)
2 Vicio Sariva	170		
3. Geraiun dissectum 7	NL H	Prevalence Index =	
4. Festuca myuras 25	FACU HY	drophytic Vegetation I	
5 Dancies Corota 1	CALL	1 - Rapid Test for Hyd2 - Dominance Test is	· · ·
6. Pag triviales 5	CAC	_ 2 - Dominance Test is 3 - Prevalence Index is	
7		_	ptations ¹ (Provide supporting
8		data in Remarks or	r on a separate sheet)
9.		_ 5 - Wetland Non-Vasc	**
10,			rtic Vegetation ¹ (Explain)
11		idicators of hydric soil an present, unless disturbe	nd wetland hydrology must
Woody Vine Stratum (Plot size:)	otal Cover 57 be	present, unless disturbe	ed or problematic.
1		alamata d	
2.		drophytic getation	\vee
Q _= To	otal Cover Pro	esent? Yes_	No 🔼
% Bare Ground in Herb Stratum			
Veg reprostative of parture, +51-11.	objetly po		
	I MINICILL		

Depth Matrix	Redox Features	Timber Parada
nches) Color (moist) %	Color (moist) % Type' Loc'	Texture City Remarks
-15 10yk 3/2 > 49	7.54R 5/8 < 1 C M	SiL fill abundant charcoal thought
5-24+2.54 6/3 50		SICL Mind Males
7.54R5/8 50		TO YELL INJURIUS
117/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1		
		2
Type: C=Concentration, D=Depletion, RN	M=Reduced Matrix, CS=Covered or Coated Sand Gra	Indicators for Problematic Hydric Soils ³ :
ydric Soil Indicators: (Applicable to a		•
_ Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Eplpedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Other (Explain in Remarks)
 Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) 	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Other (Explain in Nemarks)
Thick Dark Surface (A11)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Hydric Soil Present? Yes No X
Depth (inches):		
Remarks: YDROLOGY		
YDROLOGY Vetland Hydrology Indicators:	red: check all that apply)	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require		Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1)	Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required by the second s	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (exceptMLRA 1, 2, 4A, and 4B)Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required by the second s	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required by the control of the cont	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	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)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required by the control of the cont	 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 Roo 	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) ats (C3) Geomorphic Position (D2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	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 Roo Presence of Reduced Iron (C4)	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) Its (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requir 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)	Water-Stained Leaves (B9) (except	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) Its (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requir 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)	Water-Stained Leaves (B9) (except	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) description (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indicators (minimum of one requirement Indicators (Malanta In	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) 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) Its (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indicators: 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 Sparsely Vegetated Concave Surface	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) 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) description (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B5) Sparsely Vegetated Concave Surface Field Observations:	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) 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) description (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B5) Sparsely Vegetated Concave Surface Field Observations:	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) No Depth (inches):	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) description (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) a (B8) Depth (inches):	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)
Primary Indicators: Primary Indicators (minimum of one required one sequence of the first of the	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) a (B8) Depth (inches):	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) description (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Primary Indicators (minimum of one requires 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 (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Weth	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)
Primary Indicators (minimum of one requires 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 (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) a (B8) Depth (inches):	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)
Primary Indicators (minimum of one required by the primary Indicator (Marks (B1)) 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 (Marks (Ma	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Weth	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)
Primary Indicators (minimum of one requires 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 (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	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 Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Weth	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)

STIN
Consulting Engineer & Geologists, Inc.
Project/Site:

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

Carbonille				ulic las
Project/Site: Garberville	City/			_ Sampling Date: 4/15/22
Applicant/Owner: Garberville Sanitary District			State: CA	_ Sampling Point: 177
nvestigator(s): Joseph Saler, Cindy Wilcox	Sect	ion, Township, Ra	nge:	10
andform (hillslope, terrace, etc.): Hills lete	Loca	al relief (concave,	convex, none): Nave	Slope (%): 0
Subregion (LRR): A, MLRA-4B	Lat: 90.0	91236	Long:~123.79	MAY Datum WGS 84
oil Map Unit Name: Tannin- Burgsblock -1	lickyglen como	olex 30-5090	slope NWI classifi	cation: None
are climatic / hydrologic conditions on the site typical f				
re Vegetation, Soil, or Hydrology	significantly distu	rbed? Are "	Normal Circumstances"	present? Yes No
re Vegetation, Soil, or Hydrology			eded, explain any answ	and the state of t
SUMMARY OF FINDINGS - Attach site n				
Hydrophytic Vegetation Present? Yes	No	, , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	o, important reatures, et
Hydric Soil Present? Yes	No X	Is the Sampled	Area	
	No	within a Wetlar		No
Remarks: Study area is experiencing extrem	ne drought (U.S. I	Drought Monito	oring).	
Thexcovated in wet slope ad	jacet to roa	dway		
EGETATION – Use scientific names of	olants.			
Tree Stratum (Plot size 301)	Absolute Dor	minant Indicator	Dominance Test wor	ksheet:
Fraxinus atitalia	41	FACW	Number of Dominant S	Species 5
Salix wio epis	- FO -	FACW	That Are OBL, FACW,	or FAC:(A)
Set its to the set it is		INCOV	Total Number of Domi	,
			Species Across All Str	ata: (B)
Sapling/Shrub Stratum (Plot size: 5ft)	80 = To	otal Cover	Percent of Dominant S That Are OBL, FACW,	
Rubin armeniació	15	FAC	Prevalence Index wo	rksheet:
2,			Total % Cover of:	
3.				x 1 =
k <u>(</u>			l	x 2 =
				×3=
terb Stratum, (Plot size: 5f+	15 = To	otal Cover		x 4 =
Carex henderspain	50	ENC		x 5 = (A) (B)
Toraxacum orticinale	$-\frac{50}{2}$	FACU		
festuca arundinacea	30 L	FAC		c = B/A =
Vinca Major	12	FACU	Hydrophytic Vegetati	
Junear portest	5	FACW	X 2 - Dominance Te	Hydrophytic Vegetation
Rumex crisous	2	FAC	3 - Prevalence Ind	
Fragoria virta	7	FACU	_	ex is \$3.0° Adaptations¹ (Provide supportin
			data in Remark	Moaptations (Provide supportin is or on a separate sheet)
			5 - Wetland Non-\	
0,			Problematic Hydro	phytic Vegetation ¹ (Explain)
1,				il and wetland hydrology must
Janahi Man Sheeking 1864	102 = Tol	tal Cover 51	be present, unless dist	urbed or problematic
Voody Vine Stratum (Plot size:		יי, עני		
			Hydrophytic	
/agi	_		Vegetation Present? Ye	es X No
6 Bare Ground in Herb Stratum 13	= To	tal Cover		
Remarks:				

Profile Description: (Describe to the		
Depth Matrix	Redox Features Color (moist) % Type Loc	Texture , Remarks
inches) Color (moist) %	Color (moist) % Type' Loc'	C.I A LU III A. II.
1-8 10×K 4/6 -4	1.5460	DIL KENOX OF BOTTOM LIN OF HOUSE
3-24+ 7.54R 5/8 5(1 104 (6/3 25	SiL Marca Matricas
	254 6/2+25 /	MIXEGIAMITO
Type: C≃Concentration, D≃Depletion.	RM=Reduced Matrix, CS=Covered or Coated Sand Gri	ains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
ydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epípedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	_
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
testrictive Layer (if present):		
Туре:		V
Depth (inches):		Hydric Soil Present? Yes No
	onal soils	
tematks: Transiti	onal soils	
YDROLOGY Vetland Hydrology Indicators:		
YDROLOGY Vetland Hydrology Indicators:	quired: check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators:	quired; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one recommend)	quired: check all that apply)	
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one recommend) Surface Water (A1) High Water Table (A2)	quired; check all that apply) Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X Saturation (A3)	nuired: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X Saturation (A3) Water Marks (B1)	nuired: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the primary Indicators (Minimum of the of	muired: check all that apply) Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one recognized to the control of the co	nuired: check all that apply) 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 Roc	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 ots (C3) Geomorphic Position (D2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	nuired: check all that apply) 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 Roc Presence of Reduced Iron (C4)	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)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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)	nuired: check all that apoly) 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 Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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)	nuired: check all that apply) 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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A	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)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X 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 Image	muired: check all that apply) 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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0) Stunted or Stressed Plants (D1) (LRR A) ry (B7) Other (Explain in Remarks)	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)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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)	muired: check all that apply) 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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0) Stunted or Stressed Plants (D1) (LRR A) ry (B7) Other (Explain in Remarks)	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)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X 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 Image Sparsely Vegetated Concave Surf	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 Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR Acry (B7) Other (Explain in Remarks) ace (B8)	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)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X 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 Image Sparsely Vegetated Concave Surf- Field Observations:	muired: check all that apply) 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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0) Stunted or Stressed Plants (D1) (LRR A) ry (B7) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one recommy Indicators (Max) Water 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 Image Sparsely Vegetated Concave Surficield Observations: Surface Water Present? Yes		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one red 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present?		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)
Property Saturation Present? YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Ves Saturation Present? Yes	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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Ty (B7) Other (Explain in Remarks) And Depth (inches): No Depth (inches): Wet	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Property Saturation Present? YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) X 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Ves Saturation Present? Yes		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indicators (minimum of one red) 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present?	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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Ty (B7) Other (Explain in Remarks) And Depth (inches): No Depth (inches): Wet	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indicators (minimum of one red 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge	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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Ty (B7) Other (Explain in Remarks) And Depth (inches): No Depth (inches): Wet	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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 Image Sparsely Vegetated Concave Surficield Observations: Surface Water Present? Ves Water Table Present? Ves Saturation Present? Ves Saturation Present? Ves Sincludes capillary fringe) Describe Recorded Data (stream gauge)	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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Ty (B7) Other (Explain in Remarks) And Depth (inches): No Depth (inches): Wet	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indicators (minimum of one red) 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes	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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Ty (B7) Other (Explain in Remarks) And Depth (inches): No Depth (inches): Wet	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indicators (minimum of one red 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 Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge	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 Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Ty (B7) Other (Explain in Remarks) And Depth (inches): No Depth (inches): Wet	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

roject/Site: Garberville		City/County	: Humboldt	sampling Date: 4/15/
pplicant/Owner: Garberville Sanitary District				State: CA Sampling Point: TP &
vestigator(s): Joseph Saler, Cindy Wilcox		Section, To	wnship, Ra	
andform (hillslope, terrace, etc.): Hillslope				convex, none): None Slope (%):
ubregion (LRR): A. MLRA-4B	Lat: 4	0.097	243°	Long: -123.791494' Datum: WGS
oil Map Unit Name: Tannin-Burgs block -k				
re climatic / hydrologic conditions on the site typical f				
re Vegetation, Soil, or Hydrology				"Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology				eeded, explain any answers in Remarks.)
			,	ocations, transects, important features,
Hydrophytic Vegetation Present? Yes	No	110		Λ.,
Hydric Soil Present? Wetland Hydrology Present? Yes	No		ie Sampled in a Wetlar	X
Remarks: Study area is experiencing extren				
				only).
TP excavated in roadid	11 CHITCH	1cm	wetla	na.
EGETATION - Use scientific names of	plants.			
ree Stratum (Plot size: 30ff	Absolute	Dominant		Dominance Test worksheet:
ree Stratum (Plot size: 30++)	% Cover	Species?	C1	Number of Dominant Species
Salx losion dra vor lasionara	70	-	FACIN	That Are OBL, FACW, or FAC:
Frazinus lattelia	5		FACW	Total Number of Dominant
The time that the time to the		_	11/201	Species Across All Strata:
Sapling/Shrub Stratum (Plot size: 54	55	= Total Co	ver 27.5	Percent of Dominant Species That Are OBL, FACW, or FAC:
Ruby ornivorus	13	1	FAC	Prevalence Index worksheet:
			140	Total % Cover of:Multiply by:
3.				OBL species x 1 =
				FACW species x 2 =
	- 12			FAC species x 3 =
terb Stratum (Plot size: 5 ft)	13	= Total Co	ver	FACU species x 4 = UPL species x 5 =
Corex her desoni	20	V	FAC	Column Totals:(A)
festica annimacea	50	1	FAC	
Jimas paters	2		FACW	Prevalence Index = B/A =
				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.01
				4 - Morphological Adaptations (Provide suppo
				data in Remarks or on a separate sheet)
2				5 - Wetland Non-Vascular Plants ¹
1.		4		Problematic Hydrophytic Vegetation ¹ (Explain)
	72	= Total Co	36	Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic.
Voody Vine Stratum (Plot size:)	-1-	- Total Col	T4.4	
				Hydrophytic
	1			Vegetation
Bare Ground in Herb Stratum		= Total Cov	er	Present? Yes No
Date Ground in Help Stratum				

rofile Description: (Describe to the depth i	needed to docun	nent the i	ilaioatoi		. ene miren	a maidado.
Depth Matrix		x Features		12	Tantusa	Compele
inches) Color (moist) %	Color (moist)	%	Type'	Loc2	Texture	Remarks
1-L 10 YK3/2				- 1/01	<u></u>	-
-10 loye 3/2 20 7	.5 4 4/6)0	\mathcal{C}	MIPL	SIL	
10VR 4/2 70				1		
0 10 250 10 10	11/0 5/0	7=	_	M	5-11	10/0 5/0 1000 1000
U-10 2.576/2 60 10	JYV J/X	25	0	<u>M</u>	717	10YR 5/8 inc. w/ depth
10YR 4/2 5				/		MX89 watrix
8-24+7.5V 6/2 50	/			,	SiCL	Codominat motrices
10VL 5/2 50			_/		0.0	COCH THE PARTY OF
TONE 119 20			-			•
Type: C=Concentration, D=Depletion, RM=Re	educed Matrix, CS	S=Covered	d or Coate	ed Sand Gr	rains. ² L	ocation: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to all LR	Rs, unless other	rwise not	ed.)		Indica	tors for Problematic Hydrlc Soils ³ :
Histosol (A1)	Sandy Redox (2	cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix				R	ed Parent Material (TF2)
Black Histic (A3)	Loamy Mucky N		1) (exce p	t MLRA 1)	v	ery Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed					ther (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix	•				
Thick Dark Surface (A12)	Redox Dark Su		t		³ Indica	ators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	_ Depleted Dark	Surface (F	=7)			tland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depress	sions (F8)			un	less disturbed or problematic.
testrictive Layer (if present):						
Type:	2					\
Depth (inches):					Hydric S	oil Present? Yes No
Remarks;						
YDROLOGY,						
Netland Hydrology Indicators:		J. A			So	conday Indicators (2 or more required)
Netland Hydrology Indicators: Primary Indicators (minimum of one required;					Se	condary Indicators (2 or more required)
Netland Hydrology Indicators: Primery Indicators (minimum of one required; Surface Water (A1)	Water-Sta	ained Leav		except	Se	Water-Stained Leaves (B9) (MLRA 1, 2,
Netland Hydrology Indicators: Primary Indicators (minimum of one required;	Water-Sta			except	Se	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Netland Hydrology Indicators: Primery Indicators (minimum of one required; Surface Water (A1)	Water-Sta	ained Leav		except	Se	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2)	Water-Sta	ained Leav	and 4B)	except	Se Se	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Sta MLRA Sait Crust Aquatic Ir	ained Leav 1, 2, 4A, t (B11)	and 4B) es (B13)	except	Se	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen	ained Leav A. 1, 2, 4A, It (B11) Invertebrate In Sulfide C	and 4B) es (B13) Odor (C1)		X	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Vetland Hydrology Indicators: Primery Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized	ained Leav A. 1, 2, 4A, It (B11) Invertebrate In Sulfide C	and 4B) es (B13) Odor (C1) eres along	g Living Ro	X	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence	ained Leav 1, 2, 4A, t (B11) nvertebrate Sulfide C Rhizosphe e of Reduc	and 4B) es (B13) Odor (C1) eres along ed Iron (C	g Living Ro C4)	oots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) iron Deposits (B5)	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide C Rhizosphe e of Reduction Reduction	and 4B) es (B13) Odor (C1) eres along ed Iron (C	g Living Ro C4) ed Soils (C	Nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6)	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of	ained Leav 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizospho e of Reduct on Reduct or Stresse	and 4B) es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (g Living Ro C4)	Nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) iron Deposits (B5)	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide C Rhizosphe e of Reduction Reduction	and 4B) es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (g Living Ro C4) ed Soils (C	Nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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)	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o	ained Leav 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizospho e of Reduct on Reduct or Stresse	and 4B) es (B13) Odor (C1) eres along ed Iron (C tion in Till d Plants (g Living Ro C4) ed Soils (C	Nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized Presence Recent In Stunted of Other (Ex	ained Lean 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct on Reduct or Stresser xplain in R	es (B13) Dor (C1) eres along ded Iron (C tion in Till der Plants (I ermarks)	g Living Ro C4) ed Soils (C	Nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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) Field Observations: Surface Water Present? YesNe	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leav 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizosphe e of Reduc- con Reduc- or Stressed xplain in R	es (B13) Dor (C1) eres along ded Iron (C tion in Till d Plants (emarks)	g Living Ro C4) ed Soils (C	Nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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) Field Observations: Surface Water Present? Ves No	Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leavan 1, 2, 4A, at (B11) invertebrate in Sulfide Con Reduction Reduction Stresser explain in Reduction Reduct	es (B13) Dor (C1) ares along ed Iron (C tion in Till d Plants (I ternarks)	g Living Ro C4) ed Soils (C D1) (LRR A	inots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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) Field Observations: Surface Water Present? Ves Notater Table Present? Ves Notater Table Present? Ves Saturation Present? Ves Notater Table Present Prese	Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (External of the companion of the companio	ained Lean 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct on Reduct	es (B13) Dor (C1) eres along ed Iron (C tion in Till d Plants (I ermarks)	g Living Ro C4) ed Soils (C D1) (LRR A	nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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) Field Observations: Surface Water Present? Ves No	Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (External of the companion of the companio	ained Lean 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct on Reduct	es (B13) Dor (C1) eres along ed Iron (C tion in Till d Plants (I ermarks)	g Living Ro C4) ed Soils (C D1) (LRR A	nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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) Field Observations: Surface Water Present? Water Table Present? Ves Noter Table Present? Saturation Present? Ves Noter Table Present? Staturation Present? Ves Noter Table Present? Staturation Present?	Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (External of the companion of the companio	ained Lean 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct on Reduct	es (B13) Dor (C1) eres along ed Iron (C tion in Till d Plants (I ermarks)	g Living Ro C4) ed Soils (C D1) (LRR A	nots (C3)	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)
Vetland Hydrology Indicators: Primary Indicators (minimum of one required; 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) Field Observations: Surface Water Present? Ves Notater Table Present? Ves Notater Table Present? Ves Saturation Present? Ves Notater Table Present Prese	Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (External of the companion of the companio	ained Lean 1, 2, 4A, t (B11) nvertebrate n Sulfide C Rhizosphe e of Reduct on Reduct	es (B13) Dor (C1) eres along ed Iron (C tion in Till d Plants (I ermarks)	g Living Ro C4) ed Soils (C D1) (LRR A	nots (C3)	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)

oject/Site: Garberville		City/County: Humboldt		_ Sampling Date: _	4/15/2
plicant/Owner: Garberville Sanitary District			State: CA		TP 9
vestigator(s): Joseph Saler, Cindy Wilcox		Section, Township, Ra			
ndform (hillslope, terrace, etc.): Hillslope, 10	ad ditch	Local relief (concave,	convex, none): Vove	Slor	ne (%): 5
bregion (LRR): A, MLRA-4B	Lat: 40		Long: -123.79		
il Map Unit Name: Tunnin - Burgsblock-Roc					
s climatic / hydrologic conditions on the site typical t					
e Vegetation, Soil, or Hydrology				-	M
e Vegetation, Soil, or Hydrology					NO
			eded, explain any answ	_	
JMMARY OF FINDINGS – Attach site r	nap showing	sampling point l	ocations, transects	s, important fe	atures, e
ydrophytic Vegetation Present? Yes					
ydric Soil Present? Yes		is the Sampled within a Wetlar	Area	No X	
Veiland Hydrology Present? Yes				140	
temarks: Study area is experiencing extren	ne arought (U	.S. Drought Monito	oring).		
*					
EGETATION – Use scientific names of	nlants				
	Absolute	Dominant Indicator	Dominance Test wor	kehoot:	
ree Stratum (Plot size: 30 f		Species? Status	Number of Dominant S		
Pseu dotsuga Mezzesii	30	FACU	That Are OBL, FACW,		(A
			Total Number of Domi	nant 7	
			Species Across All Str		(B
	30		Percent of Dominant S	opecies /	Y
apling/Shrub Stratum (Plot size: 5ft)	30	= Total Cover	That Are OBL, FACW,	or FAC:	(A
Rubus armeniacus	3		Prevalence Index wo	rksheet:	
4			Total % Cover of:		
			OBL species		
			FACW species		
-			FAC species		
and Stratum (District	3	= Total Cover	FACU species		
Plans (Mango)	15	CACH	UPL species Column Totals:		
Cyperus eggagosts	3	EAC W	Goldinii Totais.	(0)	
Cordus pychocephalus	20	NL NL	Prevalence Inde:		
Galim of what	2	FACU	Hydrophytic Vegetati		
Galim of office.	10	NL		Hydrophytic Vegeta	ation
Brita meeting	10	N/-	2 - Dominance Te		
Bromus diandrys	15	NL		lex is ≤3.0 Adaptations¹ (Provi	do suspod
Gepalum dissectum	1_	NL	data in Remark	s or on a separate	sheet)
Stellara Media	Z	FACU	5 - Wetland Non-\	/ascular Plants ¹	
).			Problematic Hydro	phytic Vegetation ¹	(Explain)
- 1			Indicators of hydric so	il and wetland hydr	ology mus
andulting Stratum (Dist.)	9	= Total Cover 45.5	be present, unless dist	urbed or problemat	iic.
oody Vine Stratum (Plot size:		18.7			
			Hydrophytic	V	,
(In		- Tatal C	Vegetation Present? Yes	es No 之	
	-	= Total Cover		-	-

