Aquatic Resources Delineation

Homestead Collective Weed Company
(APN: 217-401-011)

Prepared by:

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(707) 601-1725

Prepared for:

Brian Roberts
P.O. Box 244
Blocksburg, CA 95514

Date:

August 2020

1. INTRODUCTION

This report includes the results of an aquatic resources delineation conducted on APN: 217-401-011 near Blocksburg. The purpose of the study was to identify wetlands and other aquatic resources and establish required setbacks from cannabis cultivation. This fulfills the request in the September 16, 2019 letter from the California Department of Fish and Wildlife (CDFW) for a wetland delineation. A parcel overview map is provided in Appendix A.

2. DEFINITIONS

Waters of the United States

Waters of the United States are regulated by the Army Corps under the Clean Water Act. Waters of the United States include, but are not limited to, territorial seas, waters used for interstate or foreign commerce and their tributaries, and waters adjacent to the aforementioned, including wetlands.

Army Corps jurisdiction in waters such as creeks and rivers includes the area below the ordinary high water mark, which is the line on the bank established by fluctuations of water that leave physical characteristics such as a distinct line on the bank, shelving, destruction of terrestrial vegetation, and presence of debris.

The Army Corps defines wetlands as:

> "… areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Waters of the State

Waters of the state are regulated by the State Water Resources Control Board (Water Board) under the Porter-Cologne Water Quality Control Act. Waters of the state are defined as:

> "… any surface water or groundwater, including saline waters, within the boundaries of the state."

Waters of the State includes water in both natural and artificial channels.

The Water Board's definition of a wetland is:

> *"An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."*

Streamside Management Areas
The Humboldt County General Plan (Humboldt County 2017) recognizes Streamside Management Areas (SMAs) along all streams, which are defined as:

> "100 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of perennial streams."
>
> "50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of intermittent streams."

3. ENVIRONMENTAL SETTING

Project Location
The parcel is located off Homestead Road approximately 2.3 miles west of Blocksburg on the Blocksburg USGS quadrangle (Section24, T2S, R4E) in Humboldt County (Figure 1).

Soil, Topography, and Hydrology
The soil on the parcel in mapped as Burgsblock-Coolyork-Tannin complex, 30 to 50 percent (United States Department of Agriculture, Natural Resource Conservation Service (NRCS) 2020) The soil type is derived from sandstone, mudstone, and schist parent material. The soil type and its minor components have non-hydric soil ratings. The parcel is on an approximately 35% generally south facing slope. The elevation ranges from approximately 700 to 1,300 feet above sea level. The parcel includes Basin Creek and three of its tributaries. Basin Creek is a tributary of the Eel River. The parcel also includes an instream pond.

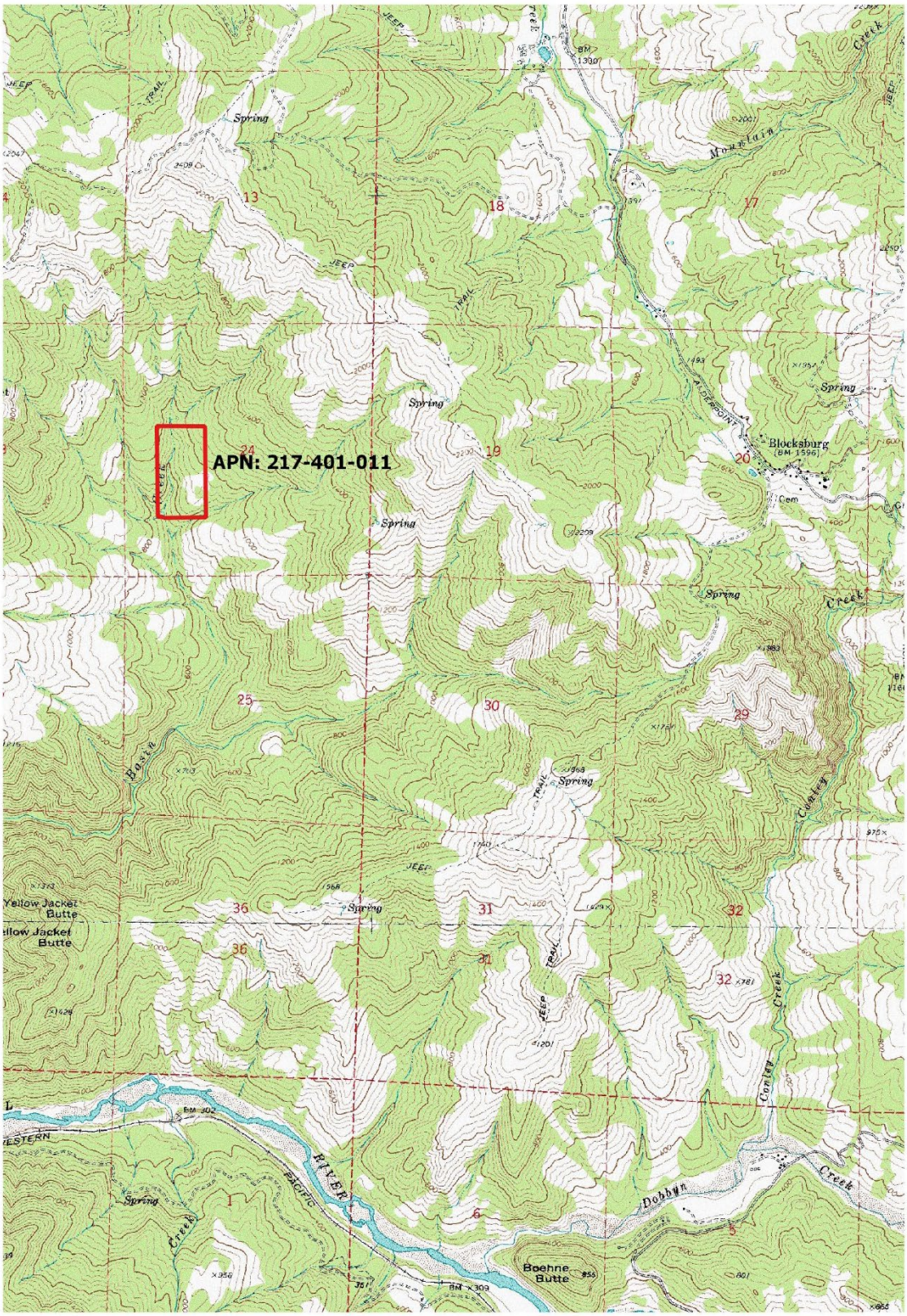
4. METHODS

Wetlands
The wetland delineation was conducted by Kyle Wear, M.A. Mr. Wear has over 20 years of experience conducting floristic surveys and other botanical work in northern California and over ten years of experience conducting wetland delineations. Mr. Wear is also completed the 5-day Wetland Training Institute wetland delineation course. The study area includes the pond and watercourses within 200 feet of the cultivation area.

Federal, State, and County wetland delineation methods follow the *1987 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)* (Army Corps 2010). A positive wetland determination is made when all three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) are present.

Three representative sample plots were evaluated for hydrophytic vegetation, hydric soil, and wetland hydrology. The plots represent the variation in topography and vegetation in the study

Figure 1. Location Map.



area that were appurtenant to the location of the cultivation area and establishment of setbacks. Wetland determination data forms are provided in Appendix B.