-	-	

Sampling Point: TP 9

epth	Matrix		th needed to docum Redox	Feature	s						
iches)	Color (moist)	_%_	Color (moist)	%	Type	Loc2	Texture		Rem	arks	
-12	WYR 3/2	100			•		SiL	Och	a val	rel	
4 11			104R 6/2	-	D	140	arts.	16.74	1	511	
3-10	7.54R 5 8		- TO IN OIL	5	<u> </u>	_W\	AL PO	-		1 6 = 1	
	7.54R 516	45					J				
	7										
		-					-				-
			1 4	_		-				_	
				-40							
				_							
				-		_	-	-			
ype C=Co	ncentration, D=Dep	letion, RM	Reduced Matrix, CS	=Covere	d or Coate	ed Sand G	Brains. 2L	ocation: PL			
dric Soil I	ndicators: (Applic	able to all	LRRs, unless other	wise no	ted.)		Indica	tors for Pro	blematic	Hydric	Solls':
Histosol	(A1)		Sandy Redox (S	55)			2 0	m Muck (A	10)		
_	ipedon (A2)		Stripped Matrix ((S6)			Re	d Parent Ma	aterial (T	F2)	
Black Hi			Loamy Mucky M	lineral (F	1) (excep	t MLRA 1) Ve	ry Shallow I	Dark Sur	face (TF	12)
	n Sulfide (A4)		Loamy Gleyed N					her (Explain	in Rema	arks)	
	Below Dark Surfac	e (A11)	Depleted Matrix		•						
	rk Surface (A12)	- 4 11 17	Redox Dark Sur		i)		3Indica	tors of hydr	ophytic v	egetatio	n and
_	lucky Mineral (S1)		Depleted Dark S	Surface (F7)		wet	land hydrold	gy must	be pres	ent,
	leyed Matrix (S4)		Redox Depressi				unl	ess disturbe	d or prob	lematic.	
	ayer (if present):		_	•							
Туре:	, (,-									τ,	1/
	1 >						Hudric Sc	oil Present?	Vas		No. X
Depth (in	ches):		_				riyane oc	JII I Teachta	104		140
									,		
	GY								,		
DROLO	drology Indicators								,		
DROLO	drology Indicators		nd; check all that appli	(v)			Sec	condary Indi			-
DROLO fetland Hy rimary Indi	drology Indicators	one requ ire	nd; check all that appl Water-Sta		ıves (B9) (except	Se				e required) (MLRA 1, 2,
DROLO fetland Hy rimary Indi Surface	drology Indicators cators (minimum of Water (A1)		Water-Stai	ined Lea	ives (B9) (except	Sec		ned Leav		
'DROLO 'etland Hy rimary Indi _ Surface _ High Wa	drology Indicators cators (minimum of Water (A1) ater Table (A2)	one requ ire	Water-Stai	ined Lea 1, 2, 4A		except	Sec	Water-Stai	ned Leav 14B)	ves (B9)	
DROLO Setland Hy rimary Indi Surface High Wa Saturati	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	one requ ire	Water-Sta	ined Lea 1, 2, 4A (B11)	, and 4B)	except	Sec	Water-Stai	ned Leav I 4B) Patterns (ves (B9) (B10)	(MLRA 1, 2,
OROLO Totland Hy Timary Indi Surface High Wa Saturati Water M	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1)	one requ ire	Water-Stai	ined Lea 1 , 2, 4A (B11) vertebra	, and 4B) tes (B13)	except	Sec	Water-Stai 4A, and Drainage F Dry-Seaso	ned Leav 14B) Patterns (n Water	ves (B9) (B10) Table (C	(MLRA 1, 2,
OROLO Vetland Hy rimary Indi Surface High Wa Saturati Water M Sedime	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)	one requ ire	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen	ined Lea 1, 2, 4A (B11) vertebra Sulfide	, and 4B) tes (B13) Odor (C1)		=	Water-Stain 4A, and Drainage F Dry-Seaso Saturation	ned Leav I 4B) Patterns (n Water Visible o	ves (B9) (B10) Table (C on Aerial	(MLRA 1, 2,
TOROLO Tetland Hy Timary Indi Surface High Wa Saturati Water M Sedime Drift De	drology Indicators cators (minimum of Water (A1) ster Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	one requ ire	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizospt	tes (B13) Odor (C1) neres along	g Living R	=	Water-Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leav 14B) Patterns (n Water Visible o ic Positio	ves (B9) (B10) Table (C on Aerial on (D2)	(MLRA 1, 2,
rDROLO retland Hy rimary Indi Surface High Water M Water M Sedime Drift De Algal M	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	one requ ire	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu	tes (B13) Odor (C1) neres along	g Living R 64)	oots (C3)	Water-Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad	ned Leave 14B) Patterns (n Water Visible o ic Position	ves (B9) (B10) Table (Con Aerial on (D2) D3)	(MLRA 1, 2,
rDROLO retland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one requ ire	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Redu	tes (B13) Odor (C1) neres along ced Iron (C	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (E ral Test (ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5)	(MLRA 1, 2, 62) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6)	one req uire	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Reduct r Stresse	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (I ral Test (t Mounds	ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5) (D6) (L	(MLRA 1, 2, 52) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) ion Visible on Aerial	lmagery (E	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Reduct r Stresse	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (I ral Test (t Mounds	ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5) (D6) (L	(MLRA 1, 2, 52) Imagery (C9)
rDROLO retland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6)	lmagery (E	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Reduct r Stresse	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (I ral Test (t Mounds	ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5) (D6) (L	(MLRA 1, 2, 52) Imagery (C9)
/DROLO /etiand Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vegetated Concav	lmagery (E	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp. (B8)	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Redu r Stresse plain in F	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (I ral Test (t Mounds	ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5) (D6) (L	(MLRA 1, 2, 52) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vagetated Concav rvations:	lmagery (E	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Redu r Stresse plain in F	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (I ral Test (t Mounds	ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5) (D6) (L	(MLRA 1, 2, 52) Imagery (C9)
rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial y Vagetated Concav rvations: ter Present?	Imagery (E	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp. (B8)	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Redu or Stresse plain in t	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R (4) ed Soils (oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 14B) Patterns (n Water Visible of ic Position quitard (I ral Test (t Mounds	ves (B9) (B10) Table (Con Aerial on (D2) (D3) (D5) (D6) (L	(MLRA 1, 2, 62) Imagery (C9)
Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obset Ourface Water Table	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) ion Visible on Aerial y Vagetated Concav rvations: ter Present?	Imagery (Eve Surface	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in	ined Leat 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on Reduct r Stresse plain in faches): _aches): _aches): _	tes (B13) Odor (C1) heres along ced Iron (C ction in Till ad Plants (I	g Living R C4) ed Soils (D1) (LRR	oots (C3)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav	ned Leav 14B) Patterns (n Water Visible o ic Positio quitard (I ral Test (t Mounds ve Humn	ves (B9) (B10) Table (Con Aerial on (D2) D3) D5) s (D6) (L nocks (D	(MLRA 1, 2, 52) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Surface Wa Vater Table Saturation of	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavervations: ter Present? a Present? coillary (fringe)	Imagery (Eve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp. (B8) No Depth (in Depth (in	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on R	tes (B13) Odor (C1) neres along ced Iron (C ction in Till ed Plants (I Remarks)	g Living R (4) ed Soils (i D1) (LRR	oots (C3) C6) A)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav	ned Leav 14B) Patterns (n Water Visible o ic Positio quitard (I ral Test (t Mounds ve Humn	ves (B9) (B10) Table (Con Aerial on (D2) D3) D5) s (D6) (L nocks (D	(MLRA 1, 2, 52) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Surface Wa Vater Table Saturation of	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavervations: ter Present? a Present? coillary (fringe)	Imagery (Eve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on R	tes (B13) Odor (C1) neres along ced Iron (C ction in Till ed Plants (I Remarks)	g Living R (4) ed Soils (i D1) (LRR	oots (C3) C6) A)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav	ned Leav 14B) Patterns (n Water Visible o ic Positio quitard (I ral Test (t Mounds ve Humn	ves (B9) (B10) Table (Con Aerial on (D2) D3) D5) s (D6) (L nocks (D	(MLRA 1, 2, 52) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water Mage Mine Drift De Algal Mage Inundat Sparsel ield Observation Formulation Fo	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavervations: ter Present? a Present? coillary (fringe)	Imagery (Eve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp. (B8) No Depth (in Depth (in	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on R	tes (B13) Odor (C1) neres along ced Iron (C ction in Till ed Plants (I Remarks)	g Living R (4) ed Soils (i D1) (LRR	oots (C3) C6) A)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav	ned Leav 14B) Patterns (n Water Visible o ic Positio quitard (I ral Test (t Mounds ve Humn	ves (B9) (B10) Table (Con Aerial on (D2) D3) D5) s (D6) (L nocks (D	(MLRA 1, 2, 62) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Surface Wa Vater Table Saturation of	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavervations: ter Present? a Present? coillary (fringe)	Imagery (Eve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp. (B8) No Depth (in Depth (in	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on R	tes (B13) Odor (C1) neres along ced Iron (C ction in Till ed Plants (I Remarks)	g Living R (4) ed Soils (i D1) (LRR	oots (C3) C6) A)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav	ned Leav 14B) Patterns (n Water Visible o ic Positio quitard (I ral Test (t Mounds ve Humn	ves (B9) (B10) Table (Con Aerial on (D2) D3) D5) s (D6) (L nocks (D	(MLRA 1, 2, 62) Imagery (C9)
/DROLO /etland Hy rimary Indi Surface High Water Mage Mine Drift De Algal Mage Inundat Sparsel ield Observation Formulation Fo	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aerial y Vegetated Concavervations: ter Present? a Present? coillary (fringe)	Imagery (Eve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp. (B8) No Depth (in Depth (in	ined Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu on R	tes (B13) Odor (C1) neres along ced Iron (C ction in Till ed Plants (I Remarks)	g Living R (4) ed Soils (i D1) (LRR	oots (C3) C6) A)	Water-Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav	ned Leav 14B) Patterns (n Water Visible o ic Positio quitard (I ral Test (t Mounds ve Humn	ves (B9) (B10) Table (Con Aerial on (D2) D3) D5) s (D6) (L nocks (D	(MLRA 1, 2, 62) Imagery (C9)

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

Project/Site: (Aux b cx Vill (City/Cou	inty: HUM	bolat	Sampling [Date: 4/15	122
Applicant/Owner: GaMCWill Sanitary Dish							
Investigator(s): Lindy willow, Joseph						Omt	
Landform (hillslope, terrace, etc.): Hillslope, cand o						Class (9/).	2
Subregion (LRR): AMLRA - 48							
							32 X
Soil Map Unit Name: Tannin - Burgsblock, Low	glen con	oplex	30-50	NWI classifi	ication: 1	n	-
Are climatic / hydrologic conditions on the site typical for the				- ALCOHOLD AND AND AND AND AND AND AND AND AND AN		201	
Are Vegetation, Soil, or Hydrology	significantly	disturbe	d? Are "	'Normal Circumstances"	present? Ye	es X N	o
Are Vegetation, Soil, or Hydrology	naturally pro	blematic	? (If ne	eded, explain any answ	ers in Remar	ks.)	
SUMMARY OF FINDINGS - Attach site map	showing	samp	ling point k	ocations, transect	s, importa	nt feature	s, etc.
Hydrophytic Vegetation Present? Yes X	No						
	No	18	s the Sampled	Area nd? Yes	No.		
Wetland Hydrology Present? Yes X							
Remarks: Drought manitoring index	puts tu	iis ar	ea in "4	extreme" 410	ugnt c	ong! tion	5
TP excavared in flat area adjac	enr to	Lowqi	way. Imp	civious surfac	e 4 see	hadroloo	vide
VEGETATION – Use scientific names of plan						J	19.
	Absolute		ant Indicator	Dominance Test wor	ksheet:		
Tree Stratum (Plot size:	% Cover	Specie	s? Status	Number of Dominant 8		7	
2. The stratum	-,			That Are OBL, FACW	, or FAC	3	(A)
3. NOT IN CLUDED. DOES NOT				Total Number of Domi	-	~	
a process to see 3 4005		-		Species Across All Str	rata:	3	(B)
1. represent canaitions		= Total	Cover	Percent of Dominant S That Are OBL, FACW	Species	100%	/A/B)
Sapling/Shrub Stratum (Plot size: 5 ft)		/		Prevalence Index wo			(AVB)
1. Rubus ursinus	7		_ FAL	Total % Cover of:		Multiply by:	
2				OBL species			
3			_	FACW species			
4	·/			FAC species			
5		Y/ =====		FACU species			
Herb Stratum (Plot size: 5 ft)		= Total	Cover	4		=	
1. Mentra evicaium	12	V	181	Column Totals:		·	
2. Epilobium Ciliatum	3		FACIN				= \-/
3. Equise tum avvense	3		FAC	Prevalence Inde			-
4. Cyperus evagrostis	3	-	FACW	Hydrophytic Vegetat			
5. Junius effusus	1	85	FACW	1 - Rapid Test for _X 2 - Dominance Te		vegetation	
6. Holey langtus	lo	V		3 - Prevalence Inc			
7				4 - Morphological		(Provide cun	norting
8				data in Remarl			
9				5 - Wetland Non-\	Vascular Plar	nts ¹	
10.				Problematic Hydro	ophytic Vege	tation¹ (Expla	in)
11				¹ Indicators of hydric so	oil and wetlar	nd hydrology i	must
	28	= Total	Cover 14	be present, unless dis	turbed or pro	blematic.	
Woody Vine Stratum (Plot size: 5+1)			010				
1. Hedera halix	<u> </u>		<u> FALU</u>	Hydrophytic	7.17		
2				Vegetation Present? Y	X	No	1
% Bare Ground in Herb Stratum 721,	_ 1	= Total	Cover	, resenti T	69/7	140	
		(= \ /	C These	A 04 4-41-1 1	ا مام ما	a Mira -	
The stratum not included in don or extend over isolated wethen	ninance	CQ10	DILLAL SALO	botoon on the	in any i	anistope	-
of extend over isolated wetter	18 teati	ne, s	haide acd	300 10 34100	1194	VEILIO ON H	whom

Profile Description: (Describe to the de	pth needed to docum	ent the i	ndicator	or confir	m the absence	of indicators.)
DepthMatrix		Features	3		8	
(inches) Color (moist) %	Color (moist)	%	Type'	Loc2	Texture	Remarks
0-7 2.54 4/2 95	54R 4/4	5		MYL	SiL	
7-12 2.57 5/2 70	544 41L	20		M	SILL	
	10 YR 5/8	10_		M		
12-24+ 104 5/8 50		_	-	-	SICL	Mixed (o-dominant
25 4 5 12 50			•			matrices
			-	.——		-
					2.	
Type: C=Concentration, D=Depletion, RN				ed Sand G		cation: PL=Pore Lining, M=Matrix. rs for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to al			eu.)			•
Histosol (A1)	Sandy Redox (S					n Muck (A10)
Histic Epipedon (A2)	Stripped Matrix					Parent Material (TF2)
Black Histic (A3)	Loamy Mucky M			t MLRA 1		/ Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed N)		Oth	er (Explain in Remarks)
Depleted Below Dark Surface (A11)	Matrix				3	
Thick Dark Surface (A12)	Redox Dark Sur					ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark 5		(1)			nd hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressi	ons (F8)			unles	s disturbed or problematic.
Restrictive Layer (if present):						
Type:					1	4 /
Depth (inches):					Hydric Soil	Present? Yes No
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one require	ed; check all that apply	α			Seco	ndary Indicators (2 or more required)
Surface Water (A1)	Water-Stai	ned Leavi	es (B9) (r	except	VV	Vater-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)		1, 2, 4A , a		жоорт		4A, and 4B)
X Saturation (A3)	Salt Crust	(B11)			0	rainage Patterns (B10)
Water Marks (B1)	Aguatic Inv	ertebrate	s (B13)			Pry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen		` '			Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)				Living Ro		Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of		-		. , ——	Shallow Aquitard (D3)
			,	•	~ *	AC-Neutral Test (D5)
Iron Deposits (B5)	Recent Iron				-	, ,
Surface Soil Cracks (B6)	Stunted or)1) (LRK /		Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (i Sparsely Vegetated Concave Surface		iain in Re	emarks)		— 「	rost-Heave Hummocks (D7)
Field Observations:	(/		12			
	No X Depth (inc	shae).	NIA			
Water Table Present? Yes	No L Depth (inc	ches):	NIA	-		
Saturation Present? Yes X	No Depth (inc			We	tland Hydrolog	y Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, n	nonitoring well, aerial p	photos, pr	evious in	spections), if available:	
, , , , , , ,						
Saturation limit	ted to 0.	vi F	nchi	か		

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

Project/Site: (A(MI) CVVIIV		014 40	Him	Vision to the Lieba
Project/Site: MONT/2011	1 0:ch	City/Cou	nty: 1 1011	Sampling Date: 115 707
Applicant/Owner: (nalbarville Sanitare	VIST	101		State: Sampling Point:
Investigator(s): Cividy Willox, Joseph	3CMCI	Section,	Township, Rar	nge:
Landform (hillslope, terrace, etc.): Hillshope, 100000				
Subregion (LRR): A MLCA - 45	_ Lat: 40) ()q-	FILLE	Long: -173, 791507 Datum: WG584
Soil Map Unit Name: TOMNIN - BURGShlock - Cock) relev	mou	× 30-50	1-5000 NWI classification: MAV
Are climatic / hydrologic conditions on the site typical for this		711		
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology n				
			·	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map		samp	ling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N			the Sampled	Aron
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N	0_ <u>X</u> _	w w	ithin a Wetlan	nd? Yes No
Remarks: On 1008 fill prism about				
Drought munitoring index Show	ns this	cure	ia ac ti	extreme diought conditions
VEGETATION – Use scientific names of plan	ts.			
	Absolute		ant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)			s? Status	Number of Dominant Species
1. Salin lasion pis 2. Psandotsuga manztesii	30	-V	- FACW	That Are OBL, FACW, or FAC: (A)
2. VSCUDOTSUJA MUNZARSII	70		FALU	Total Number of Dominant
3		_	_,	Species Across All Strata: (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 5ft)	40	= Total	Cover	That Are OBL, FACW, or FAC: 3.3 1/2 (A/B)
1. Rubus ursinus	7	V	FACU	Prevalence Index worksheet:
2			The second second	Total % Cover of: Multiply by:
3.				OBL species x 1 =
4.			_:	FACW species x 2 =
5				FAC species x 3 =
		= Total	Cover	FACU species x 4 =
Herb Stratum (Plot size: 5++)	7.2			UPL species x 5 =
1 Carex Nendersonii	15		FAC	Column Totals: (A) (B)
2. Equesetum arvense			TAC	Prevalence Index = B/A =
3. Vinca major	7		_ FACU	Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5				
				2 - Dominance Test is >50%
6				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
7				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
7 8		-		3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
7		-		3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
7		-		3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
7				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
7			Cover 12	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
7	24	= Total	Cover 12 4.4	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7		= Total		3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic
7	24 25	= Total	Cover 12 4.4 FACU	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic
7	25 25	= Total	Cover 124 FACU	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No
7	25 25	= Total	Cover 124 FACU	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No
7	25 25	= Total	Cover 124 FACU	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No

Sampling Point: TPI

Depth inches)	Matrix Color (moist)	%	Color (moist)	ox Features %	Type	Loc2	Texture	Remarks
11- in <	104R3/2	na	104R416	- 70	TAba	M	3:L	Velliging
1 + 211 -		60	1048 414	10	0	M	SCL	-
2.5-24 +			10 1F 114	- 10			JCC	-
	257 6/2	30	-					-
		-					-	
	-							-
			B 1				. 2,	P. D. D. Harris
			=Reduced Matrix, C LRRs, unless othe			d Sand Gi		cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ ;
		able to all	Sandy Redox (.,			n Muck (A10)
_ Histosol (. Histic Eni	pedon (A2)		Stripped Matrix					Parent Material (TF2)
Black His			Loamy Mucky) (except	MLRA 1)		y Shallow Dark Surface (TF12)
_	Sulfide (A4)		Loamy Gleyed			,		er (Explain in Remarks)
	Below Dark Surface	e (A11)	Depleted Matri					(
	k Surface (A12)	. ,	Redox Dark Su				3Indicate	ors of hydrophytic vegetation and
_ Sandy Mu	ucky Mineral (S1)		Depleted Dark	Surface (F	7)		wetla	ind hydrology must be present,
	eyed Matrix (S4)		Redox Depres	sions (FB)			unles	ss disturbed or problematic.
	ayer (if present):							
Туре:								X /
							Hydric Soil	Present? Yes No X
emarks:	nes):							
emarks: 'DROLOG /etland Hyd	SY rology Indicators			dia.				
emarks: /DROLOG /etland Hyd rimary Indica	SY rology Indicators ators (minimum of o		rd; check all that app		pp (PQ) (e	vaont	Seco	ndary Indicators (2 or more required)
emarks: /DROLOG /etland Hyd rimary Indica _ Surface V	orology Indicators ators (minimum of a Vater (A1)		Water-Sta	ained Leave		xcept	Seco	Vater-Stained Leaves (B9) (MLRA 1, 2
emarks: 'DROLOG 'etland Hyd rimary Indica Surface V High Wat	orology Indicators ators (minimum of o Vater (A1) er Table (A2)		Water-Sta	ained Leave 1, 2, 4A, a		xcept	Seco	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
PROLOCO Petland Hydrimary Indica Surface V High Wat Saturation	rology Indicators ators (minimum of o Vater (A1) er Table (A2) n (A3)		Water-Str MLRA Salt Crus	ained Leave 1 , 2, 4A, a t (B11)	ind 4B)	xcept	Seco V	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Prainage Patterns (B10)
PROLOCIFICATION OF THE PROPERTY OF THE PROPERT	rology Indicators ators (minimum of o Vater (A1) er Table (A2) n (A3) irks (B1)		Water-Str MLRA Salt Crus Aquatic Ir	ained Leave 1, 2, 4A, a t (B11) nvertebrate:	and 4B) s (B13)	xcept	Seco V C	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
PROLOGI Vetland Hydromary Indica Surface V High Wate Saturation Water Ma	rology Indicators ators (minimum of o Vater (A1) er Table (A2) in (A3) arks (B1)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger	ained Leave 1, 2, 4A, a t (B11) nvertebrates s Sulfide Oc	nd 4B) s (B13) dor (C1)		Seco V	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
Process Pro	rology Indicators ators (minimum of o Vater (A1) er Table (A2) in (A3) urks (B1) d Deposits (B2) posits (B3)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized	ained Leave 1, 2, 4A, a t (B11) nvertebrates s Sulfide Od Rhizospher	nnd 4B) s (B13) dor (C1) res along	Living Ro	Seco V C S obs (C3) C	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2)
PROLOCO Vetland Hydrimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo	rology Indicators: ators (minimum of orvious (Mater (A1)) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Leave 1, 2, 4A, a t (B11) avertebrate: a Sulfide Oc Rhizospher of Reduce	s (B13) for (C1) res along d Iron (C	Living Roo	Seco V E Sots (C3) S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C8 Geomorphic Position (D2) Shallow Aquitard (D3)
PROLOCE Tetland Hydrimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo	rology Indicators: ators (minimum of orvivater (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leave 1, 2, 4A, a t (B11) envertebrates s Sulfide Oc Rhizospher of Reduce on Reduction	s (B13) for (C1) res along d Iron (C	Living Roo 4) d Soils (Co	Seco V C C S obs (C3) S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C8 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
PROLOCY Petland Hydrimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo	rology Indicators ators (minimum of or Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6)	one require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Iri Stunted of	ained Leave 1, 2, 4A, a t (B11) avertebrate: a Sulfide Oc Rhizospher of Reduce	s (B13) dor (C1) res along d Iron (Continue Tille Plants (E	Living Roo 4) d Soils (Co	Seco V C C S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C8 Geomorphic Position (D2) Shallow Aquitard (D3)
PROLOGIA Petland Hydromary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	rology Indicators: ators (minimum of orvivater (A1) er Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5)	one require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted of Other (Ex	ained Leave 1, 2, 4A, a t (B11) envertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed	s (B13) dor (C1) res along d Iron (Continue Tille Plants (E	Living Roo 4) d Soils (Co	Seco V C C S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-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)
PROLOG Petland Hydrimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely	rology Indicators ators (minimum of or Vater (A1) er Table (A2) er (A3) er (B1) er (B2) osits (B3) er Crust (B4) osits (B5) osits (B5) or Crust (B6) er Visible on Aerial Vegetated Concav	one require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted of Other (Ex	ained Leave 1, 2, 4A, a t (B11) envertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed	s (B13) dor (C1) res along d Iron (Continue Tille Plants (E	Living Roo 4) d Soils (Co	Seco V C C S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-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)
PROLOC Vetland Hydrimary Indica Surface V High Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely	rology Indicators ators (minimum of o Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) soil Cracks (B6) in Visible on Aerial Vegetated Concav ations:	one require	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted of Other (Ex	ained Leave 1, 2, 4A, a t (B11) nvertebrate: n Sulfide Oc Rhizospher of Reduce on Reduction or Stressed oplain in Re	s (B13) for (C1) res along d Iron (C on in Tille Plants (D marks)	Living Roo 4) d Soils (Co	Seco V C C S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-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)
PROLOC Vetland Hydrimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observent	rology Indicators: ators (minimum of orviology Indicators) Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6) in Visible on Aerial Vegetated Concav ations: r Present?	one require Imagery (E e Surface	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Leave 1, 2, 4A, a t (B11) nvertebrate: n Sulfide Oc Rhizospher of Reduce on Reduction or Stressed oplain in Re	s (B13) for (C1) res along d Iron (C on in Tille Plants (C marks)	Living Roo 4) d Soils (Co	Seco V C C S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-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)
PROLOC Vetland Hyd Vetland Hyd Vetland Hyd Vetland Hyd Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observet Vater Table For	rology Indicators ators (minimum of or Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav ations: r Present? Present?	one require Imagery (E e Surface	Water-Sta MLRA Salt Crus Aquatic ir Hydroger Oxidized Presence Recent in Stunted of Other (Ex	ained Leave 1, 2, 4A, a t (B11) nvertebrates s Sulfide Oc Rhizospher of Reduce on Reduction Stressed colain in Re	s (B13) dor (C1) res along d Iron (C on in Tille Plants (C marks)	Living Roo 4) d Soils (Co 11) (LRR A	Seco V C S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-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)
PROLOC Vetland Hyde Vetland Hyde Vetland Hyde Vetland Hyde Surface V High Wate Saturation Water Ma Sediment Orift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observet Vater Table Fetencludes capi	rology Indicators ators (minimum of or Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav ations: r Present? Present? llary fringe)	Imagery (E e Surface fes fes fes	Water-Sta MLRA Salt Crus Aquatic ir Hydroger Oxidized Presence Recent in Stunted of Other (Ex	ained Leave 1, 2, 4A, a t (B11) nvertebrates s Sulfide Oc Rhizospher of Reduce on Reduction stressed (plain in Re nches):	s (B13) dor (C1) res along d Iron (C on in Tille Plants (C marks)	Living Root 4) d Soils (Control 1) (LRR A	Seco V	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
PROLOC Vetland Hyde Vetland Hyde Vetland Hyde Vetland Hyde Surface V High Wate Saturation Water Ma Sediment Orift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observet Vater Table Fetencludes capi	rology Indicators ators (minimum of or Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav ations: r Present? Present? llary fringe)	Imagery (E e Surface fes fes fes	Water-Sta MLRA Salt Crus Aquatic ir Hydroger Oxidized Presence Recent in Stunted of Other (Extended of the companion	ained Leave 1, 2, 4A, a t (B11) nvertebrates s Sulfide Oc Rhizospher of Reduce on Reduction stressed (plain in Re nches):	s (B13) dor (C1) res along d Iron (C on in Tille Plants (C marks)	Living Root 4) d Soils (Control 1) (LRR A	Seco V	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
/DROLOG /etland Hydromary Indica _ Surface V _ High Wate _ Saturation _ Water Ma _ Sediment _ Drift Depot _ Algal Mate _ Iron Depot _ Surface S _ Inundation _ Sparsely ield Observ. urface Water /ater Table F aturation Pre ncludes capi escribe Reco	rology Indicators ators (minimum of or Vater (A1) er Table (A2) in (A3) irks (B1) is Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav ations: r Present? Present? llary fringe)	Imagery (E e Surface fes fes fes	Water-Sta MLRA Salt Crus Aquatic ir Hydroger Oxidized Presence Recent in Stunted of Other (Extended of the companion	ained Leave 1, 2, 4A, a t (B11) nvertebrates s Sulfide Oc Rhizospher of Reduce on Reduction stressed (plain in Re nches):	s (B13) dor (C1) res along d Iron (C on in Tille Plants (C marks)	Living Root 4) d Soils (Control 1) (LRR A	Seco V	Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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