Hydrophytic Vegetation

The presence of hydrophytic vegetation is determined by the wetland indicator status of each plant species present using the *Western Mountains Valleys and Coast 2016 Regional Wetland Plant List* (Army Corps 2016). The indicator status of plants is based on the estimated probability of the species occurring in wetlands. The indicator status categories are:

Obligate Wetland Plants (OBL)	Almost always occur in wetlands	>99% frequency
Facultative Wetland Plants (FACW)	Usually occur in wetlands	67%-99%
Facultative Plants (FAC)	Equally occur wetlands and non-wetlands	33%-67%
Facultative Upland Plants (FACU)	Sometimes occur in wetlands	1%-33%
Obligate Upland Plants (UPL)	Rarely occur in wetlands	<1%

If more than 50% of the dominant plants across all vegetation strata (i.e. trees, shrubs, herbs) are OBL, FACW, or FAC, the vegetation is considered to be hydrophytic. Dominance of plants within the plots is determined using the "50/20" rule. This method involves estimating absolute cover of each plant in each vegetation stratum. Dominant plants include the plants with the highest cover that collectively or individually account for 50% of the total vegetation cover. Additional plants are considered dominant if their cover is at least 20%.

Hydric Soil

Indicators of hydric soil include, but are not limited to, a strong hydrogen sulfide (rotten egg) odor, redox concentrations, depleted matrix, and high organic matter content. Soil colors are determined by using a standard Munsell soil color chart (Gretag Macbeth 2000).

Wetland Hydrology

Indicators of wetland hydrology include, but are not limited to, surface water, high water table, soil saturation, sediment deposits, soil cracks, and oxidized root channels along living roots.

Other Aquatic Resources

Other aquatic resources include streams, rivers, ponds, lakes, and other waterbodies with an ordinary highwater mark and any adjacent riparian habitat.

5. RESULTS AND DISCUSSION

Aquatic features identified in the study area include a small wetland (approximately 100 square feet), two ephemeral streams, and the pond (Figure 2). There are additional areas that have hydrophytic vegetation, but do not meet the three-parameter wetland definition. Representative photos are provided in Appendix C.

Emergent Wetland

The small wetland is near the base of the pond levee. The wetland has hydrophytic vegetation dominated by spreading rush (*Juncus patens* [FACW]) and poison oak (*Toxicodendron*

Figure 2. Aquatic Resources Map.

diversilobum [FAC]). Other plants include pennyroyal (*Mentha pelugium* [OBL]), lady fern (*Athyrium filix-femina* [FAC]), and velvet grass (*Holcus lantaus* [FAC]). There is a tree canopy over the wetland, but the trees are not rooted in the feature. The soil color was 10yr 4/1 with distinct and prominent 7.5yr 5/6 redox concentrations; this meets hydric soil indicator F3 (Depleted Matrix). The soil was saturated to the surface. There was also shallow surface water in a portion of the feature. Wetland hydrology indicators present included A1 (Surface Water), A2 (High Water Table), and A3 (Saturation). It was not clear if the water is groundwater or water leaking from the pond above.

Ephemeral Streams

There are two ephemeral streams in the study area. One of the stream flows into the pond, the other runs just east of the pond and receives the pond overflow.

Instream Pond

The pond had surface water and floating and emergent hydrophytic vegetation. Associated plants include pondweed (*Potamogeton* sp. [OBL]), cattail (*Typha latifolia* [OBL]), water plantain (*Alisma lanceolatum* [OBL]), spike rush (*Eleocharis* sp. [OBL or FACW]), and nutsedge (*Cyperus eragrostis* [FACW]). Google Earth images indicate the pond was constructed between 2006 and 2009. The 2006 image shows the stream channel that feeds the pond continuing south through what is now the pond and converging with the eastern stream, although the confluence is obscured by trees (Appendix D). The area appears to be upland other that the streams, with some associated vegetation, possibly spreading rush or stands of coyote brush, although the resolution of the photo is not adequate to make a definitive determination.

Hydrophytic Vegetation

Approximately 5,008 square feet of area adjacent to the ephemeral streams has hydrophytic vegetation but lacks indicators of hydric soil or wetland hydrology. These areas are generally dominated by spreading rush (*Juncus patens* [FACW]). Other associated plants include pennyroyal (*Mentha pelugium* [OBL]), sweet vernal grass (*Anthoxanthum odoratum* [FACW]), Italian thistle (*Carduus pycnocephalus* [UPL]), and bull thistle (*Cirsium vulgare* [FACU]). The July site visit was in the dry season and lack of wetland indicators like saturated soil was expected. However, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Western Mountains, Valleys, and Coast Region (Version 2.0)* (Army Corps 2010) provides many other wetland hydrology indicators that can be used in the dry season. The soil color was 10yr 2/2 with no redox features or other indicators of hydric soil. It is likely these areas are wetter than adjacent areas with non-hydrophytic vegetation during periods with heavy rainfall, but the frequency and duration of soil saturation is not sufficient to create hydric soil, thus these areas do not meet the three-parameter wetland definition.