Applicant/Owner Authorially Sanifara District Investigator(s): Lindy WhiteOx, DOSC IT SOLDC. Section, Township, Range: Landform (millistope, terrade, etc.): Highlight, foods/dcf. WhiteOxthat County Sold May District Township, Lat. 40.04742	Project/Site: <u>AWBUNIU</u>	City/0	County: 140m/	00 d t Sampling Date: 4/15/22
Landform (nillslope, terzée, etc.): #History fond side (DVIN) Local roller (concave, convex, none): 10 AV Stope (%): 3 Subregion (LRR): A MUA - 4 B Lat. 40 097442 *Long: -17.3, 742.72 at *Datum: WGSS* Sabi Map Unit Name (DVIN): *Provided (Lat. 40 097442 *Long: -17.3, 742.72 at *Datum: WGSS* Are desplation of the site typical for this time of year? Yes No (Inc., explain in Remarks.) Are Vegetation — Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (Inc., explain in Remarks.) Are Vegetation — Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (Inc., explain in Remarks.) Are Vegetation — Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (Inc., explain in Remarks.) Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (Inc., explain in Remarks.) Soil or Hydrology (Soil Present? Yes No (Inc., explain in Remarks.) No (Inc., explain in Remarks.) Soil or Hydrology (Soil Present? Yes No (Inc., explain in Remarks.) No (Inc., explain in Remarks.) Is the Sampled Area within a Wedland area within a Wedland Hydrology Present? Yes No (Inc., explain in Remarks.) No (I	Applicant/Owner: Charbonill Sanitary Di	strict		State: CA Sampling Point: +P12
Submejon (LRR: A, MLA - 46 Lat. 40. 047-42 Long: 17. 3-927-0 Datum: W638 Soil Map Unit Name: Talianin - Parciphock - Lock and to so the site typical for this limb of year? Yes No (If no explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Soil or Hydrology in atturally 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 Wedland? Yes No Welland Hydrology Present? Yes No No Is the Sampled Area within a Wedland? Welsand Hydrology Fresent? Yes No No Is the Sampled Area within a Wedland? Yes No No Is the Sa				
Submejon (LRR: A, MLA - 46 Lat. 40. 047-42 Long: 17. 3-927-0 Datum: W638 Soil Map Unit Name: Talianin - Parciphock - Lock and to so the site typical for this limb of year? Yes No (If no explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Soil or Hydrology in atturally 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 Wedland? Yes No Welland Hydrology Present? Yes No No Is the Sampled Area within a Wedland? Welsand Hydrology Fresent? Yes No No Is the Sampled Area within a Wedland? Yes No No Is the Sa	Landform (hillslope, terrace, etc.): Hillslupe, 1000 side	CHUNINALoca	I relief (concave, o	convex, none):Slope (%); 3
Are Climatic / hydrologic conditions on the elife typical for this time of year? Yes No X (if no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Present? Yes No With a Weltand Hydrology Present? Yes No Within a Weltand? Weltand Hydrology Present? Yes No Weltand Hydrology Indicators of Hydrology Previde supporting data in Remarks. A Prevalence Index = BIA = 3.7 Hydrophytic Vegetation (Explain) Yes No Weltand Hydrology Present Previde supporting data in Remarks.) Yes No Weltand Hydrology Present? Yes No	Subregion (LRR): A, MURA - 4B	_ Lat: <u>40 . 0</u>	197742"	Long: -123,797291 Datum: W6581
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 Wetland Hydrology Present? Yes No No Is the Sampled Area within a Wetland? Yes No No Yes No No Is the Sampled Area within a Wetland? Yes No No Yes No No No Yes No No No Yes No No No Yes No No No Yes No No No No Yes No No No No Yes No No No Yes No No No Yes No No No Yes No	Soil Map Unit Name: Tolonin - Burgallock - Noc	eyqun?	30-501.51	OPCS NWI classification:
Are Vegetation Soll 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. Hydrocopytic Vegetation Present? Hydro Soil Present? Wes No Is the Sampled Area within a Wetland? Wetland Hydrology Present? Wes No Wetland Hydrology Present? Wetland Hydrology Present? Wes No Wetland Hydrology Present? Wetland Hydrology Present? Wes No Wetland Hydrology Present? Wes No Wetland Hydrology Present? Wetland Hydro				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Yes No Welland Hydrophology Present? Yes No Welland Hydrophology Present? Yes No Welland Hydrophology Present? Welland Hydrophology Present? Wes No Welland Hydrophology Present? Welland Hydrophology Present Hydrophology must be present, unless disturbed or problematic.	Are Vegetation, Soil, or Hydrology si	gnificantly distu	rbed? Are "	Normal Circumstances" present? Yes No
Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Soil Present? West No Welland Hydrology Present				
Hydric Soil Present? Welland Hydrology Present? Yes No within a Wetland? Remarks: I fought Monitoring Index puts this Great No within a Wetland? At bortom of drainagh Swall avoid Movil Ld bortom Stand Magnet Veg. Tree Stratum (Plot size: Absolute Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Percent of Dominant Species Areas All Strata: (B) Percent of Dominant Species Areas All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species That Are OBL, FACW, or FAC:		120	npling point lo	ocations, transects, important features, etc.
Westand Hydrology Present? Ves No within a Wetland? Westand Hydrology Present? Ves No			is the Sampled	Area /*
Remarks: I rought monitoring index puts this area in extreme about it conditions at both monitoring index puts this area in extreme about it conditions. VEGETATION - Use scientific names of plants. Tree Stratum (Plot size:	1111		within a Wetlan	rid? Yes No No
VEGETATION — Use scientific names of plants. Tree Stratum (Plot size:				
VEGETATION — Use scientific names of plants. Tree Stratum (Plot size:	At hottom of diamage single	auge 1	Allvilla &	2 1 * not refersional judgement. Ven.
Absolute Species? Status Species Status Status Species Status Status Species Status St	·		· covince	do s not restent working conditions.
Tree Stratum (Plot size: % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: (A)	VEGETATION – Use scientific names of plant		minant Indicator	Domingroe Test weeksheet
That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (C) Total Number of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A) Percent of Dominant Species That Are OBL, FACW, or FAC: Total Swerker That	Tree Stratum (Plot size:)			
Total Number of Dominant Species Across All Strata: Sapling/Shrub Stratum (Plot size: 541.) Sapling/Shrub Stratum (Plot size: 541.) Lubus Office Prevalence Index worksheet: Total Number of Dominant Species That Are OBL, FACW, or FAC: 251. (A/B) Prevalence Index worksheet: Total % Cover of. Multiply by: OBL species 20 x3 = 60 FACW species 31 x4 = 216 UPL species 51 x4 = 216 UPL species 51 x4 = 216 UPL species 75 x4 = 216 Total % Cover of Multiply by: 0S x4 = 216 Total % Cover of	1. Thus mut induded it	1 Auna	MONTO	
4				
Sapling/Shrub Stratum (Plot size: 54.) 1. Pubus Office (A/B) 1. Pubus Office (A/B) 1. Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species (A x 1 = 4) FACU species (A x 1 = 4)	4.			Species Across All Strata: (B)
1. Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species	5-6	= To	otal Cover	
2. 3. 4. 5. Herb Stratum (Plot size: 7ft, 1. 1. Talking grandiflora 15 / Facu Facu Facu Facu Facu Facu Facu Facu	Sapling/Shrub Stratum (Plot size: 5 + 1.	20	/ TAC	
3	1015		PAC	
FAC species 20 x3 = 60 FACU species 54 x4 = 216 UPL species 74 x4 = 216 UPL species 75 x4 = 216 UPL species 74 x4 = 216 UPL species 75 x5 = Column Totals: 74 (A) 276 (B) Prevalence Index = B/A = 3.7 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 9.				
Herb Stratum (Plot size: 57 ft.) 20 = Total Cover FACU species 54 x 4 = 216	4			4.0
Herb Stratum (Plot size: 57+) 1. Tallinga grandiflora 2. Gadling aparine 3. Nemochia 4. Straturia media 5. Poiy 31 ich vm minitum 6 7 8 10 10 11. Tallinga grandiflora 12. Gadling aparine 13. Tallinga grandiflora 14. Straturia media 15. V FACU FORMING Totals: Type (B) Frevalence Index = B/A = 3.7 Hydrophytic Vegetation Indicators: — 1 - Rapid Test for Hydrophytic Vegetation — 2 - Dominance Test is >50% — 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — 5 - Wetland Non-Vascular Plants¹ — Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	5	-24		
1. Talling grandiflora 2. Calling a paint 3. Nemagnica 4. Stelleria media 5. Polystichem monitum 6	Herb Stratum (Plot size: 5 Ft.)	= To	otal Cover	UPL species x 5 =
Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 9	1. Talling grandiflora	15_1	/ FACU	Column Totals: <u>14</u> (A) <u>276</u> (B)
4. Steller in we did 5. Poin 3t ich which white the steller is 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 6	2. Callium aparine	<u></u>	FACU	Prevalence Index = B/A = 37
5. Poiy3tichum Minitum 6	3. Wemaph. 10	2 –	TACU	
6		10		
7	6.		47/50	_
8	7			I —
Problematic Hydrophytic Vegetation¹ (Explain) 11 Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				data in Remarks or on a separate sheet)
11 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		———		
be present, unless disturbed or problematic.				
	75 (6)	44 = To	tal Cover 23	
woody vine stratum (Piot size	Woody Vine Stratum (Plot size: 547.		V4	
1. He der a Vell x 15 FAW Hydrophytic Vegetation		15		
Yes No _X_		15 = To	tal Cover	Present? Yes No
% Bare Ground in Herb Stratum 🤌 🚺	% Bare Ground in Herb Stratum 5			
High I bare ground due to shading a leaf litter. Thee Stratum not	High I have ground due to 91	Jorgind a	Leaf 1944	er. Thee stratum not
Remarks: High 1, bare ground due to shading a leaf litter. Thee stratum not included in dominance cases as they are noted in dry hillstope above we thank	Included in dominance case	s as thu	y are no	oted in any villstope above

Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	_Type ¹	<u>Loc²</u>	<u>Texture</u>	
0-6	1046412	100					SiL	
10-20 t	104R417	90	5724/6	10	L	M	-5L	
		=				\equiv		
			=Reduced Matrix, C			ed Sand G		² Location: PL≃Pore Lining, M=Matrix. cators for Problematic Hydric Soils³:
_ Histosol	• •		Sandy Redox					2 cm Muck (A10)
	ipedon (A2)		Strlpped Matri:					Red Parent Material (TF2)
Black His			Loamy Mucky			t MLRA 1)		Very Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed		2)			Other (Explain in Remarks)
	Below Dark Surfac	e (A11)	Depleted Matr				3, ,,	
_	rk Surface (A12)		Redox Dark Si	• •	•			cators of hydrophytic vegetation and retland hydrology must be present,
	ucky Mineral (S1) leyed Matrix (S4)		Depleted Dark Redox Depres					nless disturbed or problematic.
	ayer (if present):		Redox Depres	SIUIIS (FO)			1	niess disturbed of problematic.
	ayer (ii present).							
Type:							l	Soil Present? Yes X No
Deput (inc	:hes):						nyunc .	Soil Present? Yes No
Remarks:								
YDROLO	Irology Indicators							
YDROLOG Vetland Hyd Primary Indic	frology Indicators ators (minimum of		d; check all that app	-			<u>S</u>	econdary Indicators (2 or more required)
YDROLO Vetland Hydrimary Indic Surface	rology Indicators ators (minimum of a Water (A1)		Water-St	ained Leav	-	except	S	_ Water-Stained Leaves (В9) (MLRA 1, 2
YDROLOG Vetland Hyd Primary Indic Surface	trology Indicators ators (minimum of o Water (A1) ter Table (A2)		Water-St	ained Leav	-	except	<u>\$</u>	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
YDROLO Vetland Hyd 'rimary Indic Surface High Wa Saturatio	trology Indicators ators (minimum of e Water (A1) ter Table (A2) on (A3)		Water-St MLRA Salt Crus	ained Leav 1, 2, 4A, t (B11)	and 4B)	except	s	_ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
YDROLOG Vetland Hyd Primary Indic Surface High Wa Saturatic Water M	trology Indicators ators (minimum of a Water (A1) ter Table (A2) on (A3) arks (B1)		Water-St MLRA Salt Crus Aquatic li	ained Leav 1, 2, 4A, it (B11) nvertebrate	and 4B) es (B13)	except	s	_ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2)
YDROLOG Vetland Hyd Primary Indic Surface W High Wa Saturation Water M Sedimen	trology Indicators ators (minimum of a Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)		Water-St. MLRA Salt Crus Aquatic li Hydroger	ained Leav 1, 2, 4A, It (B11) Invertebrate Sulfide O	and 4B) es (B13) dor (C1)		<u>></u>	_ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C5)
YDROLOG Vetland Hyd Primary Indic Surface W High Wa Saturatic Water M Sedimen Drift Dep	trology Indicators ators (minimum of a Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3)		Water-St MLRA Salt Crus Aquatic li Hydroger Oxidized	ained Leaven 1, 2, 4A, at (B11) Invertebrate Sulfide OR	and 4B) es (B13) dor (C1) eres along	ı Living Ro	<u>></u>	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2)
YDROLOG Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	trology Indicators ators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) to r Crust (B4)		Water-St. MLRA Salt Crus Aquatic li Hydroger Oxidized Presence	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe is of Reduce	and 4B) es (B13) dor (C1) eres along ed Iron (C	g Living Ro	ots (C3)	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)
YDROLOG Vetland Hyd Inimary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	trology Indicators ators (minimum of other (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5)		Water-St. MLRA Salt Crus Aquatic ii Hydroger Oxidized Presence Recent ir	ained Leaven A 1, 2, 4A, at (B11) Invertebrate Sulfide O Rhizosphe of Reduction Reduction	and 4B) es (B13) edor (C1) eres along ed Iron (C ion in Tille	j Living Ro (4) ed Soils (C	ots (C3) \geq	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)
YDROLO Vetland Hyd Surface Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep	trology Indicators ators (minimum of a Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6)	one require	Water-St. MLRA Salt Crus Aquatic ii Hydroger Oxidized Presence Recent ir	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe in Geduct on Reduct or Stressed	es (B13) dor (C1) eres along ed Iron (C tion in Tille	g Living Ro	ots (C3) \geq	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG Vetland Hyd Frimary Indice Surface of High Wa Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Surface	trology Indicators ators (minimum of a Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) tor Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial	one require	Water-St. MLRA Salt Crus Aquatic ii Hydroger Oxidized Presence Recent ir Stunted c	ained Leaven A 1, 2, 4A, at (B11) Invertebrate Sulfide O Rhizosphe of Reduction Reduction	es (B13) dor (C1) eres along ed Iron (C tion in Tille	j Living Ro (4) ed Soils (C	ots (C3) \geq	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)
YDROLOGO Vetland Hydrogologo Surface Water M Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundation Sparsely	trology Indicators ators (minimum of of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav	one require	Water-St. MLRA Salt Crus Aquatic ii Hydroger Oxidized Presence Recent ir Stunted c	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe in Geduct on Reduct or Stressed	es (B13) dor (C1) eres along ed Iron (C tion in Tille	j Living Ro (4) ed Soils (C	ots (C3) \geq	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOG Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely	drology Indicators ators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concav rations:	one require Imagery (B e Surface (Water-St. MLRA Salt Crus Aquatic in Hydroger Oxidized Presence Recent in Stunted of Other (Ex	ained Leav 1, 2, 4A, it (B11) invertebrate in Sulfide O Rhizosphe in Greduct in Reduct on Reduct or Stressed kplain in Re	and 4B) es (B13) dor (C1) eres along ed Iron (C tion in Tille d Plants (I emarks)	j Living Ro (4) ed Soils (C	ots (C3) \geq	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLO Vetland Hyd Surface YHigh Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Observi	drology Indicators ators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) of or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial ovegetated Concaverations: or Present?	Imagery (B	Water-St. MLRA Salt Crus Aquatic li Hydroger Oxidized Presence Recent lr Stunted (c) (7) Other (E)	ained Leav 1, 2, 4A, it (B11) nvertebrate n Sulfide O Rhizosphe of Reduc- on Reduct or Stressed xplain in Re-	es (B13) odor (C1) eres along ed Iron (C cion in Tille d Plants (I emarks)	j Living Ro (4) ed Soils (C	ots (C3) \geq	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLO Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Observ Surface Water Vater Table	drology Indicators ators (minimum of a Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial at Vegetated Concaverations: er Present?	Imagery (B e Surface (Water-St. MLRA Salt Crus Aquatic in Hydroger Oxidized Presence Recent in Stunted of Other (Extended) B8) No Depth (in	ained Leavanne Leavan	es (B13) dor (C1) eres along ed Iron (C ion in Tille d Plants (I emarks)	Living Ro (4) ed Soils (C (C) (LRR A	ots (C3) \(\sum_{\text{c}} \)	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGO Vetland Hyde Primary Indice Surface Y High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Observice Water Table Saturation Princludes cap	drology Indicators ators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aerial or Vegetated Concav rations: er Present? Present?	Imagery (Bree Surface (Water-St. MLRA Salt Crus Aquatic in Hydroger Oxidized Presence Recent in Stunted of Other (Extended of the companion	ained Leavanne A. 1, 2, 4A, at (B11) invertebrate in Sulfide Of Reduction Reduction Reduction Stressed explain in Reduction Stressed explain Stressed explain Stressed explain in Reductio	es (B13) eldor (C1) eres along ed Iron (C ion in Tille d Plants (I emarks)	Living Ro (4) ed Soils (C (C) (LRR A	ots (C3) 2 6) A)	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Surface Saturation Water M Sediment Drift Dep Algal Ma Iron Dep Surface Inundation Sparsely Field Observ Surface Water Table Saturation Princludes cap Describe Rec	drology Indicators ators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aerial or Vegetated Concav rations: er Present? Present?	Imagery (Bree Surface (Water-St. MLRA Salt Crus Aquatic in Hydroger Oxidized Presence Recent in Stunted of Other (Extended) B8) No Depth (in	ained Leavanne A. 1, 2, 4A, at (B11) invertebrate in Sulfide Of Reduction Reduction Reduction Stressed explain in Reduction Stressed explain Stressed explain Stressed explain in Reductio	es (B13) eldor (C1) eres along ed Iron (C ion in Tille d Plants (I emarks)	Living Ro (4) ed Soils (C (C) (LRR A	ots (C3) 2 6) A)	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)
YDROLOG Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Observ Surface Water Table Saturation Princludes cap Describe Rec	drology Indicators ators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavitations: ar Present?	Imagery (B e Surface (es es res	Water-St. MLRA Salt Crus Aquatic in Hydroger Oxidized Presence Recent in Stunted of Other (Extended of the companion	ained Leavanne Leavan	es (B13) es (B13) edor (C1) eres along ed Iron (Cition in Tille d Plants (I emarks) JA revious in	Living Ro (4) ed Soils (C (5) (1) (LRR A Wet	ots (C3) 6) A) land Hydro	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Broke William Cally War 21		and the	1001 (1 Sampling Date: 4 115/2
Applicant/Owner: Callberrill Santan	Oceta	City/County: TIVII	Sampling Date:
Applicant/Owner: (All Delvilla Sull TAV)	11/12/11	CF	State: Sampling Point:
Investigator(s): Lindy Willox, JORP			
			convex, none): Nov. Slope (%): 15
Subregion (LRR): A, MRA - 416	Lat: <u>4(</u>	1.097752,	Long: -123. 792331 Datum: WGS89
Soil Map Unit Name: Tannin-Burgsblock	Rockygi	un Complex	30-50 NNWI classification: 1 W
Are climatic / hydrologic conditions on the site typical for	this time of ye	ar? Yes No _	(If no, explain in Remarks.)
			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing		ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No 🔏		
Hydric Soil Present? Yes	No X	Is the Sampled within a Wetlar	
Wetland Hydrology Present? Yes	No	within a vvetiar	tesNo/
Remarks: Mfill prism about			
Plught munitaling index o	Uts which	avec in " o	x theme drought "Conditions
VEGETATION – Use scientific names of pla	onto	s dired in 3	Attella groups and tracks
Market the market the state of		5 11 11 1	
Tree Stratum (Plot size: 30 (+	% Cover	Dominant Indicator Species? Status	Dominance Test worksheet:
1 Pseudotsuga menziesij			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Arburus munziesai	15	VIVL	1
3.	N. N		Total Number of Dominant Species Across All Strata: (8)
4			1
Santing/Shaib Stratum (Diet size) * CA		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 331 (A/B)
Sapling/Shrub Stratum (Plot size: 5ft.) 1. ACCY MIXIX ON Y IV	2	FACU	Prevalence Index worksheet:
2 Pubus armaniacus			Total % Cover of: Multiply by:
3. Rosa Nutkana		FAC	OBL species x 1 =
4			FACW species x 2 =
5.			FAC species x 3 =
W 0.00	17	= Total Cover 3.5	FACU species x 4 =
Herb Stratum (Plot size: 5 Ft.)		* C.	UPL species x 5 =
1. Holcus lanates		FAC	Column Totals: (A) (B)
2. Tristtum ceinuum	2	FACU	Prevalence Index = B/A =
3. Myoroha sylvatica	15	V FAC	Hydrophytic Vegetation Indicators:
4. Carx hindessoni		TAC	1 - Rapid Test for Hydrophytic Vegetation
5. Stilleria medica		- FACU	2 - Dominance Test is >50%
6. Ne mo phila heterophylla		NF_	3 - Prevalence Index is ≤3.0'
7. Polystichum munitum		-V FACO	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8			5 - Welland Non-Vascular Plants
9			Problematic Hydrophytic Vegetation¹ (Explain)
10 11.			Indicators of hydric soil and wetland hydrology must
11,	71	= Total Cover 19.5	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 5 ft.)	2-	= Total Cover G.2	
1. Hedera hulix	70_	V FACU	Hydrophytic
2			Vegetation
1	70	= Total Cover	Present? Yes No X
% Bare Ground in Herb Stratum			
Remarks: Baregrand in hub stratu			

Profile Des	cription: (Describ	e to the dep	th needed to docu	nent the i	ndicator	or confir	m the abse	nce of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc2	Texture	
0-3	107R3/2	100	_/	1	1	1	SEL	
3-241	104R4/3	100	Linesvill					fill Wasphart
	10 YF 6/6	70	all mats	X	Sout			
-		_	101013 - V	10+10	904			
	10 YR3/2	_20_	(0/01)					
			104R4/6		_C_	W		
-	-					-		
	-			- —		_	-	•
								2
			Reduced Matrix, C			d Sand G		² Location: PL=Pore Lining, M=Matrix
		icable to all	LRRs, unless othe		ed.)			cators for Problematic Hydric Soils ³ :
Histoso	` '		Sandy Redox (2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix					Red Parent Material (TF2)
	istic (A3)		Loamy Mucky			MLRA 1		Very Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed)		_	Other (Explain in Remarks)
	d Below Dark Surfa	ice (A11)	Depleted Matri				3, ,,	
	ark Surface (A12)		Redox Dark Su					cators of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark		.7)			retland hydrology must be present,
	Gleyed Matrix (S4) Layer (if present):		Redox Depress	sions (Fo)			u	nless disturbed or problematic.
_	Layer (II present):							
Type:							1	
Depth (in	iches):						Hydric	Soil Present? Yes No X
HYDROLO								
	drology Indicator						-	
		one require	d; check all that app				<u>s</u>	econdary Indicators (2 or more required)
	Water (A1)			ined Leav		xcept	_	_ Water-Stained Leaves (B9) (MLRA 1, 2,
_	ater Table (A2)			1, 2, 4A, i	and 4B)			4A, and 4B)
	ion (A3)		Salt Crus				_	_ Drainage Patterns (B10)
	/larks (B1)			vertebrate				Dry-Season Water Table (C2)
Sedime	nt Deposits (B2)		Hydrogen		` '		_	_ Saturation Visible on Aerial Imagery (C9)
Drift De	posits (B3)				_		oots (C3) _	_ Geomorphic Position (D2)
Algal M	at or Crust (B4)		Presence		,	,		_ Shallow Aquitard (D3)
Iron De			Recent In	on Reducti	on in Tille	d Soils (C	C6) _	_ FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted o	r Stressed	Plants (D	1) (LRR	A) _	Raised Ant Mounds (D6) (LRR A)
Inundat	ion Visible on Aeria	l Imagery (B	7) Other (Ex	plain in Re	emarks)		_	Frost-Heave Hummocks (D7)
Sparsel	y Vegetated Conca	ve Surface (B8)			-		
Field Obser	rvations:							
Surface Wa	ter Present?	Yes	No <u>L</u> Depth (ir	iches): 🗘	UA	_		
Water Table	Present?	Yes	No <u></u> Depth (ir	nches): 🗘	JIA			
Saturation F		Yes	No <u>*</u> Depth (ir	nches): 🗘	MA	_ We	tland Hydro	ology Present? Yes No X
	pillary fringe) ecorded Data (strea	m daude mi	onitoring well, aerial	photos pr	evious in	pections) if available	3.
Pesoline Ke	conded Data (Silea	iii gauge, illi	ormoring well, delial	priotos, pi	CAIONO ILI	POOLIO 19	,, ii avaliavit	
Remarks:						_		