Upland

The adjacent upland habitat includes grasslands and mixed conifer and hardwood stands. The grasslands are dominated by non-native herbaceous plants including sweet vernal grass (*Anthoxanthum odoratum* [FACW]), rough cat's-ear (*Hypochaeris radicata* [FACU]), and English

plantain (*Plantago lanceolata* [FACW]). There are scattered stands of coyote brush (*Baccharis pillularis* [UPL]). The adjacent mixed conifer and hardwood stands include Douglas-fir (*Pseudtosuga menziesii* [FACU]), California bay (*Umbellularia californica* [FAC]), madrone (*Arbutus menziesii* [UPL]), and California black oak (*Quercus kelloggii* [UPL]).

Setbacks

A 100-foot setback from the pond and 50-foot setbacks from the ephemeral streams are shown in Figure 1. The small wetland is over 130 feet from the cultivation area. Both *Humboldt County General Plan* (Humboldt County (2017) and *Cannabis Cultivation Policy* (State Water Resources Control Board 2019) require 50-foot setbacks from ephemeral watercourses. The pond is constructed, but now includes aquatic habitat that has a connection the adjacent stream. Approximately 368 square feet of the cultivation area is withing 100 feet of the pond. The northeast edge of the cultivation area is approximately 85 feet from the top of the bank of the pond. However, there is a road between the cultivation area and the pond, and the cultivation area is on the west side of the ridge (the pond is on the east side), thus any nitrogen rich runoff or other pollutants would move west towards Basin Creek away from the pond. It is the opinion of the consultant that moving a portion of the cultivation area is not necessary to protect the pond. Basin Creek is over 340 feet from the cultivation area.

6. REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experimental Station. https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4532/

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Humboldt County. 2017. *Humboldt County General Plan* (Adopted October 23, 2017). Chapter 10 Conservation and Open Space Elements. https://humboldtgov.org/205/General-Plan

State Water Resources Control Board (Water Board). 2019. *Cannabis Cultivation Policy*. *Principles and Guidelines for Cannabis Cultivation.* https://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/policy/final_cannabis_policy_with_attach_a.pdf

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Wetland Ratings. Phytoneuron 2016-30: 1-17.
https://www.codot.gov/programs/environmental/wetlands/nwpl_wmvc_2016v1.pdf

United States Department of Agriculture, Natural Resource Conservation Service. 2020. *Web Soil Survey*
https://websoilsurvey.sc.egov.usda.gov

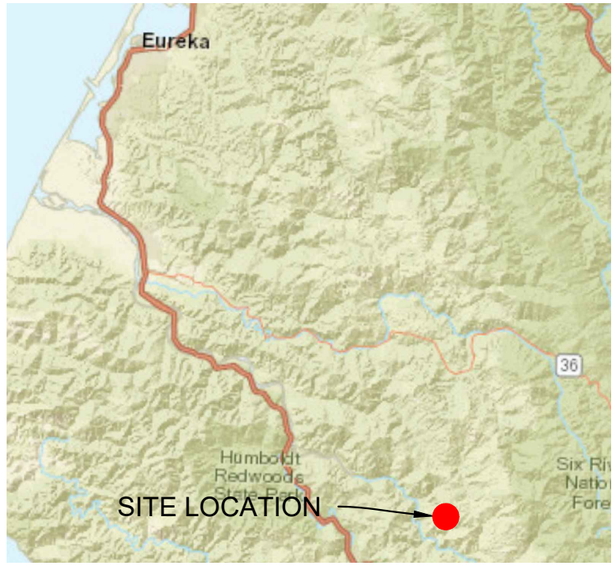
APPENDIX A Parcel Overview Map

THC WEED COMPANY, LLC:

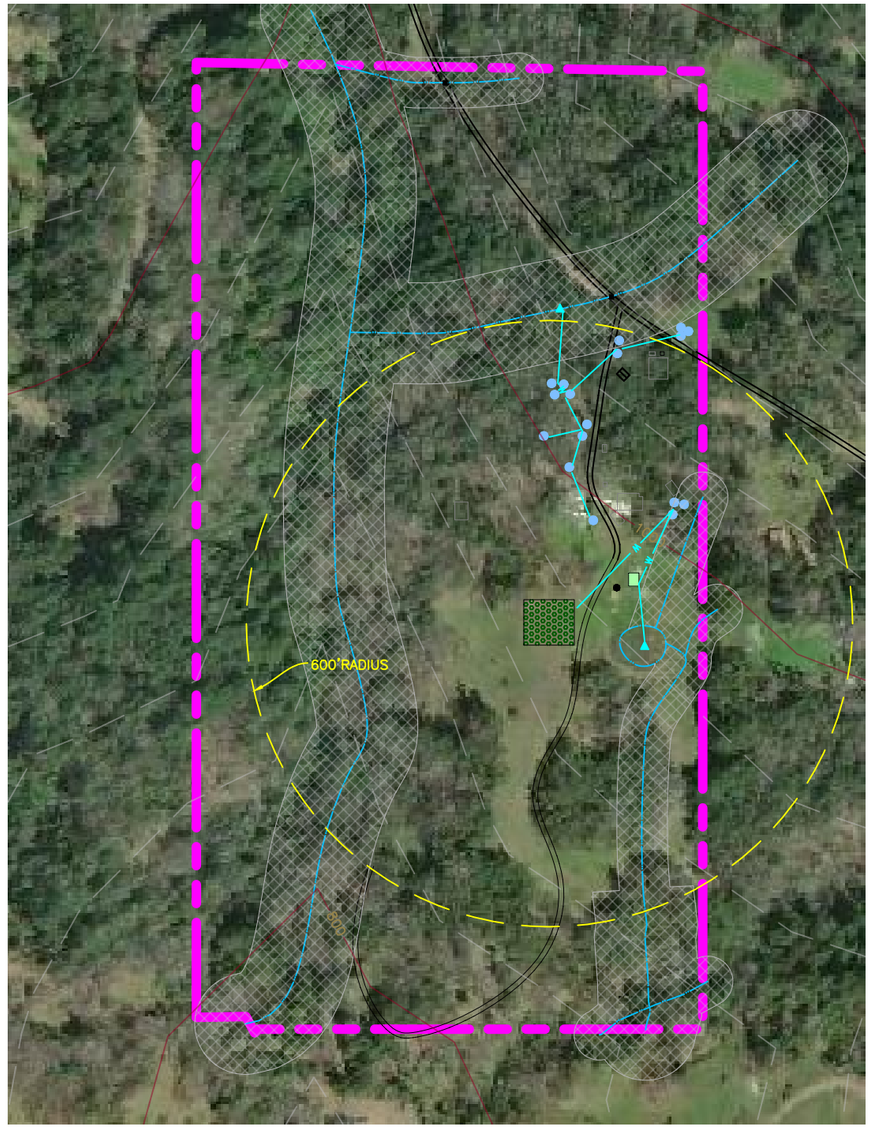
APN: 217-401-011

VICINITY MAP

NOT TO SCALE



AERIAL MAP



PROJECT DIRECTIONS

FROM: EUREKA, CA

- HEAD SOUTH ON THE U.S. 1015 (20MILES)
- TAKE EXIT 685 FOR LA-36E (0.3 MILES)
- TURN LEFT ONTO LA-36E (24 MILES)
- TURN RIGHT ONTO ALDER POINT ROAD (18 MILES)
- TURN RIGHT TOWARD HOMESTEAD ROAD (0.3 MILES)
- TURN LEFT TOWARD HOMESTEAD ROAD (3.3 MILES)