7
Di

r Geologists, Inc.	2/17/22
Project/Site: Garberville (Carberville Sociles) District	City/County: Humboldt Sampling Date: 2/17/23
Applicani/Owner:	State: <u>CA</u> Sampling Point: <u>TP 14</u>
	Section, Township, Range:
Landform (hillstope, terrace, etc.): Hills of swale	
Subregion (LRR): A, MLRA-4B Lat: 10.	Long: -123.793774° Datum: WGS 84
Soil Map Unit Name: Dryfield-York north - Witherell	complex 5- 30% (667) www classification: None
Are climatic / hydrologic conditions on the site typical for this time of year	ar? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly of	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil or Hydrology naturally prol	blematic? (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	
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes NoX	within a Wetland? Yes No
Prexcavated at law point in hillshope sw	ale. Stream is ~ 20 ft south of TP, poloneal
VEGETATION – Use scientific names of plants.	
Tree Stratum (Plot size: 30 +) Absolute % Cover	Dominant Indicator Species? Status Number of Positional Species
1. Querus hellargii 15	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Punu cerasiteta) 10	NI N
3,	Total Number of Dominant Species Across All Strata: (B)
4	
Sapling/Shrub Stratum (Plot size: 5ft 25	= Total Cover Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1. Ruby ormeniacy 8	Prevalence Index worksheet:
2.	Total % Cover of: Multiply by:
3	OBL species x 1 =
4	FACW species x 2 =
5	FAC species x 3 =
Herb Stratum (Plot size: 5ff)	= Total Cover
1. Phalaris Aguatica	UPL species x 5 = (B)
2 Festuca al moinacea 80	N GV
3. Dactylis Glanerata 3	Prevalence index = B/A =
	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5.	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
6	
7	
8	data in Remarks or on a separate sheet)
9	5 - Wetland Non-Vascular Plants ¹
10:	Problematic Hydrophytic Vegetation ¹ (Explain)
11,	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	= Total Cover 453 be present, unless disturbed or problematic.
1	——— Hydrophytic
2.	Vegetation
12	= Total Cover Present? Yes No
% Bare Ground in Herb Stratum 12 Remarks:	
Passe Leboceau cour. Bore grand in	uder thatch+Litter
U	



SOIL		Sampling Point: 1 Good
Profile Description: (Describe to the de	pth needed to document the indicator or confirm the	absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	A 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Texture Remarks
1-26+ 104R3/3 RO	7.54R3H -12 C M	SICL MIXED MOTITIES
10V8 2/2 2A	17/1/	
10/10/12		VIOCC. Charcoa + 9 ans
	والمراجع المستوال والمستوال	
¹ Type: C=Concentration, D=Depletion, RN	I=Reduced Matrix, CS=Covered or Coated Sand Grains	The state of the s
Hydric Soil Indicators: (Applicable to a	I LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosoi (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (\$1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		6.45
Depth (inches):		ydric Soil Present? Yes No
Remarks:		yane don't resent! Tes No
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require	ed; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	
		Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (0	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (E	37) Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface	(B8)	
Field Observations:		
Surface Water Present? Yes	No X Depth (inches): NA	
Water Table Present? Yes	No Depth (inches): VA	
	1-14	V
Saturation Present? Yes (includes capillary fringe)	No Depth (inches): NA Wetland	Hydrology Present? Yes No
	onitoring well, aerial photos, previous inspections), if av-	ailable:
A CANADA TANADA MATANATA CANADA CANADA	, , , , , , , , , , , , , , , , , , , ,	
Remarks:	71-1	
Normal rotall priod.	LOST rain ~ & days prion	
well droned soit and.	last rains ~ 3 days prion	
	•	

Manufring Engineers WETLAND DETERMINATION DATA FO	DRM – Western Mou	ntains, Valleys, and	d Coast Region
k Geologists, Inc.			- , ,
Project/Site: Garberville Sanitary District	City/County: Humbold:	- 04	Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District Investigator(s): Joseph Saler, Cindy Wilcox		State; CA	Sampling Point: 17 12
Landform (hillslope, terrace, etc.):	Section, Township, Ra	nge:	
Landform (hillslope, terrace, etc.):	Local relief (concave,	convex, none): None	Slope (%):
Subregion (LRR): A, MLRA-4B Lat:	10.047 160	Long: 123.17	Datum: VVGS 64
Soil Map Unit Name: Dry field - Yorknorth-with			
Are climatic / hydrologic conditions on the site typical for this time o			
Are Vegetation, Soil, or Hydrology significal Are Vegetation, Soil, or Hydrology naturally		"Normal Circumstances" p seded, explain any answe	present? Yes X No
SUMMARY OF FINDINGS – Attach site map show			,
T - 15	ing sampling point i	ocations, transects	, important leatures, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled within a Wetlan		_ No X
TP excavated at Slight break in lope	in field.		
VEGETATION – Use scientific names of plants.			
Tree Stratum (Plot size: 30) Absol		Dominance Test work	1
1	ver Species? Status	Number of Dominant S That Are OBL, FACW,	
2.		Total Number of Domir	1
3		Species Across All Stra	
4		Percent of Dominant S	
Sapling/Shrub Stratum (Plot size:	= Total Cover	That Are OBL, FACW,	
1,		Prevalence Index wor	
2.		Total % Cover of: OBL species	Multiply by: x 1 =
3			x 2 =
4			x 3 =
5	T.110		x 4 =
Herb Stratum (Plpt size:	= Total Cover	UPL species	x 5 =
1. Augustis Stolenitory 70	FAC	Column Totals:	(A) (B)
2. feltura armainarea 9	FAC	Prevalence Index	c = B/A =
3. Adhilathy odoration 25	FACU	Hydrophytic Vegetati	on Indicators:
5. Hypochaens Cadicata 2	- FACU	1 - Rapid Test for	Hydrophytic Vegetation
	FACY	2 - Dominance Tes	
6		3 - Prevalence Ind	
8		data in Remark	Adaptations ¹ (Provide supporting s or on a separate sheet)
9		5 - Wetland Non-V	'ascular Plants ¹
10,		Problematic Hydro	phytic Vegetation ¹ (Explain)
11,		¹ Indicators of hydric so be present, unless dist	il and wetland hydrology must
Woody Vine Stratum (Plot size:	= Total Cover 55	be present, unless dist	uibed of problematic.
1.		Hydrophytic	
2.		1100000000	
Q	= Total Cover	Present? Ye	es No X
% Bare Ground in Herb Stratum	N	1	7
Vertation celetively homogeness	won rilling	red lillslope no	arture
Vojetini (olovisi)	AND COLUMN		

0		
э	OI	ш



		Sampling Point: 12 God
Profile Description: (Describe to the dep	oth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (maist) %	Color (moist) % Type Loc²	Texture Remarks
0-9 104K3/2 70		SICL MIXED MATRICES
10YR 3/3 30		
4-74+ 11/0 2/3 06		C'A North I
1210000		Sic Anxedmatrices
10YK3/L 3		100000000
	·	
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covered or Coated Sand Gra	ains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis ³ :
Histosol (A1)	Sandy Redox (S5)	
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Red Farent Material (TF2) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	Canor (Explain in Memarks)
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3 Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		N
Depth (inches):		Hydric Soil Present? Yes No
0		Tryunc Son Present? Tes No
Well drained Shiping s	soils, becoming more day	WITH doth
. 0	γ	
	J	V
HYDROLOGY	J	V
HYDROLOGY Wetland Hydrology Indicators:	V	
HYDROLOGY	V	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators:	d; check all that apply)	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require	d; check all that apply) Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	d: check all that apply) 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 Root	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	d; check all that apply) Water-Stained Leaves (89) (except	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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)	d; check all that apply) — 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 Root — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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)	d; check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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 (B	d; check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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 (B') Sparsely Vegetaled Concave Surface (I	d; check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required) 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 (B') Sparsely Vegetaled Concave Surface (I) Field Observations:	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the 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 (B) Sparsely Vegetaled Concave Surface (Incided Observations: Surface Water Present? Yes	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the 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 (B) Sparsely Vegetaled Concave Surface (Incided Observations: Surface Water Present? Yes	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8) Depth (inches):	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)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the 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 (B of the surface (BF)) Sparsely Vegetaled Concave Surface (BF) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8) Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required one 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 (Billian Sparsely Vegetaled Concave Surface (Incided Concave Surface (Incid	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required one 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 (Billian Sparsely Vegetaled Concave Surface (Incided Concave Surface (Incid	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8) Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B') Sparsely Vegetaled Concave Surface (I) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes [includes capillary fringe) Describe Recorded Data (stream gauge, model)	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the primary Indicators (Marker (Mark	d; check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Depth (inches): Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) is (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the primary Indicators (Marker (Mark	d; check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Depth (inches): Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) is (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the primary Indicators (Marker (Mark	d: check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) is (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required of the primary Indicators (Marker (Mark	d; check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Depth (inches): Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) is (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No

(27	7
CILL	
Consulting Engir	

t Geologists, Inc.			-	2/11/2
Project/Site: Garberville	City/0	County: Humboldt		Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District			State: CA	Sampling Point: 11 16
Investigator(s): Joseph Saler, Cindy Wilcox		on, Township, Ran		
Landform (hillslope, terrace, etc.): Hillslope	Loca	I relief (concave, c	onvex, none): None	Slope (%): 3 1/
Subregion (LRR): A, MLRA-4B	Lat: 40.0	14943'	Long: -123. 192	Datum: WGS 84
Soil Map Unit Name: 667- Dyfield- York north.	-witherell	complex 5	-30% NWI classific	ation: None
Are climatic / hydrologic conditions on the site typical for this t				
Are Vegetation, Soil, or Hydrology sig			Normal Circumstances" p	V
Are Vegetation, Soil, or Hydrology nal			eded, explain any answer	
SUMMARY OF FINDINGS – Attach site map si				•
Hydrophytic Vegetation Present? Yes X No				11
Hydric Soil Present? Yes No	X	is the Sampled	Area	
Wetland Hydrology Present? Yes No		within a Wetland	d? Yes	No
Remarks: TP excavated Within Sloping field	iffin, l	n pipeline	trench which	ch appears to
carry & saturation and Stormi	noter t	ste our	race giving	artificial hydrolay
VEGETATION - Use scientific names of plants	S.			
	Absolute Dor	minant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size:	% Cover Spe	ecies? Status	Number of Dominant Sp That Are OBL, FACW, of	
3.			Total Number of Domini Species Across All Stra	1000
4			Percent of Dominant Sp	pecies (AA X
Sapling/Shrub Stratum (Plot size:		otal Cover	That Are OBL, FACW, o	
1,			Prevalence Index work	
2			Total % Cover of:	
3				x 1 = x 2 =
4				x2=
5				x 4 =
Herb Stratum (Plot size; 5++	= To	otal Cover		x 5 =
1. Acrostis Stolentera	87 1	FAC		(A) (B)
2. Runex acetoscia 1	1	FACU		
3. Arthaxarhun, Odoratur	76	FACU	Hydrophytic Vegetation	= B/A =
4 Totalium subermen	4	NZ		Hydrophytic Vegetation
5. Hypochagus radicata	1	FACU	2 - Dominance Tes	
6			3 - Prevalence Inde	
7,			4 - Morphological A	Adaptations ¹ (Provide supporting
8			data in Remarks	s or on a separate sheet)
9			5 - Wetland Non-Va	
10				phytic Vegetation ¹ (Explain)
11.	102		'Indicators of hydric soi be present, unless distu	and wetland hydrology must
Woody Vine Stratum (Plot size:	103_= то	ital Cover	Do prodont, unloss dista	indea of problemate.
1			11-4	
2,			Hydrophytic Vegetation	V
Ø	= To	otal Cover	Present? Yes	s No
% Bare Ground in Herb Stratum		1		
Agrostis (over ligher in former	- trench	· location	where grand	water
is intercepted.			J	

sampling Point: TP 6 sulting fingineers Geologists, Inc.

Depth Matrix		x Features	cator or cor	min the ab	sence of indicators.)
(inches) Color (mojst) %	Color (moist)		ype' Loc	Text	ure Remarks
1-16+ 104R4/3 95	7.5 YR 3/3	5	CM	L Si	<u> </u>
	-				
				_	
		==			
ype: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS	S=Covered or	Coated San	d Grains.	² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to	all LRRs, unless other	wise noted.)		ln	dicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S	•		_	_ 2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix				Red Parent Material (TF2)
 Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) 	Loamy Mucky M Loamy Gleyed I	Matrix (F2)	except MLR	A 1)	Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
_ Depleted below Dark Surface (ATT) _ Thick Dark Surface (A12)	Depleted Matrix Redox Dark Suit	, ,		31,	ndicators of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Depleted Dark S			"	wetland hydrology must be present,
_ Sandy Gleyed Matrix (S4)	Redox Depress	, ,			unless disturbed or problematic.
estrictive Layer (if present):					
Туре:					
Depth (inches):				Hydri	c Soil Present? Yes No 🔀
etland Hydrology Indicators:					
/etland Hydrology Indicators: rimary Indicators (minimum of one requ					Secondary Indicators (2 or more required)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requ Surface Water (A1)	Water-Stai	ned Leaves (Water-Stained Leaves (B9) (MLRA 1, 2,
etland Hydrology Indicators: imary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2)	Water-Stai	ned Leaves (1, 2, 4A, and			Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
retland Hydrology Indicators: timary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stai MLRA Salt Crust	ned Leaves (1, 2, 4A, and (B11)	4B)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
retland Hydrology Indicators: rimary Indicators (minimum of one requipment of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stai MLRA Salt Crust Aquatic Inv	ned Leaves (1, 2, 4A, and (B11) vertebrates (B	4B)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
etland Hydrology Indicators: imary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor (4B) (C1)		 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
etland Hydrology Indicators: imary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R	ned Leaves (1, 2, 4A, and (B11) vertebrates (B	4B) i13) (C1) along Living		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)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor (thizospheres	4B) i13) (C1) along Living on (C4)	Roots (C3)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requisions 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)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iroi Stunted or	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor (thizospheres of Reduced Ir	4B) (C1) along Living on (C4) n Tilled Soils	Roots (C3)	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)
retland Hydrology Indicators: rimary Indicators (minimum of one requisions) 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	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or (B7) Other (Exp	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor of thizospheres of Reduced Iron n Reduction in	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3)	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)
retland Hydrology Indicators: rimary Indicators (minimum of one requisions) 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 Sparsely Vegetated Concave Surface	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or (B7) Other (Exp	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3)	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)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requisions) 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 Sparsely Vegetated Concave Surfaceld Observations:	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Irol Stunted or (B7) Other (Exp	ned Leaves (1, 2, 4A, and (B11) vertebrates (B) Sulfide Odor (B) Chizospheres of Reduced Irin Reduction in Stressed Plaidain in Reman	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3)	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)
rimary Indicators (minimum of one requisions) 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 Sparsely Vegetated Concave Surface ald Observations: Urface Water Present? Yes	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or (B7) Other (Exp e (B8) Depth (inc	ned Leaves (1, 2, 4A, and (B11) rertebrates (B Sulfide Odor (thizospheres of Reduced Into Reduction in Stressed Pla clain in Reman	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3)	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)
rimary Indicators (minimum of one requisionary Indicators (Max) 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 Sparsely Vegetated Concave Surface But Observations: Urface Water Present? Yes Sater Table Present?	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or (B7) Other (Exp e (B8) Depth (inc	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor of thizospheres of Reduced Iron Reduction in Stressed Platalain in Remarkables):	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3) s (C6) R A)	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)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requisionary Indicators (minimum of one requisionary Indicators (minimum of one requisionary Indicators (Male Marks (Male	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp e (B8) No Depth (inc	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor (Bhizospheres of Reduced Into Reduction in Stressed Platilain in Remarkables): Shes): 1	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3) (C6) R A) Vetland Hyd	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)
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 Sparsely Vegetated Concave Surfactield Observations: urface Water Present? Yes Vater Table Present?	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp e (B8) No Depth (inc	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor (Bhizospheres of Reduced Into Reduction in Stressed Platilain in Remarkables): Shes): 1	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3) (C6) R A) Vetland Hyd	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)
retland Hydrology Indicators: rimary Indicators (minimum of one requisitions) 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 Sparsely Vegetated Concave Surface Bid Observations: Urface Water Present? Ves Vaturation Present?	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or Other (Exp e (B8) No Depth (inc	ned Leaves (1, 2, 4A, and (B11) vertebrates (B Sulfide Odor of thizospheres of Reduced Iron Reduction in Stressed Pladain in Remarkables): Ches): Ches	4B) (C1) along Living on (C4) n Tilled Soils nts (D1) (LR	Roots (C3) (C6) R A) Vetland Hyd	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)



Consulting Engineers & Geologists, Inc. WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Garberville	City/Cou	nty: Humboldt		Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District	Oily/Coo		State: CA	Sampling Point: 1P17
1 O. 1. O'. 1. MI	Section,			Camping Cont.
				Slone (%): 2-5
Subregion (LRR): A, MLRA-4B	1 40 MH	054°	1000: -123.793	Slope (%): 2-5 137° Datum: WGS 84
Soil Map Unit Name: 667-Dryfield -yorknorth	- Witherell com	plec 5-30	b% NIMI classific	ation: None
Are climatic / hydrologic conditions on the site typical for t				
Are Vegetation, Soil, or Hydrology				resent? Yes X No
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site ma			eded, explain any answer	•
	No X	3 Po		, important routaros, oto.
Hydric Soil Present? Yes		s the Sampled	Area	\vee
Wetland Hydrology Present? Yes		vithin a Wetlan	d? Yes	No
proposed tonh location.	ship fre	ld, near	western edg	je of field in
VEGETATION – Use scientific names of pla				
Tree Stratum (Plot size:)	Absolute Domin <u>% Cover Specie</u>	ant Indicator es? Status	Dominance Test work	
1			Number of Dominant Sp That Are OBL, FACW, of	
2			Total Number of Domin	ant 🔿
3			Species Across All Stra	
4	= Total	Cover	Percent of Dominant Sp That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size:			Prevalence Index wor	
2.			Total % Cover of:	Multiply by:
3.			OBL species	x1 =
4.			. —	x 2 =
5				x3 =
L .	= Total	Cover		x 4 =
Herb Stratum (Plot size: 511)	40	Bul		x 5 =
1. Hypechaens radicata 2. Intelium Supremeur	- 112 -	- Incu	Column Totals:	(A) (B)
3. Phaloris aquesica		FACIA		= B/A =
4 Ayroutis Strontorg	-3	FAC	Hydrophytic Vegetatio	
5. Annoxann oderatur	5	PACU	1 - Rapid Test for F	Hydrophytic Vegetation
6. FASTUCA MULTAS	3	FACU	3 - Prevalence Inde	
7. Rumex acostosella		PACU		Adaptations ¹ (Provide supporting
8.			data in Remarks	s or on a separate sheet)
9	->		5 - Wetland Non-Va	
10				phytic Vegetation ¹ (Explain)
11.	9/	- 49	be present, unless distu	I and wetland hydrology must irbed or problematic.
Woody Vine Stratum (Plot size:	96= Total	Cover 101		
1.			Hydrophytic	
2			1 1/2 - 4 4 4 4 4	s No X
N P 0	= Total	Cover	Present? Yes	s No - \
% Bare Ground in Herb Stratum				
Vegetation disturbed. Post mawin	g and vel	icle Mo	Venet Jone	soil grading

ampling Point: TP Toling Engineers ologists, Inc.

		Sampling Point: 17 17 olog
Profile Description: (Describe to the dept	h needed to document the indicator or confirm the	he absence of indicators.)
Depth Matrix	Redox Features	200.00
(inches) Color (moist) %	Color (moist) % Type Loc2	Texture Remarks
D-1 7.54R4/4 10		SICL MIXED motices
- 10yk 3/3 40		
1-24+ 7.5 484/4 90	/ / / /	SiC Mived Motives
10 VR 3/3 10	————·	THE INDITION
ļ		
¹Type: C=Concentration D=Depletion RM=	Reduced Matrix, CS=Covered or Coated Sand Grain	ns. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all I		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	-
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):	Redox Depressions (F8)	unless disturbed or problematic.
	<u> </u>	
Type: Depth (inches):	_	
		Hydric Soil Present? Yes No
Soils have been dus	TO SEE THE PARTY.	
HYDROLOGY		
HYDROLOGY Wetland Hydrology Indicators:		
	; check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (89) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	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	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	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 Presence of Reduced Iron (C4)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches):	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B Field Observations: Surface Water Present? Water Table Present? Yes N	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches):	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B7 Field Observations: Surface Water Present? Yes N Water Table Present? Yes N	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches):	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (BFIELD Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N Sincludes capillary fringe)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches):	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B7 Field Observations: Surface Water Present? Yes N Saturation Present? Yes N Saturation Present? Yes N Includes capillary fringe) Describe Recorded Data (stream gauge, mon	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): NA Wetland Wetland	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B7 Field Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N Includes capillary fringe) Describe Recorded Data (stream gauge, more	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): NA Wetland Wetland	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) d Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (BFIeld Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N (includes capillary fringe) Describe Recorded Data (stream gauge, more	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): NA Wetland Wetland	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)

(0	7	77
5		Z	
		g Eng	
Rr i	Geolo	visls	Inc.

r Geologists, Inc. Project/Site: Garberville	ou io Humboldi	•	Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District	City/County: Humboldt	CA CA	Sampling Date:
			Sampling Point:
	Section, Township, Ra		
Landform (hillslope, terrace, etc.): _hillslope			
Subregion (LRR): A, MLRA-4B	Lat: 40.095018	Long: -123.793	Datum: WGS 84
Soil Map Unit Name: 667-Dy field-Yorknorth-	vitherell complex 5-30	NWI classific	cation: None
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes X No _	(If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology s	ignificantly disturbed? Are	"Normal Circumstances"	present? Yes 🗼 No
Are Vegetation, Soil, or Hydrology n		eeded, explain any answe	
SUMMARY OF FINDINGS - Attach site map		ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes N	×		110
Hydric Soil Present? Yes No	s the Sampled		Y
Wetland Hydrology Present? Yes No	within a Wetlan	nd? Yes	No 🔼
Remarks: TP EXCAVATED in Sloping, moved	field. Well-drai	ined	
VEGETATION – Use scientific names of plan	ts.		
	Absolute Dominant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size:) 1	% Cover Species? Status	Number of Dominant S That Are OBL, FACW,	V)
3.		Total Number of Domir Species Across All Stra	The state of the s
4	= Total Cover	Percent of Dominant S	pecies Ø
Sapling/Shrub Stratum (Plot size:	- Total Cover	That Are OBL, FACW,	- 100
1-		Prevalence Index wor	
2		Total % Cover of:	
3			x 1 =
4			x 2 =
5.		1	x 3 =
5. F.	= Total Cover		x 4 = x 5 =
Herb Stratum (Plot size: 511)	72 V 50011		(A) (B)
1. Hathexinthum adoratum 2. Hupochaeris Malicata	TU TACU		
	TACU		c = B/A =
3 Fostiva Myuras	Z Thou	Hydrophytic Vegetati	
4. Holays layatus	3 FAC		Hydrophytic Vegetation
6.	3 FAC	2 - Dominance Te	
		3 - Prevalence Ind	
7			Adaptations ¹ (Provide supporting is or on a separate sheet)
9.		5 - Wetland Non-V	
10		· —	phytic Vegetation¹ (Explain)
11,			il and wetland hydrology must
	162 = Total Cover 51	be present, unless dist	
Woody Vine Stratum (Plot size:	100 - Total Cover 20.4		
1		Hydrophytic	
2.		Vegetation	Y
OX	= Total Cover	Present? Ye	os No
% Bare Ground in Herb Stratum			
relatively homogenous	insurandia mee	a. Moved.	
	J		

Sampling Point: 19 18 & Geologists, Inc.