TRAVEL TIME

APPROXIMATELY: 1HR 45 MINUTES, 66 MILES

SHEET INDEX

PROJECT INFORMATION

LAT/LONG: 40.2757/-123.6823
APN: 217 - 401 - 011
APPLICANT: THC WEED COMPANY, LLC
PARCEL SIZE: 43.96 ACRES
ZONING: FR
APPLICATION TYPE: TYPE 2 OUTDOOR

COASTAL ZONE: NO
100 YEAR FLOOD: NO

AGENT:

KAYLIE SAXON
GREEN ROAD CONSULTING INC
1650 CENTRAL AVE. SUITE C
MCKINLEYVILLE, CA 95519
707-630-5041

N

150' 300' 600'

PROPERTY LINES AND BUILDING LOCATIONS ARE APPROXIMATE AND BASED ON AERIAL MAPS AND GPS DATA TAKEN IN THE FIELD.

GREEN ROAD CONSULTING

PROJECT INFORMATION

PROPERTY OWNER . BRIAN ROBERTS
ADDRESS 5576 HOMESTEAD RD, BLOCKSBURG, CA APN: 217-401-011
SHEET INFO COVER PAGE

REVISIONS

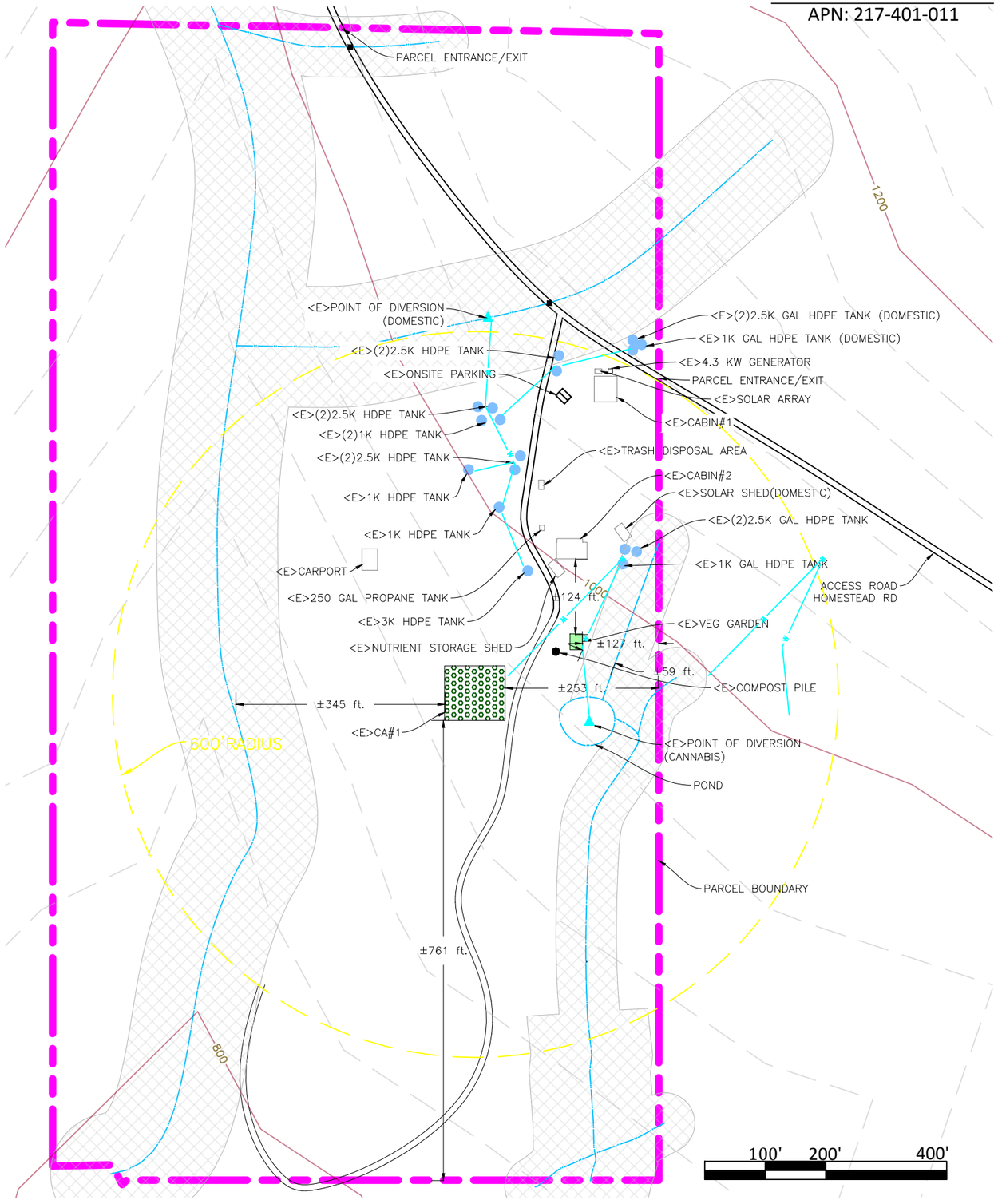
NO.	NOTES	DATE

DATE 7/31/19
DRAFTER DV
SCALE AS SHOWN

SHEET
CP

PARCEL OVERVIEW

APN: 217-401-011



CULTIVATION INFORMATION

OUTDOOR CULTIVATION AREA

CA	LENGTH		WIDTH	SQ FT
1	100	X	90	9,000

TOTAL OUTDOOR CULTIVATION AREA = 9,000 SQ FT

CULTIVATION BUILDINGS AND USE

BUILDINGS	USE	SIZE	YEAR
CABIN #1	HARVEST STORAGE/DRYING/PACKAGING	36'x36'	1995
NUTRIENT STORAGE SHED	NUTRIENT STORAGE	10'x20'	1990
CARPORT(TEMPORARY)	HARVEST STORAGE/DRYING	10'x20'	2017

DOMESTIC BUILDINGS AND USE

BUILDINGS	USE	SIZE	YEAR
SOLAR SHED	SOLAR EQUIPMENT STORAGE	10'x10'	1990
CABIN #2	LIVING QUARTERS	24'x36'	1990

WATER STORAGE AND USE

TYPE	USE	QUANTITY	GALLONS	TOTAL GALLONS
HDPE TANK	DOMESTIC	2	2,500	5,000
HDPE TANK	DOMESTIC	1	1,000	1,000
HDPE TANK	CULTIVATION	2	2,500	5,000
HDPE TANK	CULTIVATION	2	2,500	5,000
HDPE TANK	CULTIVATION	2	1,000	2,000
HDPE TANK	CULTIVATION	2	2,500	5,000
HDPE TANK	CULTIVATION	1	2,500	2,500
HDPE TANK	CULTIVATION	1	1,000	1,000
HDPE TANK	CULTIVATION	1	1,000	1,000
HDPE TANK	CULTIVATION	2	2,500	5,000
HDPE TANK	CULTIVATION	1	1,000	1,000
HDPE TANK	CULTIVATION	1	3,000	3,000

TOTAL AMOUNT OF WATER STORAGE= 36,500 GALLONS

WATER SOURCE

TYPE
POND(CANNABIS)
CLASS II STREAM (DOMESTIC)

UNNAMED CLASS II STREAM WITH REQUIRED 100 FT BUFFER

UNNAMED CLASS III STREAM WITH REQUIRED 50 FT BUFFER

POWER SOURCE

4.3KW GENERATOR

SOLAR ARRAY

SURROUNDING BUILDINGS

THERE ARE NO SCHOOLS, BUS STOPS, PLACES OF WORSHIP, PUBLIC PARKS OR TRIBAL CULTURAL RESOURCES WITHIN 600 FEET OF THE CULTIVATION SITE.