Depth Matrix	th needed to document the indicator or confirm	the absence of malcators.)
inches) Color (moist) %	Redox Features Color (moist) % Type Loc²	Texture Remarks
1-24+ 7.58R 4/3 100		SiC
	Reduced Malrix, CS=Covered or Coated Sand Gra	ains. ² Location; PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
_ Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
_ Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
_ Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	3
_ Thick Dark Surface (A12) _ Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7)	wetland hydrology must be present,
estrictive Layer (if present):	Redox Depressions (F8)	unless disturbed or problematic.
Type	-	
Depth (inches):		Hydric Soil Present? Yes No X
Soils homograus		
/DROLOGY		
YDROLOGY Wetland Hydrology Indicators:	t; check all that apply)	Secondary Indicators (2 or more required)
/DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required		Secondary Indicators (2 or more required) Water-Stained Leaves (R9) (MLRA 1, 2
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required _ Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required _ Surface Water (A1) _ High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required _ Surface Water (A1) _ High Water Table (A2) _ Saluration (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
TDROLOGY Tetland Hydrology Indicators: Timary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
PROLOGY Petland Hydrology Indicators: rimary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	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 Rool	— Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C9 is (C3) — Geomorphic Position (D2)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	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 Rool Presence of Reduced Iron (C4)	— Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C9 is (C3) — Geomorphic Position (D2) — Shallow Aquitard (D3)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saluration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	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)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required _ Surface Water (A1) _ High Water Table (A2) _ Saluration (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3) _ Algal Mat or Crust (B4) _ Iron Deposits (B5) _ Surface Soil Cracks (B6)	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
POROLOGY Vetland Hydrology Indicators: Imary Indicators (minimum of one required 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)	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	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)
TDROLOGY Tetland Hydrology Indicators: Timary Indicators (minimum of one required 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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
POROLOGY Tetland Hydrology Indicators: Itimary Indicators (minimum of one required 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 (Beld Observations:	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required 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 (B1 leld Observations: urface Water Present? Yes	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
/DROLOGY /etiand Hydrology Indicators: rimary Indicators (minimum of one required 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 (Beld Observations: urface Water Present? //eter Table Present? Yes	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): No Depth (inches): N/A	— Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C9) — Shallow Aquitard (D3) — FAC-Neutral Test (D5) — Raised Ant Mounds (D6) (LRR A) — Frost-Heave Hummocks (D7)
Vetland Hydrology Indicators: rimary Indicators (minimum of one required 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 (B1 Indicated Water Present? Ves	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): No Depth (inches): N/A	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Vetland Hydrology Indicators: Irimary Indicators (minimum of one required 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 (Beld Observations: urface Water Present? Ves for advanced to the control of the co	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): No Depth (inches): N/A	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 as (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Vetland Hydrology Indicators: Inimary Indicators (minimum of one required 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 (Beld Observations: urface Water Present? Vater Table Present? Yes indudes capillary fringe)	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 (C3)) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Vetland Hydrology Indicators: Inimary Indicators (minimum of one required 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 (Beld Observations: urface Water Present? Ves	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): No Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 as (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required 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 (B1) Indicator Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B1) Indicator Visible on Aerial Imagery (B7) Indicator Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B1) Indicator Visible on Aerial Imagery (B7) Indicator Visible on Aerial Imagery (B7) Indicator Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B1) Indicator Visible on Aerial Imagery (B7) Indicator Visible o	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): No Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 as (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Vetland Hydrology Indicators: Inimary Indicators (minimum of one required 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 (Beld Observations: urface Water Present? Ves	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 Rool Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Wetla	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 as (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

(2VV)
CILL
Consulting Engineers

Project/Site: Garberville	City/County:_Humboldt	Sampling Date: 5/9/23
Applicant/Owner: Garberville Sanitary District		State: CA Sampling Point: TP 19
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Rar	nge:
Landform (hillslope, terrace, etc.): Hillsope, Toad Cut		convex, nane): Nove Slope (%): 38
Subregion (LRR): A, MLRA-4B	Lat: 40.095423°	Long: -123.79 4596° Datum: WGS 84
Soil Map Unit Name: 461=Tannin - Burgsblock	- Rockyglen comple	4 30 -59 Wil classification: None
Are climatic / hydrologic conditions on the site typical for this	, , , , , ,	
Are Vegetation, Soil, or Hydrology sign	gnificantly disturbed? Are "I	Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology na	iturally problematic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map s	howing sampling point lo	ocations, transects, important features, etc.
1	Is the Sampled within a Wetlan	~
Remarks: TP, excavated in hillspe, road	cut wetland. Likely a	grandrater table intercepted by
Heroadax that now produces wold	1 1 17) , , ,
VEGETATION - Use scientific names of plant		
	Absolute Dominant Indicator	Dominance Test worksheet:
	% Cover Species? Status	Number of Dominant Species 3
1. Bennorspa MACCOLL	15 FACU	That Are OBL, FACW, or FAC: (A)
2. Salix posiblepis	15 TACW	Total Number of Dominant
3,		Species Across All Strata: (B)
	55 = Total Cover 275	Percent of Dominant Species 60%
Sapling/Shrub Stratum (Plot size: 5ft)	, ,	That Are OBL, FACW, or FAC: (A/B)
1. SENISTA MONTPESOULANA	1 NL	Prevalence Index worksheet:Total % Cover of: Multiply by:
2. Cytou scoparius	5 NL	OBL species x 1 =
3. Kulus ampliacus	X YAC	FACW species x 2 =
4		FAC species x 3 =
5	14 1	FACU species x 4 =
Herb Stratum (Plot size: 547	= Total Cover	UPL species x 5 =
1. Was awardin fimbriata	70 V FACW	Column Totals: (A) (B)
2. Equiserum averse	3 FAC	Prevalence Index = B/A =
3. Blatichum murtum	9 FACY	Hydrophytic Vegetation Indicators:
4 Coota dava phota	10 tacu	1 - Rapid Test for Hydrophytic Vegetation
5. Juneus ethisus	1 +ACW	Z 2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.01
7		4 - Morphological Adaptations¹ (Provide supporting
8		data in Remarks or on a separate sheet)5 - Wetland Non-Vascular Plants¹
10		Problematic Hydrophytic Vegetation ¹ (Explain)
11.		Indicators of hydric soil and wetland hydrology must
	93 = Total Cover 46.5	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:	18.6	
1		Hydrophytic
2		Vegetation Present? Yes No
% Bare Ground in Herb Stratum 7 th ncwy gravel.	= Total Cover	100
Remarks:		1
Herbaceaus vegetation amporition re	stricted to Isolate	d step wetland.
1 1 1 1 1 1 1 1	in ditim.	

SOIL				Sampling Point:
Profile Description: (Describe to the	depth needed to document the i	ndicator or confirm	the absence of	indicators.)
Depth Matrix	Redox Features			
(inches) Color (moist) %		Type Loc2	Texture	Remarks
0-1 104R 2/1 100			Beat	Date
4 (1 12/10 4)			Sil	
1-4 104 2/1 100			JIL _	
4-18 104K 4/1 84	104R 4/6 6	CM	SiL	4.5.3
	- 7.54R5/8 10	C M/01		incenses , I debt
TOTAL TOUR OLD TO		O MILE		increases w depth
18+19+ 104R4/1 10(
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix CS=Covered	or Coaled Sand Gra	ins ² l ocati	on: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to				for Problematic Hydric Soils ³ :
Histosol (A1)		,		· ·
Histic Epipedon (A2)	Sandy Redox (\$5)			fluck (A10)
	Stripped Matrix (S6)	\		arent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1			hallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2))	Other	(Explain in Remarks)
★ Depleted Below Dark Surface (A11)			3	
Thick Dark Surface (A12)	Redox Dark Surface (F6)			of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	7)		hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		unless	disturbed or problematic.
Restrictive Layer (if present):				
Туре:				Service Contract Cont
Depth (inches):			Hydric Soll Pi	resent? Yes X No
Remarks:	726		CALL	
Hard day at 18 inche	· nord · constituter	and Orewall	Ntiltration	
HARD CLAY ON 10 INCHE	D have zell man	and hickory	The state of the s	
10 10 10 10 10 10 10 10 10 10 10 10 10 1				
HYDROLOGY				
HYDROLOGY Wetland Hydrology Indicators:				ary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req	uired; check all that apply)		Seconda	ary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1)	uired; check all that apply) Water-Stained Leave	es (B9) (except	Second:	er-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a	es (B9) (except	Seconda Wat	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11)	es (B9) (except n d 4B)	Seconda Wat	er-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a	es (B9) (except n d 4B)	Seconda Wat Drai	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11)	es (B9) (except nd 4B) s (B13)	Seconda Wat A Drai Dry-	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od	es (B9) (except nd 4B) s (B13) lor (C1)	Seconda Wat A Drai Dry-	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	uired; check all that apply) — Water-Stained Leave MLRA 1, 2, 4A, a — Salt Crust (B11) — Aquatic Invertebrates — Hydrogen Sulfide Oc	es (B9) (except nd 4B) s (B13) lor (C1) es along Living Root	Seconda Wat Drai Dry Satu S (C3)	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) morphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	uired; check all that apply) — Water-Stained Leave MLRA 1, 2, 4A, a — Salt Crust (B11) — Aquatic Invertebrates — Hydrogen Sulfide Oc — Oxidized Rhizospher — Presence of Reduce	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4)	Seconda Wat Drai Dry Satu S (C3) X Geo	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) morphic Position (D2) Illow Aquitard (D3)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg Surface Water (A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	uired; check all that apply) — Water-Stained Leave MLRA 1, 2, 4A, a — Salt Crust (B11) — Aquatic Invertebrates — Hydrogen Sulfide Oc — Oxidized Rhizospher — Presence of Reduce — Recent Iron Reduction	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6)	Seconda Wat Drai Dry Satu s (C3)	er-Stained Leaves (B9) (MLRA 1, 2, AA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) :-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg Surface Water (A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reductio	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Imagery (C9) amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce: Recent Iron Reductic Stunted or Stressed y (B7) Other (Explain in Re	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, AA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) :-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager Sparsely Vegetated Concave Surface	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce: Recent Iron Reductic Stunted or Stressed y (B7) Other (Explain in Re	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Imagery (C9) amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce: Recent Iron Reductic Stunted or Stressed y (B7) Other (Explain in Re	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Imagery (C9) amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager Sparsely Vegetated Concave Surfa	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce: Recent Iron Reductic Stunted or Stressed y (B7) Other (Explain in Re	es (B9) (except nd 4B) s (B13) for (C1) es along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Imagery (C9) amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes	uired; check all that apply) — Water-Stained Leave MLRA 1, 2, 4A, a — Salt Crust (B11) — Aquatic Invertebrates — Hydrogen Sulfide Oc — Oxidized Rhizospher — Presence of Reduces — Recent Iron Reduction — Stunted or Stressed y (B7) — Other (Explain in Reduce (B8)) — No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) es along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, A, and 4B) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Imagery (C9) amorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imagen Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present?	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Reduction to the complete of the com	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)	Seconda Wat Drai Dry Satu S (C3) X Gec Sha FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	uired; check all that apply) — Water-Stained Leave MLRA 1, 2, 4A, a — Salt Crust (B11) — Aquatic Invertebrates — Hydrogen Sulfide Oc — Oxidized Rhizospher — Presence of Reduces — Recent Iron Reduction — Stunted or Stressed y (B7) — Other (Explain in Reduce (B8)) — No Depth (inches):	es (B9) (except nd 4B) s (B13) lor (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks)	Seconda Wat Drai Dry Satu S (C3) X Geo FAC Rais	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Xincludes capillary fringe)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla	Seconda Wat Drai Dry Satu Sha FAC Rais Fros	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla	Seconda Wat Drai Dry Satu Sha FAC Rais Fros	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imagenty Sparsely Vegetated Concave Surfated Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Situration Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla	Seconda Wat Drai Dry Satu Sha FAC Rais Fros	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Ves Saturation Present? Cincludes capillary fringe) Describe Recorded Data (stream gauge	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros Multiple Address Fros The Address of the	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7) Present? Yes No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Ves Saturation Present? Cincludes capillary fringe) Describe Recorded Data (stream gauge	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros Multiple Address Fros The Address of the	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7) Present? Yes No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Ves Saturation Present? Cincludes capillary fringe) Describe Recorded Data (stream gauge	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) es along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros nd Hydrology F	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) urati
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce: Recent Iron Reductic Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches): No Depth (inches): no Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) es along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros nd Hydrology F	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) urati
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge)	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches): No Depth (inches):	es (B9) (except nd 4B) s (B13) for (C1) es along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros nd Hydrology F	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) umorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A) st-Heave Hummocks (D7) Present? Yes No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) X 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 Imager Sparsely Vegetated Concave Surfar Field Observations: Surface Water Present? Water Table Present? Yes Saturation P	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches): No Depth (inches): monitoring well, aerial photos, presence of Recent (inches): The provided of the presence of Recent (inches): The provided of the presence of Reduce (inches): The	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros md Hydrology F f available:	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) urati
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) X 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 Imager Sparsely Vegetated Concave Surfar Field Observations: Surface Water Present? Water Table Present? Yes Saturation P	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stressed y (B7) Other (Explain in Rece (B8) No Depth (inches): No Depth (inches): No Depth (inches): monitoring well, aerial photos, presence of Recent (inches): The provided of the presence of Recent (inches): The provided of the presence of Reduce (inches): The	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root d Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satu Sha FAC Rais Fros md Hydrology F f available:	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) urati
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	uired; check all that apply) Water-Stained Leave MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduces Recent Iron Reduction Stunted or Stressed Y (B7) Other (Explain in Reserved (Inches): No Depth (Inches): Other (Explain in Reserved) Depth (Inches): Other (Inches): Depth (Inches): Other (Inches): Othe	es (B9) (except nd 4B) s (B13) for (C1) res along Living Root of Iron (C4) on in Tilled Soils (C6) Plants (D1) (LRR A) marks) Wetla evious inspections), if	Seconda Wat Drai Dry Satt Geo FAC Rais Fros Md Hydrology F Favailable: Ald Work And 30	er-Stained Leaves (B9) (MLRA 1, 2, IA, and 4B) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imagery (C9) urati

1	-7VV
5	MA
	sulting Engineers

a Geologists, Inc.	5/9/22
Project/Site: Garberville Carbonille Sanitary District	
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Point: 1/20
Visit Delivers of the Control of the	Section, Township, Range:
Landform (hillslope, terrace, etc.): HILS - 10 , roadcut	Local relief (concave, convex, none): Nove Slope (%): 3 (
Subregion (LRR): A, MLRA-4B Lat: 40	.095401° Long: -123.794 579° Datum: WGS 84
Soil Map Unit Name: 461: Tannin - Burg & block-lock	Jaken complex 30-506NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soil, or Hydrology significantly d	
Are Vegetation, Soil, or Hydrology naturally prob	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland? Yes No
Pexcavated on step readout hilslope just	outside at seps wetland recorded @ TP 19.
To Court of the Co	() () () () () () () ()
VEGETATION – Use scientific names of plants.	
30 (L Absolute	Dominant Indicator Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft % Cover	Species? Status Number of Dominant Species
1. Krudotsuga Menzierii 80	That Are OBL, FACW, or FAC: (A)
2	Total Number of Dominant
3	Species Across All Strata: (B)
50	= Total Cover Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Pipt size: 5ff) 1. He teroweles or by 140 0 6	NL Prevalence Index worksheet:
2. Rubw armeracus c 10	Total % Cover of: Multiply by:
3. Unbellularia Californica 1	OBL species x1 =
3. WWW. CALIFORTICA I	FACW species x 2 =
5	FAC species x 3 =
50	= Total Cover 8.5 FACU species x 4 =
Herb Stratum (Plot size: 54+	UPL species x 5 =
1. Bora maxing 6	NL
2 Brown diandres 10	Prevalence index = B/A =
3. Jarilis arvensis 2	Hydrophytic Vegetation Indicators:
4. testuca Myuras 1	1 - Rapid Test for Hydrophytic Vegetation
5	2 - Dominance Test is >50%
6	3 - Prevalence Index is ≤3.01
7	4 - Morphological Adaptations ¹ (Provide supporting
8	data in Remarks or on a separate sheet)
9	5 - Wetland Non-Vascular Plants ¹
10.	Problematic Hydrophytic Vegetation¹ (Explain)
11	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:	= Total Cover be present, unless disturbed or problematic.
1	
2.	Hydrophytic Vegetation
	= Total Cover Present? Yes No
% Bare Ground in Herb Stratum	
Remarks:	at a valletial sale itshe [I]
Ruchard dutt. Veg andtim reflect	steep, well drained readouts lope, forested.
U	

nches)	Color (moist)	%	Color (moist)	lox Features	Type	Loc2	Texture	Remarks
1-1	54R 2.5/2	100					0.m.	duff-needles
- 2	104R 2/2	100					L	Wie 17 Ticco Co
-10+	10 YR 412	549	10YR 4/6	>1	1.	77	EL-CSI	Only a maletack
-101	1012112		1011/1/16			10	God! SL	Redox on ped taxes
		=		=		=		
	oncentration, D=Dep					ed Sand G		cation: PL=Pore Lining, M=Matrix.
	ndicators: (Applic	able to all			ed.)			ors for Problematic Hydric Soils ³ :
_ Histosol			Sandy Redox					m Muck (A10)
_ Histic Ep _ Black His	ipedon (A2)		Stripped Matri Loamy Mucky		1) (6466-	f MI DA 41		Parent Material (TF2)
-	n Sulfide (A4)		Loamy Gleyed	•		CWLKA 1		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	Below Dark Surfac	e (A11)	Depleted Matr	•			_	. , ,
	rk Surface (A12)		Redox Dark S	. ,				ors of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark	•	7)			and hydrology must be present,
	leyed Matrix (S4) ayer (if present):		Redox Depres	ssions (F8)			unles	ss disturbed or problematic.
	ayer (ii present).						T .	
Type: Depth (inc	shae):		_				Hydric Soi	I Present? Yes No 🔀
Dehm find	// ics).						I HYUNG SOL	i Present? Yes no 🔥
Grave	lly few con	ots. R	badout hills	loft, ab	ove	TPI9.		
Grave	1		oadout hills	loft. ab	ove	TP19.		
Grave	GY				ove	TPI9.		
Grave	GY frology Indicators:		d; check all that ap				Seco	indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1
DROLOGETIAND INDICATE SURFACE	GY drology Indicators: ators (minimum of o		d, check all that ap	ply)	es (B9) (¢		Seco	indary Indicators (2 or more required
DROLOGETIAND INDICATE SURFACE	GY drology Indicators: eators (minimum of o Water (A1) ter Table (A2)		d, check all that ap	ply) tained Leav	es (B9) (¢		Seco	indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1
DROLOG etland Hyd mary Indic Surface I High Wa Saturation	GY drology Indicators: eators (minimum of o Water (A1) ter Table (A2)		d; check all that app Water-St MLR/ Salt Crus	ply) tained Leav	es (B9) (c		Seco	indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1 4A, and 4B)
DROLOG etland Hyd mary Indic Surface High Wa Saturatio Water M Sedimen	GY Irology Indicators: eators (minimum of		d, check all that ap Water-St MLRA Salt Crus Aquatic I	ply) tained Leav A 1, 2, 4A , a st (B11)	es (B9) (c and 4B) s (B13)		Seco	ndary Indicators (2 or more required Nater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10)
DROLOG etland Hyd mary Indig Surface High Wa Saturatio Water M Sedimen Drift Dep	GY Irology Indicators: ators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) rosits (B3)		d, check all that app Water-St MLR/ Salt Crus Aquatic I Hydroge Oxidized	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate n Sulfide Oo Rhizosphe	es (B9) (6 and 4B) s (B13) dor (C1) res along	except	Seco \ [[]]	Indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2)
DROLOG etland Hyd mary Indig Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma	GY Irology Indicators: sators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) sosits (B3) t or Crust (B4)		d, check all that app Water-St MLR/ Salt Crus Aquatic I Hydrogel Oxidized Presence	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od Rhizosphe e of Reduce	es (B9) (¢ and 4B) s (B13) dor (C1) res along dd Iron (C	except Living Ro	Seco \ .	Andary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3)
DROLOG etland Hyd mary Indice Surface M High Wa Saturation Water M Sediment Orift Dep Algal Ma Iron Dep	GY trology Indicators: sators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) oth Deposits (B2) sosits (B3) oth or Crust (B4) sosits (B5)		d; check all that apply water-St MLR/ Salt Crus Aquatic I Hydrogel Oxidized Presence Recent lie	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od Rhizosphe e of Reducet ron Reducti	es (B9) (cand 4B) s (B13) dor (C1) res along d Iron (C on in Tille	Except Living Ro (4)	Seco	Indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
DROLOG etland Hyd mary Indice Surface Mary Mary Mary Mary Mary Mary Mary Mary	GY Irology Indicators: sators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) other Deposits (B2) sosits (B3) other Crust (B4) osits (B5) Soil Cracks (B6)	: ane require	d, check all that apply water-St MLR/ Salt Crus Aquatic I Hydrogel Oxidized Presence Recent is Stunted of the control of the c	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od I Rhizosphe e of Reduce ron Reducti or Stressed	es (B9) (¢ and 4B) s (B13) dor (C1) res along d Iron (C on in Tille	Except Living Ro (4)	Seco	Andary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
DROLOG atland Hyden mary Indice Surface I High Wa Saturation Water M Sediment Drift Dep Algal Ma Iron Dep Surface I Inundation	GY Irology Indicators: sators (minimum of of other (A1) ter Table (A2) on (A3) arks (B1) of Deposits (B2) osits (B3) of or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial	: one require	d; check all that apply water-St MLRA Salt Crus Aquatic I Hydrogei Oxidized Presence Recent in Stunted (57)	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od Rhizosphe e of Reducet ron Reducti	es (B9) (¢ and 4B) s (B13) dor (C1) res along d Iron (C on in Tille	Except Living Ro (4)	Seco	Indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
DROLOGETIAND IN THE PROPERTY I	GY Irology Indicators: sators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) of Deposits (B2) rosits (B3) of or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Vegetated Concav	: one require	d; check all that apply water-St MLRA Salt Crus Aquatic I Hydrogei Oxidized Presence Recent in Stunted (57)	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od I Rhizosphe e of Reduce ron Reducti or Stressed	es (B9) (¢ and 4B) s (B13) dor (C1) res along d Iron (C on in Tille	Except Living Ro (4)	Seco	Andary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
DROLOGETIAND IN THE PROPERTY I	GY Irology Indicators: sators (minimum of of other (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) rosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Vegetated Concaverations:	: one require Imagery (B e Surface (d; check all that ap Water-St MLRA Salt Crus Aquatic I Hydroget Oxidized Presence Recent in Stunted (7) Other (E:	ply) tained Leave A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od I Rhizosphe e of Reduce ron Reducti or Stressed xplain in Re	es (B9) (€ and 4B) s (B13) dor (C1) res along dol Iron (C on in Tille Plants (C emarks)	Except Living Ro (4)	Seco	Andary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
DROLOG etland Hyd mary Indig Surface High Wa Saturation Water M Sediment Drift Dep Algal Material Iron Dep Surface Inundation Sparsely	GY Irology Indicators: ators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) rosits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations: er Present?	Imagery (Be Surface (d, check all that app Water-St MLRA Salt Crus Aquatic I Hydrogei Oxidized Presence Recent li Stunted 6 7) Other (E:	ply) tained Leav A 1, 2, 4A, a st (B11) Invertebrate in Sulfide Or Rhizosphe e of Reduce ron Reducti or Stressed xplain in Re	es (B9) (€ and 4B) s (B13) dor (C1) res along dol Iron (C on in Tille Plants (C emarks)	Except Living Ro (4)	Seco	Andary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
DROLOGETIAN HYDER SATURATED Water M Sediment Drift Dep Algal Ma Iron Dep Surface S Inundation Sparsely Eld Observation Trace Water Algal Ma Iron Dep Surface S Interpretation Preservation Preservation	GY Irology Indicators: ators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) asits (B3) at or Crust (B4) asits (B5) Soil Cracks (B6) on Visible on Aerial Vegetated Concaverations: ar Present?	Imagery (Be Surface (d, check all that apply Water-St MLR/ — Salt Crus — Aquatic I — Hydrogel — Oxidized — Presence — Recent is — Stunted (27) — Other (E: 188)	poly) tained Leave A 1, 2, 4A, a st (B11) invertebrate in Sulfide Od Rhizosphe e of Reduce ron Reducti or Stressed xplain in Re	es (B9) (€ and 4B) s (B13) dor (C1) res along dol Iron (C on in Tille Plants (C emarks)	ELiving Ro (4) ed Soils (C	Seco	Andary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
DROLOGE TABLE TO THE PROLOGE TO THE PROJECT TO THE PROJECT TO THE PROJECT TO THE PROJECT TO THE PROLOGE TO THE PROJECT TO THE	GY Irology Indicators: ators (minimum of of of other (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B3) at Deposits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Vegetated Concaverations: ar Present? Present?	Imagery (B e Surface (es es	d, check all that apply Water-St MLR/ — Salt Crus Aquatic I Hydrogel Oxidized Presence Recent in Stunted (17) Other (E: 188) No Depth (in No Depth (in Depth (in Inc.)	ply) tained Leav A 1, 2, 4A, a st (B11) invertebrate in Sulfide Oo Rhizosphe e of Reduce ron Reducti or Stressed xplain in Re inches): inches):	es (B9) (e and 4B) s (B13) dor (C1) res along d Iron (C on in Tille Plants (C emarks)	ELiving Ro (4) ed Soils (C (D1) (LRR /	Seco	Indary Indicators (2 or more required Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
DROLOGIO DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DE LA COMPANIA DE LA COMPANIA DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DE LA COMPANIA DE LA COMPANIA DE LA COMPANIA DEL COMPANIA DEL COMPANIA DE LA COM	GY Irology Indicators: sators (minimum of of other (A1) ter Table (A2) on (A3) arks (B1) of Deposits (B2) osits (B3) of or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concavivations: or Present? Or Presen	Imagery (B e Surface (es es r gauge, m	d, check all that apply Water-St MLR/ — Salt Crus Aquatic I Hydrogel Oxidized Presence Recent in Stunted (17) Other (E: 188) No Depth (in No Depth (in Depth (in Inc.)	ply) tained Leave A 1, 2, 4A, a st (B11) invertebrate in Sulfide Oc Rhizosphe e of Reduce ron Reducti or Stressed xplain in Re inches): inches): inches):	es (B9) (¢ and 4B) s (B13) dor (C1) res along ed Iron (C on in Tille Plants (C marks)	ELiving Ro	Seco	Indary Indicators (2 or more required Vater-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

(DVV
-	IN
	sulting Engineers

Project/Site: Garberville	Burnholdt		Sampling Date: 5/9/23
Applicant/Owner: Garberville Sanitary District			Sampling Date: 1771
Investigator(s): Joseph Saler, Cindy Wilcox			Sampling Point: 1721
Landform (hillslope, terrace, etc.): hillslope, base	Section, Township, Rar Local relief (concave, o		VP. 01 01 12L
Subregion (LRR): A, MLRA-4B	Lat: 40.09679 4		
Subregion (LRR): At Million ton de Gourbe	Lat: 40.04011	Long:	Nana Datum: VVGS 64
Soil Map Unit Name: 311: Urban land - Garle			
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology signs and a signs are signs as a sign and a sign are signs as a sign are sign are sign as a sign are sign a			resent? Yes X No
Are Vegetation, Soil, or Hydrology na	iturally problematic? (If ne	eded, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling point lo	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No			,
	ls the Sampled within a Wetlan		No
Remarks: TP excavated in law point of	bore of histoge by	etheen trailer por	h and mote
Slight denousian contures water	from Shope.		***************************************
VEGETATION - Use scientific names of plant	S.		
20.0	Absolute Dominant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 30 ft)	% Cover Species? Status	Number of Dominant Sp	pecies 3
1. Platanus X Lis parica.	10 V NL	That Are OBL, FACW, o	or FAC (A)
3		Total Number of Domini Species Across All Stra	
4.		'	222
T(+	70 = Total Cover	Percent of Dominant Sp That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size: 547)	40 V FAC	Prevalence Index worl	
2. Quercus Mellosqui	7	Total % Cover of:	Multiply by:
3. Rubur unsigner J	5 FACU	OBL species	x 1 =
4.			x 2 =
5			x 3 =
Harb Stratum (Blat size) 5H	47 = Total Cover 2335		x 4 = x 5 =
Herb Stratum (Plot size: 547	20 V OBL		(A) (B)
2 Festiva orundinacea	48 FAC		
3. Poa trivialis	6 FAC		= B/A =
4. Holais lanatus	7 FAC	Hydrophytic Vegetation	Hydrophytic Vegetation
5. Apparthus praecox	7 NL	2 - Dominance Tes	
6		3 - Prevalence Inde	
7		4 - Morphological A	daptations ¹ (Provide supporting
8	————		s or on a separate sheet)
9		5 - Wetland Non-Va	phytic Vegetation ¹ (Explain)
10			I and wetland hydrology must
	89 = Total Cover 41.8	be present, unless distu	
Woody Vine Stratum (Plot size:	17.8	,	
1	; 	Hydrophytic	
2	7110	Vegetation Present? Yes	s No
% Bare Ground in Herb Stratum	= Total Cover		
Remarks:	1 - 1 - 1	14 14	James de
Ver composition reflects wetter	ed within vacant	bot between	development.
Lest Her overboregand.			•

Sampling Point: TP 21 multing Engineers Geologists, Inc.