THERE ARE NO OFF SITE RESIDENCES WITHIN 300 FEET OF THE CULTIVATION SITE.

LEGEND

CLASS II STREAM WITH REQUIRED 100 FT BUFFER

UNNAMED CLASS III STREAM WITH REQUIRED 50 FT BUFFER

W — WATER DELIVERY LINE

WATER CROSSING

GREEN ROAD CONSULTING

PROJECT INFORMATION

PROPERTY OWNER . BRIAN ROBERTS

ADDRESS . 5576 HOMESTEAD RD, BLOCKSBURG, CA

SHEET INFO . PARCEL OVERVIEW

REVISIONS

NO.	NOTES	DATE

DATE 7/31/19

DRAFTER DV

SCALE AS SHOWN

SHEET C1

N

APPENDIX B Wetland Determination Data Forms

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

Project/Site: APN: 217-401-011 City/County: Humboldt Sampling Date: 7-22-20

Applicant/Owner: Roberts State: CA Sampling Point: 1

Investigator(s): K. Wear Section, Township, Range: 24, T2S, R4E

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

Subregion (LRR): A ~~Lat:~~ E4421193 ~~Long:~~ N4458538.7 Datum: NAD 83

Soil Map Unit Name: Burgsblock-Coolyork-Tanning Compl. NWI classification: —

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

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

Are Vegetation ____, Soil ____, or Hydrology X (1) naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (1) Dry Season field work

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 10'-radius)			
1. Juncus patens	80	Y	FACW
2. Cardus pycnocephalus	10	N	UPL
3. Anthoxanthum odoratum	10	N	FACU
4. Cirsium vulgare	2	N	FACU
5. Mentha pelugium	2	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	104 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10yr 2/2						CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: APN: 217-401-011 City/County: Humboldt Sampling Date: 7-22-20

Applicant/Owner: B. Roberts State: CA Sampling Point: 2

Investigator(s): K. Wear Section, Township, Range: 24, T2S, R4E

Landform (hillslope, terrace, etc.): ± terrace Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): A Lat: E 442091.7 Long: N 4458513.8 Datum: NAD 83

Soil Map Unit Name: Burgstock - Coolyork - Tannin NWI classification:

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

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

Are Vegetation ____, Soil ____, or Hydrology X(1) naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Dry season field work

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 10'-radius)			
1. Anthoxanthum odoratum	50	Y	FACW
2. Hypochaeris radicata	50	Y	FACU
3. Juncus bufonius	5	N	FACW
4. Hypericum perforatum	2	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	107 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10yr 3/2						CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: APN: 217-401-011 City/County: Humboldt Sampling Date: 7-22-20

Applicant/Owner: B. Roberts State: CA Sampling Point: 3

Investigator(s): K. Wear Section, Township, Range: 24, T2S, R4E

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

Subregion (LRR): A Lat: E 442115.3 Long: N 4458487.66 Datum: NAD 83

Soil Map Unit Name: Burgsblack - Coolyork - Tanin NWI classification:

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

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

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

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

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

Remarks: Plot is seepy area near base of pond leave

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10'-r)			
1. Toxicodendron diversilobum	20	Y	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 10'-r)			
1. Juncus patens	50	Y	FACW
2. Holcus lanatus	10	N	FAC
3. Mentha pelusium	10	N	OBL
4. Rumex crispus	2	N	FAC
5. Athyrium felix-femina	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	77 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks: There is a tree layer above feature, but trees are not rooted in it.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr4/1	80	7.5yr5/6	20	C	M	CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X 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 Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1/4 inch

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Appendix C. Representative Photos.

Photo 1. Small wetland near base of the pond levee.

Photo 2. Upland grassland adjacent to the cultivation area.

Appendix C (Cont.). Representative Photos.

Photo 3. Pond with cattails and pondweed.

Photo 4. Stand of spreading rush (*Juncus patens*) in area that lacks other wetland indicators.

Appendix D. Comparison of 2006 and 2019 Google Earth Image of the Pond Location.