Profile Description: (Describe to the dep	th needed to document the Indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	USA STATE S
(inches) Color (moist) %	Color (moist) % Type Loc2	Remarks
0-1 $OYR3/2$ 100		
1-18 TOYR 4/2 85	TAVO 11/1 TO C 11	CCI OI /II
1-18 101/1/2 02	10 YR 4/6 10 C M	SICL Redox ingreases w/ depth
	75 VR 4/4 5 C M	
	E//K	
		
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=Covered or Coated Sand Gra	ins. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	
Black Histic (A3)	, ,	Red Parent Material (TF2)
	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
The state of the s	X Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soll Present? Yes ื No
Remarks: 1		Hydric Soll Present? Yes No No No
HYDROLOGY		
Wetland Hydrology Indicators:		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required	I; check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	11-17	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	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	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Second Complete Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Season CD2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Second Complete Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Season Saturation (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (BF)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Second Complete Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B7)	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Second Complete Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (E7) Field Observations: Surface Water Present?	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Second Complete Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B7 Field Observations: Surface Water Present? Water Table Present?	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) O Depth (inches): 5 1	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Separate Complete Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (B7) Field Observations: Surface Water Present? Water Table Present? Yes No	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Second Complete Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (E7) Field Observations: Surface Water Present? Water Table Present? Yes Note Table Present?	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) O Depth (inches): 5 1	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (EField Observations: Surface Water Present? Water Table Present? Yes Note Table Pr	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 Presence of Reduced Iron (C4) Recent iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) ODEPTH (inches): 510 Depth (inches): 510 Wetland	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)
Primary Indicators (minimum of one required 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 (E Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present? Saturation Present? Yes No Includes capillary fringe) Describe Recorded Data (stream gauge, mo	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) O Depth (inches): 5 Depth (inches): 5 No Depth (inches): 6 No Depth (inches): 7 No Depth (inches): 6 No Depth (inches): 7 No Depth (inche	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Separation (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one required 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 (EField Observations: Surface Water Present? Water Table Present? Yes Note Table Pr	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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) O Depth (inches): 5 Depth (inches): 5 No Depth (inches): 6 No Depth (inches): 7 No Depth (inches): 6 No Depth (inches): 7 No Depth (inche	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)

onsulting Engineers & Geologists, Inc. WETLAND DETERMINATION I	OATA FORM Western Mou	ntains, Valleys, ar	nd Coast Region
Project/Site: Garberville	City/County: Humboldt		_ Sampling Date: 5/9/23
Applicant/Owner: Garberville Sanitary District		State: CA	Sampling Point: TP 22
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Ra		
Landform (hillslope, terrace, etc.):			Slope (%): 0-2
	Lat: 40.096878		
Soil Map Unit Name: 311: Urbanland - 60	rbenille complex 5.	196 NIMI classil	Scation: None
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology		"Normal Circumstances"	
Are Vegetation, Soil, or Hydrology		eded, explain any answ	
SUMMARY OF FINDINGS – Attach site ma	·	•	,
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: TP excavoted in Va Cat lot Graded lot	No X Is the Sampled within a Wetlan	nd? Yes	
VEGETATION – Use scientific names of pla	ants.		
Tree Stratum (Plot size 30 ft	Absolute Dominant Indicator	Dominance Test wor	rksheet:
1. Platanus x hispanica	% Cover Species? Status	Number of Dominant That Are OBL, FACW	
2			
3.		Total Number of Dom Species Across All St	
4			
\ 5CL	= Total Cover	Percent of Dominant: That Are OBL, FACW	Species 25/. (A/B)
Sapling/Shrub Stratum (Plot size: 544	1 NL	Prevalence Index wo	
1. Hunts Cerasitera		Total % Cover of	
2			x 1 =
3			x 2 =
4			x 3 =
J			x4=
Herb Stratum (Plot size:)	= Total Cover	1	x 5 =
1. Bromus diondrus	43 NL	Column Totals:	(A) (B)
2 festaca annoinacea	30 V FAC	Prevalence Inde	ex = B/A =
3. Poa trivialis	2 FAC	Hydrophytic Vegetat	
4. Holew lanatw	2 FAC	, , , , , , ,	Hydrophytic Vegetation
5		2 - Dominance Te	, , ,
6		3 - Prevalence In	
7		_	Adaptations ¹ (Provide supporting
8			ks or on a separate sheet)
9		5 - Wetland Non-	Vascular Plants ¹
10.		Problematic Hydr	ophytic Vegetation ¹ (Explain)
11,			oil and wetland hydrology must
Woody Vine Stratum (Diet size)	77 = Total Cover 36.5	be present, unless dis	sturbed or problematic.
Woody Vine Stratum (Plot size:	100		
2		Hydrophytic Vegetation	
23	Total Cover	Present? Y	'es No
% Bare Ground in Herb Stratum 23			
regulation composition reflects slight drained. Leaf litter abundant	tly sloping indevelop	ed latin uplan	d oneos. Well

		Sampling Point: Geologis
Profile Description: (Describe to the depth	needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	Will obtain a
(inches) Color (moist) %	Color (moist) % Type¹ Loc²	Texture Remarks
0-3 10YR 3/2 100		Sit
3-13-10483/2 60		SIL Mixed motives till
/ 10yr 5/4 8		pockets at fill
10YR 5/6 2		pockets of fill
2.57 5/3 30		poches of fill
10 10 10 00	INVOGIC E C M	CI POCHOS OF IIII
13-18+ 2.543/3 TO	1048 5 C M	UL MXEC TIL
	1048314 25 C M	
¹ Type: C=Concentration, D=Depletion, RM=R	educed Matrix, CS=Covered or Coated Sand Gra	ins. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LF	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ ;
Histosol (A1)	_ Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	_ Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	_ Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	_ Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)		,
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	_ Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):	_ Redox Depressions (F8)	unless disturbed or problematic.
		One's
Type:	 :	
Depth (inches):	_	Hydric Soll Present? Yes No
Remarks:	111	a salala Kambauma A.
Mixed fillsoils in Vacc	in lot.	possible krofovina or graping of terrace
3-13" hunson -/ pocke	its of mixed fill from lower s	nrface horizon. Dry-traysitional
	ets of mixed fill from lower s	nrface horizon. Dry-traysitional
	ets of mixed fill from lower s	nrface horizon. Dry-traysitional
HYDROLOGY		Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators:	check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required;	check all that apply) Water-Stained Leaves (B9) (except	nrface horizon. Dry-traysitiedout
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1)	check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primery Indicators (minimum of one required; Surface Water (A1) High Water Table (A2)	check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	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)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	check all that apply) 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 Root	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) ts (C3) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	check all that apply) 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 Root Presence of Reduced Iron (C4)	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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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)	check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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)	check all that apply) 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 Root 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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)	check all that apply) 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 Root 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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) Field Observations:	check all that apply) 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 Root 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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) Field Observations: Surface Water Present? Yes No	check all that apply) 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 Root 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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 (B6) Field Observations: Surface Water Present? Yes No	check all that apply) 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 Roof 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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 (B6) Field Observations: Surface Water Present? Yes No Saturation Present?	check all that apply) 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 Roof 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) ts (C3) — Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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 (B6) Fleld Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Sincludes capillary fringe)	check all that apply) 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 Roof 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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) Fleld Observations: Surface Water Present? Yes Now Water Table Present? Yes Now Saturation Present? Yes Now (includes capillary fringe) Describe Recorded Data (stream gauge, mone	check all that apply) 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 Root 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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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) Field Observations: Surface Water Present? Yes No Saturation Present?	check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Wetla	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) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: 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) Field Observations: Surface Water Present? Yes Now Water Table Present? Yes Now Saturation Present? Yes Now (includes capillary fringe) Describe Recorded Data (stream gauge, mone	check all that apply) 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 Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches):	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) Its (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

MISURING Engineers WETLAND DETERMINATION DA	TA FOR	M – West	tern Mou	ntains, Valleys, and Coast Region
& Ceologists, Inc. Project/Site: Garberville				Elalaa
Applicant/Owner: Garberville Sanitary District	100	City/Courity		State: CA Sampling Date: T0 2.3
Investigator(s): Joseph Saler, Cindy Wilcox		Section To	wnship, Rai	
Landform (hillslope, terrace, etc.): Hills one wake				convex, none): Concave Slope (%): 27
Subregion (LRR): A, MLRA-4B		.09613	The second secon	Long: -123, 793967° Datum: WGS 84
Soil Map Unit Name: 461: Tannin - Burgs block -				
Are climatic / hydrologic conditions on the site typical for this		Total Control of the		(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologys	-	-		'Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology r				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point le	ocations, transects, important features, etc.
Hydric Soil Present? Wetland Hydrology Present? Yes N	o o		e Sampled In a Wetlan	~
TP excavated in hillside sep wetland		retland	Condition	is restricted to smale bottom,
VEGETATION – Use scientific names of plan	ts.			
Tree Stratum ,(Plot şize: 30	Absolute % Cover	Dominant Species?	C-1	Dominance Test worksheet:
1 Salix, Casiolopis		O COICST	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Offerties species 11.				Total Number of Dominant
3. footed outside witho. Not				Species Across All Strata: (B)
4. annuted in dominance.	6	= Total Co		Percent of Dominant Species 80%
Sapling/Shrub Stratum (Plot size: 5++)	35	مراد	C 1/	That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet:
2. Carris Cornita	- 2		CACIL	Total % Cover of:Multiply by:
3			TACOL	OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
5£1	40	= Total Co	ver 20	FACU species x 4 =
1. W OOD WOO CTA . Flant Cota	20	1	ENCIN	UPL species x 5 =
2 Extrate grada	4		OBI	Column Totals: (A) (B)
3. Carex hortardii	13		OBL	Prevalence Index = B/A =
4. Athrium Ilix-foring var. Codosonum	30	1	FAC	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5. Juneur effusus of pacificus	2		FACW	2 - Dominance Test is >50%
6				3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8	. ——			data in Remarks or on a separate sheet)
9.				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11	75	= Total Cov	35	Indicators of hydric soll and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:	-00_	- Total Cov		
1. Hedera helix	_6_	V	FACY	Hydrophytic
2				Vegetation
% Bare Ground in Herb Stratum 34		= Total Cov	ver	100
Vegetation composition restricted	small	Wilsh	pe seg	p wotland.



Profile Description: (Describe to the d	epth needed to document the indicator or c	onfirm the	absence	of indicators.)
Depth Matrix	Redox Features			
(inches) Color (moist) %	Color (moist) % Type ¹ L		exture	Remarks
0-1 10/R3/2 100			M_	
1-4 2.584/1 97	104R4/6 3 C P	5	-SL	along living roots
4-18+ 104 5/1 94	5VR 4/1 6 C M	101 (T	J
7 10. 101 2/1 11	7116 0 0 11	11	,,,,,	
True: CaCananakatian DaDonistian B	N-Badward Matrix CS-Caused as Casted S	and Crains	21 0	eation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	M=Reduced Matrix, CS=Covered or Coated S	and Grains.		rs for Problematic Hydric Solls ³ :
Histosol (A1)	Sandy Redox (S5)			n Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)			Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except ML	RA 1)	_	Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	,		er (Explain in Remarks)
Depleted Below Dark Surface (A11)	Matrix (F3)			,
Thick Dark Surface (A12)	Redox Dark Surface (F6)		3Indicate	rs of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		wetla	nd hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		unles	s disturbed or problematic.
Restrictive Layer (if present):				
Туре:				V
Depth (inches):		Hy	dric Soil	Present? Yes X No
Remarks:	- V - L - L - L - L - L - L - L - L - L			
well brong hydric soil	indicate posistat saturation.			
AND LALL OF LA	Mark Total Control of			
great L				
HYDROLOGY				
HYDROLOGY Westend Hydrology Indicators				
Wetland Hydrology Indicators:	ized; sheek all that apply)		Sana	ndani ladinalara (2 ar mara ranuirad)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requ				ndary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	Water-Stained Leaves (B9) (exce	pt		Valer-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B)	pt	Χv	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing the surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	pt	<u>X</u> v	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing the state of the state	 Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) 	pt	X v	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water ⊤able (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing to Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) (exce MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 		<u>X</u> v	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water ⊤able (C2) Esturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing its indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Water-Stained Leaves (B9) (excendence of MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi 		X $X $ $X $ $X $ $X $ $X $ $X $ X	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) brainage Patterns (B10) bry-Season Water ⊤able (C2) braturation Visible on Aerial Imagery (C9) becomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing it is sufface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	 Water-Stained Leaves (B9) (excendence of Real Leaves (B1)) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) 	ng Roots (C	X v X c - c 3 X c - c 3 X c	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) brainage Patterns (B10) bry-Season Water ⊤able (C2) braituration Visible on Aerial Imagery (C9) becomorphic Position (D2) braillow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requinate 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)	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sala	ng Roots (C	X v X D S S S S F S S S S S S S S	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requinate 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)	 Water-Stained Leaves (B9) (excendence of MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Some Stunted or Stressed Plants (D1) (ng Roots (C	X v X c S S S S F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Esturation Visible on Aerial Imagery (C9) Ecomorphic Position (D2) Ehallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requinate 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	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scalars (D1) (C4) Stunted or Stressed Plants (D1) (C67) Other (Explain in Remarks)	ng Roots (C	X v X c S S S S F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing and primary Indicators) 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 Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scalars (D1) (C4) Stunted or Stressed Plants (D1) (C67) Other (Explain in Remarks)	ng Roots (C	X v X c S S S S F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Esturation Visible on Aerial Imagery (C9) Ecomorphic Position (D2) Ehallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requination) 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 Sparsely Vegetated Concave Surface Field Observations:	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Some Stunted or Stressed Plants (D1) (B7) Other (Explain in Remarks) e (B8)	ng Roots (C	X v X c S S S S F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Esturation Visible on Aerial Imagery (C9) Ecomorphic Position (D2) Ehallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requinate Marks (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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present?	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scalar (B7) Other (Explain in Remarks) (B7) Depth (inches):	ng Roots (C	X v X c S S S S F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Esturation Visible on Aerial Imagery (C9) Ecomorphic Position (D2) Ehallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requing a 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present?	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solution Stunted or Stressed Plants (D1) (C4) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	ng Roots (C sils (C6) LRR A)	X v X C S S S F F F F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) PAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requinate in the primary Indicators (minimum of one requinate in the primary Indicators (minimum of one requinate in the primary Indicators (Malanta Indicators) 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scalar (B7) Other (Explain in Remarks) (B7) Depth (inches):	ng Roots (C sils (C6) LRR A)	X v X C S S S F F F F F	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Esturation Visible on Aerial Imagery (C9) Ecomorphic Position (D2) Ehallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requination) 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? (includes capillary fringe)	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solution Stunted or Stressed Plants (D1) (C4) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	ng Roots (C sils (C6) LRR A)	X v X C S S S F F Hydrolog	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) PAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requination) 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? (includes capillary fringe)	Water-Stained Leaves (B9) (excess MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scale (B7) Stunted or Stressed Plants (D1) (C6) (B7) Other (Explain in Remarks) (B8) No Depth (inches): Depth (inches):	ng Roots (C sils (C6) LRR A)	X v X C S S S F F Hydrolog	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) PAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requination) 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? (includes capillary fringe)	Water-Stained Leaves (B9) (excess MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scale (B7) Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches):	ng Roots (Collis) (C6) LRR A) Wetland	X v X C S S S F F Hydrolog	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) PAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requination of the requirement of the requ	Water-Stained Leaves (B9) (excess MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scale (B7) Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches):	ng Roots (Collis) (C6) LRR A) Wetland	X v X C S S S F F Hydrolog ailable:	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Staturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) PAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7) Ty Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one requination of the requirement of the requ	Water-Stained Leaves (B9) (exceed MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) X Oxidized Rhizospheres along Livity Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Scale (B7) Stunted or Stressed Plants (D1) (C87) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): Morrial Photos, previous inspective and willing the control of the cont	ng Roots (Collis) (C6) LRR A) Wetland	X v X c S S S F Hydrolog ailable:	Valer-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) PAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7)

COLV	7
CIN	8
Consulting Enginee & Geologists, Inc.	15

Coologists, Inc.	5/0/02
Project/Site: Garberville City/County: Hur	
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Point: TP 24
Investigator(s): Joseph Saler, Cindy Wilcox Section, Townsh	ip, Range:
Landform (hillslope, terrace, etc.): Hill Tope Local relief (con-	cave, convex, none): Nove Slope (%): 25
Subregion (LRR): A, MLRA-4B Lat: 40, 09(e157°	Long: Datum: WGS 84
Soil Map Unit Name: 461: Tannin - Burgsblock - Reckyglen comple	4 30 50 0 NWI classification. None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	
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 po	oint locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes No X Is the Sail	mpled Area
100	Vetland? Yes No
Remarks:	
To excavated in wand, rell drained slope	whowside of Wiside Depo works!
Conditions representative of upland, well drained stope	
VEGETATION – Use scientific names of plants.	
	cator Dominance Test worksheet:
Tree Stratum (Plot size: 304) Absolute Dominant India	Number of Dominant Species '/
1 Umbellularia Californica 12 FA	That Are OBL, FACW, or FAC: (A)
2. Quercus helloggii	Total Number of Dominant
3	Species Across All Strata: (B)
22 = Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 28.5% (A/B)
Sapling/Shrub Stratum (Plot size:	C Prevalence Index worksheet:
1. Rubus ormacus 27 FA	Total % Cover of: Multiply by:
2. Gausta Manspeloulona 15 N 3. Aseudorovia Manziesii 5 FAC	OPI species4.
	FACINI annaire
	FAC species x3 =
5	EACIL species
Herb Stratum (Plot size:)	.6 UPL species x 5 =
1. Phalaris allustica 16 L FA	CU Column Totals: (A) (B)
2 Polystichum V Mwitum 18 FA	Prevalence Index = B/A =
3. Postagrama triangulars 2 NI	Hydrophytic Vegetation Indicators:
4 Pteridium aquillation via pubescens 24 V FA	1 - Rapid Test for Hydrophytic Vegetation
5	2 - Dominance Test is >50%
6	3 - Prevalence Index is ≤3.01
7	4 - Morphological Adaptations (Provide supporting
8	data in Remarks or on a separate sheet)
9	5 - Wetland Non-Vascular Plants ¹
10	Problematic Hydrophytic Vegetation ¹ (Explain)
11	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 5ff) = Total Cover	2 process, unless distarbed of problemate.
1. Henera helix 3 Fax	u
2	Vegetation
40 / 3 = Total Cover	Present? Yes No
70 Sais Gredia III Ficio Otratalii	
Remarks: Well drained yplandslope. Grave species and	Prendium aguilinum dominant
less in marston with tree anony of averus hell	9111, limbellulatia Californica + Brewlotsuga.



SOIL		Sampling Point: 11 24 Gook
Profile Description: (Describe to the de	pth needed to document the indicator or confirm th	e absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type Loc2	Texture Remarks
0-9 10YR3/2 100	AFIRE FOR)iL
9-13 75/85/4 60	2.5 y 5 D M	I w/ occ. grates
10YR3/2 20		Mixed matrix crotoring +
104R3/4 15		ratural mixing.
13-17+ 10YR5/3 60		
15484/6 40		Mixed Matrices
1.316.10		
¹ Type: C=Concentration, D=Depletion, RN	M=Reduced Matrix, CS=Covered or Coated Sand Grain	s. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to a	I LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ¹ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Other (Explain in Remarks)
Thick Dark Surface (A11)	Depleted Matrix (F3) Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (If present):		
Туре:		V
Depth (inches):		Hydric Soil Present? Yes No X
Remarks: Hillstope with Mi	xedsoils. Partslope Movement	٦
1	10 Day 1 Day 3 HO 11 Provide	
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require	ed: check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface	•	
Field Observations:		
	50 4 1 50 4 25	
	No X Depth (inches): N/A	
Surface Water Present? Yes		١.
Surface Water Present? Yes Water Table Present? Yes	No Depth (inches):	d Hydrology Present? Yes No.
Surface Water Present? Yes	No Depth (inches): Wetland	d Hydrology Present? Yes NoX
Surface Water Present? Yes	No Depth (inches):	
Surface Water Present? Yes	No Depth (inches): Wetland	
Surface Water Present? Yes	No Depth (inches): No Depth (inc	
Surface Water Present? Yes	No Depth (inches): No Depth (inc	
Surface Water Present? Yes	No Depth (inches): No Depth (inc	
Surface Water Present? Yes	No Depth (inches): No Depth (inc	

westland DETERMINATION DA	TA FOR	M – Wes	tern Mou	ntains, Valleys, and	d Coast Region	
		City/County	Humboldt		Sampling Date: 5/	10/23
Applicant/Owner: Garberville Sanitary District		,		State: CA	Sampling Point:	25
Investigator(s): Joseph Saler, Cindy Wilcox				nge:	Camping Fanta	
Landform (hillslope, terrace, etc.): Hills are , 5 vale				convex, none):CanCo	Slope (%	7 7
Subregion (LRR): A, MLRA-4B	Lat: 40	1.1051	17°	Long: ~123.789	439' Datum: V	
Soil Map Unit Name: 452: Burgsblock-Coolyon	L-Tuny	un Com	lex 30	-So46 NIA/I classific	vation: None	
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrologys				'Normal Circumstances" p		No
Are Vegetation, Soil, or Hydrology n				eded, explain any answe	-	NO
			-		, and a second	
SUMMARY OF FINDINGS – Attach site map		sampiin	g point i	ocations, transects	, important featu	res, etc.
	0	is th	e Sampled	Area		
1 min 11 1 1 2 10 11 11 11 11 11 11 11 11 11 11 11 11	o		in a Wetlar	nd? Yes	No	
Remarks: TP excavated in swale at	_	I Was	NP.			
17 Ecavases 11/3 wire a	Dave 1	of MISIO	ρ.			
VEGETATION - Use scientific names of plant	s.					
Tree Stratum (Plot size:	Absolute	11-12-12-12-12-12-12-12-12-12-12-12-12-1		Dominance Test work	sheet:	
1	% Cover	Species?	Status	Number of Dominant S That Are OBL, FACW,		
2.	· 	-		That Are OBL, FACVV,	or FAC:	(A)
3.				Total Number of Domin Species Across All Stra		(B)
4					w. 00001401	_ (5)
Sapling/Shrub Stratum (Plot size: 5ft	1	= Total Co	ver	Percent of Dominant Sp That Are OBL, FACW,		(A/B)
1. Rybus armanacus	40	V	FAC	Prevalence Index wor		
2					Multiply by:	
3				OBL species		
4				FACW species		
5	110			FACU species		
Herb Stratum (Plot size: 577	40	= Total Co	ver		x5=	
1. Carex hartordii	14	~	OBL	Column Totals:		
2. Metha palegium	7		OBL			, ,
3. Rymex chispub	4	-	FAC	Prevalence Index Hydrophytic Vegetation		
4. Lythrun hyssopitalia	2_		OBL	1 Posid Test feet	ing a second	
5. Storpus withour with	4		OBL	2 - Dominance Tes	it is >50%	
6. Cyperus eroscostis 7. Criza Marina	3		FACW	3 - Prevalence Inde		
8. Juneus poten	D		NL	4 - Morphological A	Adaptations ¹ (Provide s	upporting
9. Jmw PHASW 25P. PACTICUS	3		FACW		s or on a separate shee	at)
10. Postovi que	12	V	FAC	5 - Wetland Non-Vi		nlain)
11	10_			¹ Indicators of hydric soi		· ·
	55	= Total Cov	er 27.5	be present, unless distu	rbed or problematic.	,
Woody Vine Stratum (Plot size:			V			
1				Hydrophytic	13.0	
2	_			Vegetation Present? Ye	s <u> </u>	
% Bare Ground in Herb Stratum 45		= Total Cov	er		110	-
Remarks:	M	1	V	1 0 1 1		
Baremud and Hatch inhabstratum.	Veg. C	antituquo'	retter	ts Swale condi	Hevs.	

Brofile Dees								
Frome Desc	cription: (Describe	to the dep	oth needed to docum	nent the i	ndicator	or confirm	n the abser	nce of indicators.)
Depth	Matrix			x Feature	S			
(inches)	Color (moist)	100	Color (moist)	%	Type'	Locz	Texture	
0-3	104R 3/2	100	1	_		_	Musil	9/2
3-11	2.54 4/2	89	7.5 YR 4/6	3	C	PL/M	SICL	
			104R 4/4	4	1	DI TM	-	*
11 10	- Lela	70	1010 7/6	-Pa	7	TUIT	-	
11-14+	54 2/2	60	0415/6	40			SL	W/OCC. grave
								J
		:: : :						
-	-	- —						- :
R======								
'Type: C=Ce	oncentration, D=Dep	letion, RM	=Reduced Matrix, CS	=Covered	d or Coate	ed Sand Gr	rains. 2	Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless other	wise not	ed.)			ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S	S5)			2	2 cm Muck (A10)
	pipedon (A2)		Stripped Matrix					Red Parent Material (TF2)
Black Hi	istic (A3)		Loamy Mucky N	/lineral (F	1) (excep	t MLRA 1)		Very Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed	Matrix (F2	2)		(Other (Explain in Remarks)
	d Below Dark Surfac	e (A11)	Depleted Matrix	(F3)				
	ark Surface (A12)		Redox Dark Su	rface (F6)			³ Indi	cators of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark		-7)		w	etland hydrology must be present,
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			u	nless disturbed or problematic.
Restrictive	Layer (if present):							
Type:								5.7
Depth (in-	ches):						Hydric S	Soil Present? Yes No
Remarks:	nacr an Am	- F1	indicate		î		-	
HYDROLO	OGY							
	GY drology Indicators:							
Wetland Hy	drology Indicators:		ed; check all that appl					econdary Indicators (2 or more required)
Wetland Hye	drology Indicators: cators (minimum of c			v)			S	
Wetland Hyder Primary India	drology Indicators: cators (minimum of c Water (A1)		Water-Sta	v) ined Leav	res (B9) (S	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hyder Primary India	drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		Water-Sta	v) ined Leav	res (B9) (S	_ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India Surface High Wa	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3)		Water-Sta MLRA Salt Crust	v) ined Leav 1, 2, 4A,	es (B9) (o		S	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India Surface High Wa Saturati Water M	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) farks (B1)		Water-Sta MLRA Salt Crust Aquatic In	v) ined Leav 1, 2, 4A, (B11) vertebrate	res (B9) (cand 4B)		<u>S</u>	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imageny (C9)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2)		Water-Sta MLRA Salt Crust Aquatic In Hydrogen	v) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O	res (B9) (cand 4B) es (B13) dor (C1)	except	<u>S</u>	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Water-Sta MLRA Salt Crust Aquatic In: Hydrogen Oxidized F	y) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe	res (B9) (cand 4B) es (B13) dor (C1) eres alonç	except	S	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 Aguitard (D3)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Sta MLRA Salt Crust Aquatic In: Hydrogen Oxidized F	v) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (C	except J Living Roo	S	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 Aguitard (D3)
Wetland Hydelicon Primary India Surface High Wax Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicators: cators (minimum of		Water-Sta	v) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct	res (B9) (cand 4B) es (B13) dor (C1) eres along ed fron (Cion in Tille	except J Living Root	ots (C3) 2	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)
Wetland Hydelicon Primary India Surface High Wax Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	one require	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct on Reduct	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cion in Tille	except J Living Roo	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial	one require	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct on Reduct	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cion in Tille	except J Living Root	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicators: cators (minimum of control of contr	one require	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct on Reduct	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cion in Tille	except J Living Root	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations:	one require Imagery (B e Surface (Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8)	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct on Reduct Stressed olain in Re	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Ci ion in Tille Plants (I ermarks)	except J Living Root	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concave vations: der Present?	Imagery (B e Surface (y) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct of Reduct r Stressed plain in Re	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Ci ion in Tille Plants (I ermarks)	except J Living Root	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial by Vegetated Concave vations: ter Present? Yesent?	Imagery (Be Surface (Water-Sta MLRA Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in	y) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduct Stressed blain in Re ches):	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Clon in Tille Plants (Demarks)	Except J Living Root (4) Ed Soils (Co	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wat Water Table Saturation P	drology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial of y Vegetated Concavery vations: ter Present? Present?	Imagery (Be Surface (y) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduct Stressed blain in Re ches):	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Ci ion in Tille Plants (I emarks)	Except J Living Root (4) Ed Soils (Co	ots (C3) 2	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wat Water Table Saturation P (includes cap	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial if y Vegetated Concave vations: ter Present? Present? Present? Yesent? Present?	Imagery (Be Surface (Yes X	Water-Sta MLRA Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in No Depth (in	y) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduct Stressed blain in Re ches): ches): ches): ches):	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cition in Tille Plants (Cemarks)	Except Living Root Living	ots (C3) $\sum_{i=1}^{N}$	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wat Water Table Saturation P (includes cap	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial if y Vegetated Concave vations: ter Present? Present? Present? Yesent? Present?	Imagery (Be Surface (Yes X	Water-Sta MLRA Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in	y) ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduce on Reduct Stressed blain in Re ches): ches): ches): ches):	res (B9) (cand 4B) es (B13) dor (C1) eres alonged Iron (Cition in Tille Plants (Cemarks)	Except Living Root Living	ots (C3) $\sum_{i=1}^{N}$	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P (includes car Describe Re	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I by Vegetated Concave vations: ter Present? Present? Present? Present? Present? Present? Present? Present (Stream	Imagery (Be Surface (Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in No Depth (in Ionitoring well, aerial	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct of Reduct Stressed ches): ches): ches):	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Coon in Tille Plants (Demarks) I/A J/A Zin revious in	Living Roots (Co. 21) (LRR A. Wetterspections),	ots (C3) 2 6) 2 A)	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P (includes car Describe Re	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I by Vegetated Concave vations: ter Present? Present? Present? Present? Present? Present? Present? Present (Stream	Imagery (Be Surface (Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in No Depth (in Ionitoring well, aerial	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct of Reduct Stressed ches): ches): ches):	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Coon in Tille Plants (Demarks) I/A J/A Zin revious in	Living Roots (Co. 21) (LRR A. Wetterspections),	ots (C3) 2 6) 2 A)	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)
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P (includes car Describe Re	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I by Vegetated Concave vations: ter Present? Present? Present? Present? Present? Present? Present? Present (Stream	Imagery (Be Surface (Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp (B8) No Depth (in No Depth (in Ionitoring well, aerial	ined Leav 1, 2, 4A, (B11) vertebrate Sulfide O Rhizosphe of Reduct of Reduct Stressed ches): ches): ches):	res (B9) (cand 4B) es (B13) dor (C1) eres along ed Iron (Coon in Tille Plants (Demarks) I/A J/A Zin revious in	Living Roots (Co. 21) (LRR A. Wetterspections),	ots (C3) 2 6) 2 A)	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)

C2717
CIL
Consulting Engineers

Project/Site: Garberville	o:		Sampling Date: 5/10/23
Applicant/Owner: Garberville Sanitary District	City/County: Humboldt	Ctata: CA	Sampling Date: 77 76 Sampling Point: TP 26
Investigator(s): Joseph Saler, Cindy Wilcox			Sampling Point: 11 -0
Landform (hillslope, terrace, etc.): Hilslape	Section, Township, Range	Work	Sl (9/). IS
Subregion (LRR): A, MLRA-4B Lat: 4	n 105 KK°	-123 229	Slope (%): 5
Soil Map Unit Name: 452: Burys block -(00 lyork-1	annin Com des 2	ong: 100. TO 1	Datum: WOS 84
Are climatic / hydrologic conditions on the site typical for this time of y			
Are Vegetation, Soil, or Hydrology significant			resent? Yes No
Are Vegetation, Soil, or Hydrology naturally p		ded, explain any answer	•
SUMMARY OF FINDINGS – Attach site map showin	g sampling point loc	ations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No	is the Sampled A	rea	\ <u>/</u>
Wetland Hydrology Present? Yes No	within a Wetland?	? Yes	No
Pamarks: Je	an day	LIISTOPE. Conditi	()
what runarding the without	ou gah	MIDING: COWILLI	en Illuanance
VEGETATION – Use scientific names of plants.			
Tree Stratum (Plot size:	r Species? Status	Dominance Test work	1
1		Number of Dominant S _I That Are OBL, FACW, o	
2		Total Number of Domin	ant 7
3		Species Across All Stra	/
4.	= Total Cover	Percent of Dominant Sp	pecies 50%
Sapling/Shrub Stratum (Plot size: 511		That Are OBL, FACW, o	OFFAC. (A/B)
1. NAME MAINING	- FACU	Prevalence Index wor Total % Cover of:	
2. Ribus armbians 28	- FAC		x 1 =
3			x 2 =
4			x3 =
31	= Total Cover 6.0	FACU species	x 4 =
Herb Stratum (Plot size: 54			x 5 =
1. Briza Maxima 50	NL NL	Column Totals:	(A) (B)
2. Latyrus latifolius 3	- NL	Prevalence Index	= B/A =
3. Junius occidentalis 5		Hydrophytic Vegetation	on Indicators:
4. Avena borbata 5. Juncus potas	-LA/\A/	1 - Rapid Test for F	
6. Runex acetisella 13	CALL	2 - Dominance Tes	
7. Bromw hordeacew I	CAZIL	3 - Prevalence Inde	ex is ≤3.0° Idaptations¹ (Provide supporting
8 Dostharia Californica 7	FAC	4 - Morphological A	s or on a separate sheet)
9. Carex hartadii 2		5 - Wetland Non-Va	ascular Plants ¹
10		Problematic Hydro	ohytic Vegetation¹ (Explain)
111:		¹ Indicators of hydric soi be present, unless distu	l and wetland hydrology must
Woody Vine Stratum (Plot size:	_= Total Cover 12.5	Je present, unless diste	ribad of problematic.
1		Hydrophytic	
2.		Vonetetion	s No X
% Bare Ground in Herb Stratum	_= Total Cover	Present? Yes	s No X
	(a) (b) (b) (c)		
Thatch. Veg comparition reflects v	rell drolned WUI	lope and tra	urtion out
of all motland.			

SUIL		Sampling Point: # 4 Geologi				
Profile Description: (Describe to the depti	needed to document the indicator or confirm	the absence of indicators.)				
Depth Matrix	Redox Features					
(inches) Color (moist) %	Color (moist) % Type¹ Loc²	Texture Remarks				
0-3 1048312 100		SiCL				
3-11 104R3/2 90		SICL charcoal in horizon				
		/ lacket of nixed motrix				
10484/4 3		Pochet at mixed morn'x				
11-18+ 54 5/2 70	104R4/4 30 C MIPL	SCL IMAGO INOTIA				
11 2 7 7 1 2 10 -	101/1 1 20 0 11/12	Jee				
		4.02				
¹ Type: C=Concentration, D=Depletion, RM=F	Reduced Matrix, CS=Covered or Coated Sand Gra	ins. ² Location: PL=Pore Lining, M=Matrix.				
Hydric Soil Indicators: (Applicable to all L	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :				
Histosol (A1)	_ Sandy Redox (S5)	2 cm Muck (A10)				
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)				
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)				
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)				
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	,				
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and				
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7) Redox Depressions (F8)	wetland hydrology must be present,				
Restrictive Layer (if present):	Redox Depressions (F6)	unless disturbed or problematic.				
Туре:						
Depth (inches):	_	Hydric Soil Present? Yes X No				
D-10000						
Eviduce of Historical Mar Eviduana or walwork	upslape tallers. Transition	hor packets of mixed material -				
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one required;	check all that apply)	Secondary Indicators (2 or more required)				
Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,				
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)				
Saturation (A3)	Salt Crust (B11)	Draiпage Patterns (В10)				
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)	— Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)				
Orift Deposits (B3)	Oxidized Rhizospheres along Living Roots	s (C3) Geomorphic Position (D2)				
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)				
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5)				
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)				
Inundation Visible on Aerial Imagery (87)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)				
Sparsely Vegetated Concave Surface (Bi	9)					
Field Observations:	Depth (inches): NA					
Surface Water Present? Yes No						
Water Table Present? Yes No	A. 11	\/				
Saturation Present? Yes No	Depth (inches): Wetlar	nd Hydrology Present? Yes No X				
(includes capillary fringe)						
	toring well, aerial photos, previous inspections), if	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
	itoring well, aerial photos, previous inspections), if	available:				
		available:				

isulting Engineers Geologists, Inc. WETLAND DETERMINATION DA	TA FORM Western Mou		
	City/County: Humboldt		Sampling Date: 5/10/23
Applicant/Owner: Garberville Sanitary District		State: CA	Sampling Point: TP27
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Ra		
Landform (hillslope, terrace, etc.): Hillslope beach			WE Slope (%): <u>0-2</u>
Subregion (LRR): A, MLRA-4B	Lat: 40.096 140°	Long: - 123.7949	Datum: WGS 84
Soil Map Unit Name: 311: Whan land - Garberu	11e 5-1500 simpes	NWI classifica	ation: None
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology si	gnificantly disturbed? Are	"Normal Circumstances" pr	resent? Yes X No
Are Vegetation, Soil, or Hydrology na	aturally problematic? (If ne	eded, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS - Attach site map s	showing sampling point l	ocations, transects,	important features, etc.
Hydric Soil Present? Yes X No	Is the Sampled within a Wetlan With Talix and Ju	nd? Yes 🔼	NoAdj. to development
VEGETATION – Use scientific names of plant	S.		
Tree Stratum (Plot size: 30 ft 1. Salix asi olepis 2. 3. 4. Sapling/Shrub Stratum (Plot size: 5ft) 1. Rubw ormaniacw 2. Cytisw Scolariw 3. Cytisw Scolariw 3. Cytisw Scolariw 4. 5. Herb Stratum (Plot size: 5ft) 1. Dww patens 2. Vinca major 3. 4. 5.		FACW species FAC species FACU species UPL species Column Totals: Prevalence Index Hydrophytic Vegetatio	Secies 3
6	95 = Total Cover 4735	3 - Prevalence Index 4 - Morphological Addata in Remarks 5 - Wetland Non-Va Problematic Hydrop Indicators of hydric soil be present, unless disture Hydrophytic Vegetation Present? Yes	x is ≤3.0¹ daptations¹ (Provide supporting or on a separate sheet) iscular Plants¹ Phytic Vegetation¹ (Explain) and wetland hydrology must rbed or problematic.
Vegetation composition reflects and	evelopment.	and prouve	NONTROTIVE

,5	AND S
Sampling Point: TP 27	sulting Engineers Geologists, Inc.

Depth	Matrix			Redox	CFeature	S			
(inches) C	Color (moist)	_%_	Color (m	oist)	%	Type	Loc2	Texture	Remarks
0-2 1	04R 3/2	100						SIL	
2-17 2	.5451	70	7.5 YR	4/6	30	c	m	CL	2.54 increases in 90
			- 110	-	_				2.54 increases in 90 towards girl bottom
		_					=		- To a control of the
		\equiv							
ype: C=Concer							d Sand G		ocation: PL=Pore Lining, M=Matrix.
lydric Soil Indica	ators: (Applica	able to all				ed.)		Indicat	tors for Problematic Hydric Soils ³ :
_ Histosol (A1)				Redox (S					cm Muck (A10)
_ Histic Epipedo				d Matrix					ed Parent Material (TF2)
_ Black Histic (A	•				,	, ,	MLRA 1)		ry Shallow Dark Surface (TF12)
Hydrogen Sul		(0.44)			Matrix (F2	2)		Ot	her (Explain in Remarks)
Depleted Belo		(A11)	X Deplete					3	
Thick Dark St					face (F6)				tors of hydrophytic vegetation and
Sandy Mucky					Surface (F	-/)			land hydrology must be present,
Sandy Gleyed lestrictive Layer			Redox	∪epressi	ions (F8)			unle	ess disturbed or problematic.
-	(ir present):								
Туре:			_						./
Depth (inches):			_					Hydric So	il Present? Yes 🔼 No
See page							erraes		
YDROLOGY	gy Indicators:								
YDROLOGY Vetland Hydrolo		ne required	l; check all ti	hat apply					ondary Indicators (2 or more required)
YDROLOGY Vetland Hydrolo	(minimum of o	ne required			()			Sec	ondary Indicators (2 or more required) Water-Stained Leaves (B0) (MLRA 1.2
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate	(minimum of o	ne required		ater-Stai	r) ned Leav	res (B9) (e		Sec	Water-Stained Leaves (B9) (MLRA 1, 2
YDROLOGY Vetland Hydrolo Vrimary Indicators Surface Wate High Water Ta	(minimum of or r (A1) able (A2)	ne required	Wa	ater-Stai	r) ned Leav	res (B9) (e		Sec.	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
YDROLOGY Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Surface Wate High Water Ta X Saturation (A3	(minimum of or r (A1) able (A2)	ne required	Wa	ater-Stai MLRA 1 alt Crust (ned Leav I, 2, 4A , a	res (B9) (a and 4B)		Sec	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Vetland Hydrolo Vrimary Indicators Surface Wate High Water Ta Saturation (AS Water Marks ((minimum of our (A1) able (A2) (B1)	ne required	Wa Sa Aq	ater-Stail MLRA 1 alt Crust (puatic Inv	r) ned Leav I, 2, 4A , a (B11) rertebrate	res (B9) (eand 4B)		Sec	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrolo Vrimary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep	r (A1) able (A2) 3) (B1) posits (B2)	ne required	Wa Sa Aq Hy	ater-Stair MLRA 1 It Crust (puatic Inverted to the state of the stat	ned Leav I, 2, 4A, 3 (B11) rertebrate Sulfide O	res (B9) (a and 4B) es (B13) dor (C1)	хсөрt	Sec	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits	(minimum of or r (A1) able (A2) 3) (B1) cosits (B2) (B3)	ne required	Wa Sa Aq Hy Ox	ater-Stair MLRA 1 If Crust (puatic Invertigen Stair)	ned Leav I, 2, 4A , 3 (B11) rertebrate Sulfide O hizosphe	res (B9) (a and 4B) es (B13) dor (C1) eres along	xcept Living Roc	Secondary Second	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)
YDROLOGY Vetland Hydrolo Vimary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C	r (A1) able (A2) 3) (B1) cosits (B2) (B3) crust (B4)	ne required	Wa Sa Aq Hy Ox Pro	MLRA 1 MLRA 1 Ilt Crust (Juatic Inv drogen S kidized R esence c	ned Leav I, 2, 4A, a (B11) ertebrate Sulfide O hizosphe of Reduce	res (B9) (e and 4B) as (B13) dor (C1) ares along ad Iron (C4)	xcept Living Roc	Secondary Second	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)
YDROLOGY Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits	r (A1) able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5)	ne required	Wa Sa Aq Hy Ox Pri Re	ater-Stair MLRA 1 It Crust (Juatic Invertigen Statized R esence of	ned Leav I, 2, 4A, (B11) rertebrate Sulfide O hizosphe of Reducti	res (B9) (a and 4B) as (B13) dor (C1) eres along ad Iron (C4 ion in Tille	xcept Living Roo I) d Soils (C6	Sec.	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)
Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C	r (A1) able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6)		Wa Sa Aq Ox Pro Re Sto	ater-Stain MLRA It Crust (puatic Invertigation Stain It discount in the stain It discount in	ned Leav I, 2, 4A, (B11) rertebrate Sulfide O hizosphe of Reduce n Reducti Stressed	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tille	xcept Living Roc	Secondary	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
VDROLOGY Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis	in (minimum of or or (A1) able (A2) able (A2) able (B1) cosits (B2) (B3) crust (B4) (B5) cracks (B6) sible on Aerial In	magery (B7	Wi Sa Aq Hy Ox Pro Re Sto	ater-Stain MLRA It Crust (puatic Invertigation Stain It discount in the stain It discount in	ned Leav I, 2, 4A, (B11) rertebrate Sulfide O hizosphe of Reducti	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tille	xcept Living Roo I) d Soils (C6	Secondary	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)
VDROLOGY Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Vetland Hydrolo Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis Sparsely Vege	in (Minimum of or or (A1) able (A2) 3) (B1) cosits (B2) (B3) crust (B4) (B5) cracks (B6) sible on Aerial Installed Concave	magery (B7	Wi Sa Aq Hy Ox Pro Re Sto	ater-Stain MLRA It Crust (puatic Invertigation Stain It discount in the stain It discount in	ned Leav I, 2, 4A, (B11) rertebrate Sulfide O hizosphe of Reduce n Reducti Stressed	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tille	xcept Living Roo I) d Soils (C6	Secondary	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
/DROLOGY /etland Hydrolo rimary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis Sparsely Vegoriald Observation	r (A1) able (A2) 3) (B1) cosits (B2) (B3) crust (B4) (B5) cracks (B6) sible on Aerial Inetated Concave	magery (B7 Surface (E	Wi Sa Aq Hy Ox Pri Re Sti Oti	ater-Stain MLRA 1 Ilt Crust of puatic Inverted Research Research Cecent Iron unted or her (Exp	ned Leav 1, 2, 4A, (B11) rertebrate Sulfide O hizosphe of Reducti Stressed tain in Re	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (Demarks)	xcept Living Roo I) d Soils (C6	Secondary	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)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Water High Water Ta Saturation (A3 Water Marks (Sediment Deposits Algal Mat or Color Iron Deposits Surface Soil Color Inundation Vis Sparsely Vegorield Observation	cr (A1) able (A2) able (A2) able (A2) bosits (B2) (B3) crust (B4) (B5) cracks (B6) sible on Aerial Inetated Concave	magery (B7 Surface (B	Wi Sa Aq Hy Ox Pri Re Str Ot	ater-Stain MLRA 1 Alt Crust of pustic Inverted Inverted Research Control of the C	ned Leav 1, 2, 4A, 3 (B11) ertebrate Sulfide O hizosphe of Reducti Stressed lain in Re	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (Demarks)	xcept Living Roo I) d Soils (C6	Secondary	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)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis Sparsely Vege ield Observation urface Water Prese Vater Table Prese	cr (A1) able (A2) able (A2) able (A2) able (B1) posits (B2) (B3) crust (B4) (B5) cracks (B6) sible on Aerial Instated Concave	magery (B7 Surface (B es N	Wi Sa Aq Hy Ox Pro Re Str Oti 38)	MLRA 1 If Crust in particular of the crust in particular of the crust in particular of the crust in the crust	ned Leav 1, 2, 4A, 1911) rertebrate Sulfide O hizosphe of Reducti Stressed tain in Res thes):	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (Demarks) N/A	Living Rock John Soils (C6 1) (LRR A	Secondary	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)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vego ield Observation iurface Water Presentaturation Presentaturation Presentaturaty	cr (A1) able (A2) able (A2	magery (B7 Surface (E	Wi Sa Aq Hy Ox Pr Re Str Ot 38) No D	ater-Stail MLRA 1 Alt Crust of puatic Invederation Invederation and the control of the control o	ned Leav 1, 2, 4A, 3 (B11) ertebrate Sulfide O hizosphe of Reduct Stressed tain in Re ches): ches):	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (Demarks) N/A IO''	Living Rock I) d Soils (C6 1) (LRR A	ots (C3) X	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vego ield Observation iurface Water Presentaturation Presentaturation Presentaturaty	cr (A1) able (A2) able (A2	magery (B7 Surface (E	Wi Sa Aq Hy Ox Pr Re Str Ot 38) No D	ater-Stail MLRA 1 Alt Crust of puatic Invederation Invederation and the control of the control o	ned Leav 1, 2, 4A, 3 (B11) ertebrate Sulfide O hizosphe of Reduct Stressed tain in Re shes): hes):	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (Demarks) N/A IO''	Living Rock I) d Soils (C6 1) (LRR A	ots (C3) X	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C6) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vego Field Observation Surface Water Presentation Pres	cr (A1) able (A2) able (A2	magery (B7 Surface (E	Wi Sa Aq Hy Ox Pr Re Str Ot 38) No D	ater-Stail MLRA 1 Alt Crust of puatic Invederation Invederation and the control of the control o	ned Leav 1, 2, 4A, 3 (B11) ertebrate Sulfide O hizosphe of Reduct Stressed tain in Re shes): hes):	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (Demarks) N/A IO''	Living Rock I) d Soils (C6 1) (LRR A	ots (C3) X	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C6) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta X Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vege Gurface Water Presentation Presenta	c (Minimum of or or (A1) able (A2) able (A3) a	magery (B7 Surface (E es N es N gauge, mo	Wi Sa Aq Hy Ox Sti Sti Sti Ot Sti Ot Do	MLRA 1 MLRA 1 Ill Crust of puatic Invedragen Stationard Research Control or the Carpeth (incepth (ince	ned Leav 1, 2, 4A, 3 (B11) rertebrate Sulfide O hizosphe of Reducti Stressed lain in Res ches): ches): ches):	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks) N/A 16" IO" revious ins	Living Rock John Soils (Control of Soils (Contr	ots (C3) X	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)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Wate High Water Ta X Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis Sparsely Vege Tield Observation Surface Water Presentaturation Presenta	c (Minimum of or or (A1) able (A2) able (A3) a	magery (B7 Surface (E es N es N gauge, mo	Wi Sa Aq Hy Ox Sti Sti Sti Ot Sti Ot Do	MLRA 1 MLRA 1 Ill Crust of puatic Invedragen Stationard Research Control or the Carpeth (incepth (ince	ned Leav 1, 2, 4A, 3 (B11) rertebrate Sulfide O hizosphe of Reducti Stressed lain in Res ches): ches): ches):	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks) N/A 16" IO" revious ins	Living Rock John Soils (Control of Soils (Contr	ots (C3) X	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)
YDROLOGY Vetland Hydrolo Primary Indicators Surface Water High Water Tax Saturation (A3 Water Marks (Sediment Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vege Field Observation Surface Water Presentation Prese	c (Minimum of or or (A1) able (A2) able (A3) a	magery (B7 Surface (E es		MLRA 1 If Crust in particular in the crust in particular in the crust	ned Leav I, 2, 4A, 3 (B11) Pertebrate Sulfide O hizosphe of Reduce n Reducti Stressed dain in Re ches): ches): hotos, pr	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks) N/A revious ins	Living Root U d Soils (C6 1) (LRR A	ots (C3) X	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)
YDROLOGY Netland Hydrolo Primary Indicators Surface Wate High Water Ta Saturation (A3 Water Marks (Sediment Dep Drift Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vege Field Observation Surface Water Presentation Prese	c (Minimum of or or (A1) able (A2) able (A3) a	magery (B7 Surface (E es	Wi Sa Aq Hy Ox Sti Sti Sti Ot Sti Ot Do	MLRA 1 If Crust in particular in the crust in particular in the crust	ned Leav I, 2, 4A, 3 (B11) Pertebrate Sulfide O hizosphe of Reduce n Reducti Stressed dain in Re ches): ches): hotos, pr	res (B9) (a and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks) N/A revious ins	Living Root U d Soils (C6 1) (LRR A	ots (C3) X	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

	0	Z	77
5	1	11	/
Consu	ling	Engi	neers

Geologists, Inc.		-11-
Project/Site: Garberville	City/County: Humboldt	Sampling Date: 5 lio 23
Applicant/Owner: Garberville Sanitary District		State: CA Sampling Point:
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Rar	nge:
Landform (hillslope, terrace, etc.): hill slope	Local relief (concave, o	convex, none): NON-C Slope (%): 45
	Lat: 40.096114°	
Soil Map Unit Name: 311: Whan land - Garbonil	4 5-15% SLODES	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this	\'.	
Are Vegetation, Soil, or Hydrology si		Normal Circumstances" present? Yes No
Are Vegetation, Soil or Hydrology n		
SUMMARY OF FINDINGS - Attach site map		eded, explain any answers in Remarks.) ocations, transects, important features, etc.
	X	
Hydric Soil Present? Yes X No	is the Sampled	Area
Wetland Hydrology Present? Yes No	within a Wetlan	rid? Yes No
TP excavated on slope just above u	notland described in	TP 27.
VEGETATION – Use scientific names of plant	ts.	
Tree Stratum (Plot size: 30 ft)	Absolute Dominant Indicator	Dominance Test worksheet:
1 Salix association	% Cover Species? Status	Number of Dominant Species 3
2. Quercus heloggii	TO FACU	That Are OBL, FACW, or FAC: (A)
3.	TO THE	Total Number of Dominant Species Across All Strata: (B)
4		
Sapling/Shrub Stratum (Plot size:	20 = Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1. Baccharis oitularis ssp. caranguinea	20 V NL	Prevalence Index worksheet:
2. Gensta Mors possilana	15 NL	Total % Cover of: Multiply by:
3. Rybus Ormaniacus	18 V FAC	OBL species x 1 =
4. Heteromelles arbutitolia	5NL	FACW species x 2 = FAC species x 3 =
5	F0	FACU species x4 =
Herb Stratum (Plot size: 5 ft)	= Total Cover	UPL species x 5 =
1. Vinca major	50 FACU	Column Totals: (A) (B)
2. Pertagramma triangularis	TO NL	
3		Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3,01
7.		4 - Morphological Adaptations (Provide supporting
8		data in Remarks or on a separate sheet)
9		5 - Wetland Non-Vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain)
10		Indicators of hydric soil and wetland hydrology must Indicators of hydric soil and wetland hydrology must
11	60 = Total Cover 30	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 5ft)		
1. Toxicode dran diversibum	5 V FAC	Hydrophytic
2		Vegetation
% Bare Ground in Herb Stratum 40	= Total Cover	Present? Yes No
Remarks:	1 1	
Vertation reflect yelland, well do	ined conditions. His	Lover by non-natives ar a
I result of close protinity	1 to development.	,

Sampling Point: TP 28 sulling Engineers
Geologists, for

Depth Matrix		he absence of indicators.)
inches) Color (moist) %	Redox Features Color (moist) % Type ¹ Loc ²	Texture Remarks
1-12 7.5 YR3/2 100		Sil
-16+ 2.5 y 5/2 70	7.5 YR 4/6 10 C M	
10. 2.5/1/2 10		
	10485/6 20 C M	
Construction D. Destation D.	W. C. J.	7.
ydric Soil Indicators: (Applicable to a	M=Reduced Matrix, CS=Covered or Coated Sand Grain	ns. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
_ Histosol (A1)	Sandy Redox (S5)	
_ Histic Epipedon (A2)	Sandy Redox (39) Stripped Matrix (S6)	2 cm Muck (A10) Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
estrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes X No
	3300 57 6 7	el soils-mid slope above
Skep Slope, eroded, likely wetland seepaye DROLOGY Tetland Hydrology Indicators:		·
DROLOGY		
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one requi	red; check all that apply)	Secondary Indicators (2 or more required)
DROLOGY etland Hydrology Indicators:	red; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one requir	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one requir _ Surface Water (A1) _ High Water Table (A2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Sait Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
etland Hydrology Indicators: imary Indicators (minimum of one requir _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	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)
PROLOGY Vetland Hydrology Indicators: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	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) (C3) Geomorphic Position (D2)
etland Hydrology Indicators: imary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	red; check all that apply) Water-Stained Leaves (B9) (except	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)
etland Hydrology Indicators: imary Indicators (minimum of one requir _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3) _ Algal Mat or Crust (B4)	red; check all that apply) Water-Stained Leaves (B9) (except	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)
etland Hydrology Indicators: imary Indicators (minimum of one requir 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)	red; check all that apply) Water-Stained Leaves (B9) (except	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)
etland Hydrology Indicators: imary Indicators (minimum of one requires) 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)	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) 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)
PROLOGY Petland Hydrology Indicators: 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 (Sparsely Vegetated Concave Surface	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) 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)
PROLOGY Petland Hydrology Indicators: 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 (Sparsely Vegetated Concave Surface Seld Observations:	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) 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)
PROLOGY Petland Hydrology Indicators: 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 (Sparsely Vegetated Concave Surface Seld Observations:	red; check all that apply) Water-Stained Leaves (B9) (except	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)
retland Hydrology Indicators: imary Indicators (minimum of one requires) 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 (Sparsely Vegetated Concave Surface ald Observations: Irface Water Present? Yes ater Table Present?	red; check all that apply) — 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 — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Stunted or Stressed Plants (D1) (LRR A) (B7) — Other (Explain in Remarks) (B8) No Depth (inches): NA	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)
PROLOGY Petland Hydrology Indicators: 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 (Sparsely Vegetated Concave Surface Bild Observations: Inface Water Present? Algal Mater Present? Algal Mate	red; check all that apply) Water-Stained Leaves (B9) (except	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)
rimary Indicators (minimum of one requirement (minimum	red; check all that apply) — 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 — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Stunted or Stressed Plants (D1) (LRR A) (B7) — Other (Explain in Remarks) (B8) No Depth (inches): NA	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)
retland Hydrology Indicators: 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 (Sparsely Vegetated Concave Surface Beld Observations: Inface Water Present? Ves Saturation Present? Ves Saturation Present? Secribe Recorded Data (stream gauge, 19) Secribe Recorded Data (stream gauge, 19)	red; check all that apply) 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 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B7) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): No Wetland monitoring well, aerial photos, previous inspections), if a	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) d Hydrology Present? Yes No
PROLOGY Petland Hydrology Indicators: 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 (Barrace Water Present? Stater Table Present? Stater Table Present? Surface Soil Cracks (B6) Vese Surface Water Present? Surface Water Present? Stater Table Present? Stater Table Present? Stater Table Present? Surface Water Present? Stater Table Present? S	red; check all that apply) Water-Stained Leaves (B9) (except	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)

OHWM Delineation Cover Shee	t Page $\underline{1}$ of $\underline{0}$
Project: Garberville 50 Date: 4/12/2	2
Project: Garberville 50 Location: Wallan Rd Garberville Off Investigator(s): 50	usept Soler, and Wilcox
Project Description:	
Tank and Water distribution replacement and repairs	
X.	
Describe the river or stream's condition (disturbances, in-stream structures	, etc.):
Scaronal stream, moderately incised within ste	rep Lilbide ravine.
Scaronal stream, moderately incised within ste Ravinestopes are knowled, deep litter and debr	15.
OHWM: 4 Gin	
Off-site Information	
Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) locations of transects, OHWM, and any other features of interest on the image(s)	to datasheet(s) and indicate approx.; describe below] Description:
Hydrologic/hydraulic information acquired? Yes No [If yes, attach below.] Description:	information to datasheet(s) and describe
	Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec.
List and describe any other supporting information received/acquired:	
Instructions: Complete one cover sheet and one or more datasheets for each project site. Eac characteristics of the OHWM along some length of a given stream. Complete enough datashed downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be conditionable to the datasheet.	ets to adequately document up- and/or

coordinates noted on the datasheet.

Datasheet #	1	OHW	M Delineation I	Datasheet	P	age 2	of 10
Transect (cross-s some distance; lab				he transect; includ			
Due le la Clara de	OTDVM D	21-am (5 60%) [MACALINA (20	60%) Canti	In (< 200) [7]	Mana	
Break in Slope at Notes/Description				slope on n	(a) (b)	None	
Sediment Textur	e: Estimate perce	ntages to describ	e the general sed	iment texture abo	ve and below th	e OHWM	
	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Develo	ped Soil is (Y/N)
Above OHWM	50	22	15	10	13	Y	
Below OHWM	35	20	28	12	5	L N	
Rocky 9701 below OHW	velly sitt loa	n above 0	HWM. Ban	. I dors, cubble	s + gravel	donit	at
Vegetation: Estin	nate absolute per	ent cover to desc	cribe general veg	etation characteris	stics above and	below the	OHWM
	Tree (%)	Shrub (%)	Herb (%)	Bare (%)			
Above OHWM	82	0	15	المنا) کا	er) tmpss		
Below OHWM	<u> 82 </u>	10	0	100 gran	ul+Alter		1 1
Notes/Description Forest Came by DHWM. For	extends over ns + dese	Mar over	m. No hobe above OHV	aceon and 1 M.	unimal Mas	uz Cang	rkelow
Other Evidence: - Drift /1 - Undran - Root ex - Erosia	wrack tbanks posure 1-sour	additional field	evidence and/or l	lines of reasoning	used to support	your deli	neation
	at sorting						

Project: Gabeville Jistrict Date: 4/15/22 Location: Garberville OHWM#2 Investigator(s): Jareph Jaker Project Description: Water tank and distribution line replacement and repairs. Describe the river or stream's condition (disturbances, in-stream structures, etc.): Headwater Associal Shagers Manny indicators not benefit and severe of the street lands of the st
Project Description: Water tank and distribution line replacement and repairs. Describe the river or stream's condition (disturbances in stream structures etc.):
Project Description: Water tank and distribution line replacement and repairs. Describe the river or stream's condition (disturbances in stream structures etc.):
Describe the river or stream's condition (disturbances in stream structures etc.):
Describe the river or stream's condition (disturbances in stream structures etc.):
Describe the river or stream's condition (disturbances, in-stream structures, etc.): Headwater of small shows Alland indicators not broad hardly down of
Describe the river or stream's condition (disturbances, in-stream structures, etc.):
Heady tax of small shown Allann indicators not amost until down of
LIGHT WAS A STAND SHOWN OF WAS AND
Headwater of smallstream. OHWM indicators not present undil downlope of small culvert disting residential imperious surfaces. Stream charge excavated at first, becomes notural further downslope.
OffwM 14 incls Off-site Information
Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:
Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe below.] Description:
below.] Description.
List and describe any other supporting information received/acquired:
List and describe any other supporting information received/acquired:
Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # 2		OHWN	M Delineation I	Datasheet	1	Page 4 of
Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)						
Looking upstream HOHWM (14 inches)						
Break in Slope at	OHWM: 🔯	Sharp (> 60°) [Moderate (30-	-60°) Gent	le (< 30°)	None
Notes/Description Saval OHWM	" of lathon of	what alloans to	be a historic	ally excavore	dchannel	Becomer
SAMOII UNIVIVI	it downstream of	data point.	(/		
Sediment Textur			the general sedi	iment texture abo	ve and below th	ne OHWM
	Clay/Silt	Sand	Gravel	Cobbles	Boulders	Developed Soil
Ahous OHWM	<0.05mm	0.05 – 2mm	2mm – 1cm	1 – 10cm	>10cm	Horizons (Y/N)
Above OHWM Below OHWM		30	15	8	X	(Mrima))
Notes/Description	. 27 1	50				JV
Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM Tree (%) Shrub (%) Bare (%)						
Above OHWM	50	0	95%	5 (Ms	5 Conv)	
Below OHWM	50	8	5	95%		
Notes/Description: 1 OHLAD 24 1 Annual Lab cares below OHWM.						
Notes/Description: Dense grave and Lorb over above OHWM, mainal amual Lorb over below OHWM. Vang black oaks with excavated channel above OHWM.						
Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation						
- Ension/sour						
- Drift wrach						
- Sedinat sirting - Undercut banks						
- Maerout bonku						

OHWM Delineation Cover Sheet Page 5 of 10
Project: Governile Santary District Date: 4/15/2022 Location: Governile OHWM#3 Investigator(s): Joseph Saler, Ondy Wicax
Location: GNOCVILL OHWN# 5 Investigator(s): JOST Jaly, U. J. WILLX
Project Description:
Water tank and distribution lines replacement and repairs.
Describe the river or stream's condition (disturbances, in-stream structures, etc.): Small Stream, notical condition downstream of study area. Large fill prism in stream for raadway observe OHWM and Stream conditions.
OHWM: 30in
Off-site Information
Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:
Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe
below.] Description:
List and describe any other supporting information received/acquired:
ι
Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS

coordinates noted on the datasheet.

Datasheet #)	OHWM	I Delineation I	Datasheet	P	age 6 of 10
Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)						
_	Break in Slope at OHWM: Sharp (>60°) Moderate (30-60°) Gentle (<30°) None Notes/Description: Shallow UHWM with Sharp breakin Shape and moderate bank.					
Sediment Textur	e: Estimate perce	ntages to describe	the general sed	iment texture abo	ove and below the Boulders	Developed Soil
	<0.05mm	0.05 – 2mm	2mm – 1cm	1 – 10cm	>10cm	Horizons (Y/N)
Above OHWM	57	20	20	3	D	Y (minmal)
Below OHWM	15	20	60	5+(uncrde)	Ø	N
Notes/Description: (except in chard increasing upstream. Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM						
Vegetation: Esti	Tree (%)	Shrub (%)	Herb (%)	Bare (%)		ciow die O11WW
Above OHWM	50	100	8	10		
Below OHWM	50	10	a	100		
Notes/Description: Dese bramble cover above OHWM, crosses are stream making movement along the stream nearly impossible. Natural Carditions dannetteen						
Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation - War was a support your delineation						
- Sedimentsocting						
- Dritt wrach - Litter removal						
- Litter ron	oral					

OHWM Delineation Cover Sheet Page 7 of 0
Project: Garberville Sanitary District Date: 4/15/22 Location: Garberville OHWM# 4 Investigator(s): Joseph Saler, Canaywilley Project Description: Water tank and distribution lines replacement and repairs.
Describe the river or stream's condition (disturbances, in-stream structures, etc.): First segment of dvainage of water flowing. On steep hillside below 650 water tank becomes. Below old roadway of junus is close hydric soils (7pq). Headways of stream, he coming progressively larger downlipe and away from Stray area. OHWM 18in, 0.5 in above that way. Off-site Information
Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:
Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe below.] Description:
List and describe any other supporting information received/acquired:
Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-se some distance; lab	ection) drawing:	(choose a location	on that is represed	ntativa of the dor		1
Datasheet # OHWM Delineation Datasheet Page of OT OHWM Delineation Datasheet Page of OT OF OHWM and other features of interest along the transect; include an estimate of transect length) Comparison of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length) Comparison of transect length OHWM Sharp (> 60°) Moderate (30–60°) Gentle (< 30°) None						
Sediment Texture	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	70	30	0	Ø	Ø	Y (fait)
Below OHWM	30	50	20	87	9	N
Vegetation: Estin			1100			below the OHWM
	Tree (%)	Shrub (%)	Herb (%)	Bare (%)	<u> </u>	
Above OHWM	80	3 0	50	20* M	1950 + liter	
Below OHWM Notes/Description:	80	0	ΤĂ	1/00	- T	60-1-1
Tree canopy Herbaceautr Other Evidence: - Errosian/s - Undercuth - Litter reno - Exposed 1	List/describe any					t your delineation

.

OHWM Del	lineation Cover Sheet	Page 9 of 0
Project: Garbonille SD	Date: 4/27/22	
Location: Melville Rd Garboville OHWM#5	Investigator(s): Torel Sole	
Project Description:		
Tank and distribution line replacement	t and repair.	
Describe the river or stream's condition (disturbances	, in-stream structures, etc.):	10
Deeply Inised seamal stream. Flow diverted through culvert. No OHWM natural ravine. OHWM become observed developing into a wetland as my Off-site Information	is augmented by roadide	runalt
diverted through culvert, IVO OHWINI	above culvert. Stream occ	cuns Wi
natural lavine. UHWIN belones obs	wed or it Haw into poro	v soil
Detaile Ceveloging Into a Wetland as Mg	ged. OHWINI: Mincher	acres
Kemotery sensed image(s) acquired: 1 ies 10	[11 yes, attach image(s) to datasheet(s) at	nd indicate approx.
locations of transects, OHWM, and any other features of i	nterest on the image(s); describe below] I	Description:
		14
Hydrologic/hydraulic information acquired? Yes	No [If yes, attach information to day	tasheet(s) and describe
below.] Description:		
List and describe any other supporting information re	ceived/acquired:	
	*	
Instructions: Complete one cover sheet and one or more datasheet characteristics of the OHWM along some length of a given stream downstream variability in OHWM indicators at the constitution of the constitution of the original datasets.	Complete enough datasheets to adequately do	cument up- and/or
downstream variability in OHWM indicators, stream conditions, et coordinates noted on the datasheet.	c. Transect locations can be marked on a recen	t actial image or their GPS

Datasheet # _ 5		OHW	M Delineation	Datasheet		Page 10 of 10
Transect (cross-s some distance; lab		THE PARTY NAMED IN	of interest along			haracteristics over of transect length)
	A			OHWM 1	7 in across	, 4 in. above thalweg
	6in		Y			majorg
	18 14	and the				
OH	Vm 17 in 12	Yin	port yorkyte co	NO		
Break in Slope at	оним:	Sharp (> 60°)	Moderate (30	–60°)	tle (< 30°) [None
Notes/Description	steep under	ut bank be	comes los ste	eep at OHW.	M on left &	anh. Small
	ve OHWM					
Sediment Texture	e: Estimate perce Clay/Silt	entages to describ Sand	e the general sec Gravel	Cobbles	ove and below the Boulders	he OHWM Developed Soil
	<0.05mm	0.05 – 2mm	2mm – 1cm	1 – 10cm	>10cm	Horizons (Y/N)
Above OHWM	90	10	Ø	0	8	Y
Below OHWM	76	5	2	12		
Some seal	ment sorting	below OHN	IM as evide	nced by	small bul	dus , cabbles,
	with ther i					
Vegetation: Estir	nate absolute per Tree (%)			getation character Bare (%		below the OHWM
Above OHWM	100	Shrub (%) 50	50	50*	incl.	itter + duff
Below OHWM	a	0	Ø	100%	- 	
	: 1 ,	1 1			1	1
Tree caropy	1 extends 1	more small	Stream as	does Shru	p caropy, 1	ha hung 11
passage alor	19 the OHW	M difficult	Dosewarz Co	ver above 0.	HWM , los	ha hing Than 10% below V OHWM. It your delineation
Other Fyidence	List/describe any	i vadditional field	UHWVI	No vovalor	plants belov	t your delineation
- Drift /Wra	ch	additional field	evidence and/or	mes of reasoning	s asea to suppor	r your defineation
- Undercut b	onles					
-Sediment s	orting					
-Sedimets - Erosian/: - Exposed 1	scour					
- Exposed 1	00B					
- Head cut	unich poir					



Photo 1: Wallan tank site looking south. Note upland conditions around the tank with pooled water from tank leak. This area was not considered wetland due to the completely artificial conditions and lack of hydrophytes and hydric soils. Photo taken April 19, 2022.



Photo 2: Stream #1, looking upstream (North). Note steep sloping ravine and eroded stream channel. Intermittent stream flow lines are temporarily obscurred by litter and debris from forested slopes. Photo taken April 19, 2022.





Photo 3: Looking south along Alderpoint Road at Wetland #1 within the vicinity of TP1. Wetland conditions are restricted to the lowest elevations between the road surface and the hillslope as shown by hydrophytic vegetation. Photo taken April 19, 2022.



Photo 4: Looking northeast at Wetland #2 north of Alderpoint Road within a flat area. Note the hydrophytic vegetation dominance and slight depression. Photo taken April 19, 2022.





Photo 5: Purple needlegrass grassland representative conditions, looking east near the Wallan Tank site. Note dense cover by purple needlegrass and abundant seed production. Photo taken April 27, 2022.



Photo 6: California oatgrass meadow looking south. California oatgrass is dominant within this area near the Wallan Tank site. Photo taken April 27, 2022.





Photo 7: Wetland #3 near CalFire Station looking southwest. Note abundance of Harford's sedge. Photo taken May 10, 2023.



Photo 8: Looking down Hillcrest Drive (north) at head of Wetland #4 within the vicinity of TP8. Wetland continues downslope within inboard ditch. Photo taken April 19, 2022.





Photo 9: Looking east across Wetland #5 within the vicinity of TP10. Wetland conditions are contained within a shallow swale and are likely connected to Stream #2 and culvert in the topographic low point visible beyond the wetland scientist. Photo taken April 19, 2022.



Photo 10: Looking east toward Wetland #6. TP13 location (upland) shown by survey rod and wetland TP12 location shown by shovel. Melville Drive occurs immediately left of the photo which has created the basin containing the wetland. Photo taken April 19, 2022.





Photo 11: Stream #2, looking upstream (southeast) at OHWM delineation point 5. Note incised channel with OHWM conditions. Seasonal, intermittent stream without water at time of delineation. Photo taken May 2, 2022.



Photo 12: Looking south toward the drainage swale between the motel and trailer park visible upslope. Wetland #7 is in the left side of the photo. Note developed and disturbed nature of the area. Photo taken May 9, 2023.





Photo 13: Wetland #8 in slope failure slump with strong hydric soil and wetland hydrology indicators. Photo taken May 9, 2023.



Photo 14: Wetland #9 in hillslope cut, looking west. TP27 is located at the base of the shovel. Note arroyo willow cover. Photo taken May 10, 2023.





Photo 15: Wetland #10 located mid-slope in a large roadcut above U.S. Highway 101, looking west (TP19 at base of shovel). Photo taken May 9, 2023.



Photo 16: Stream #3 within the vicinity of OHWM 3, looking northeast into the ravine containing the stream. Note dense vegetation and stream conditions evident in the center of the photo. Photo taken April 15, 2022.





Photo 17: Stream #4 headwaters, looking downslope (southeast) within the vicinity of OHWM point 2 (at survey rod). Note stream is contained within a partially excavated swale. OHWM indicators begin just upslope of the OHWM delineation point. Photo taken April 15, 2022.



Photo 18: Stream #5 looking downstream within vicinity of OHWM 4. The culvert under U.S. Highway 101 is barely visible in the upper center of the photo. Note well defined channel. Flows are likely intermittent but were present during the delineation. Photo taken February 17, 2023.



