Fort Bragg Wetland Report

Prepared for:

Best Development Group, Sacramento, California

Prepared by:

WILDLAND RESOURCE MANAGERS

P.O. Box 102 • Round Mountain, CA 96084

March 2021

Introduction

In 2019 the Best Development Group (BDG) contracted with Wildland Resource Managers (WRM) to conduct a Biological Review for a parcel of land within the town of Fort Bragg, California. This BR (WRM 2019) was prepared to meet the Mendocino County's planning requirements pursuant to the California Environmental Quality Act (CEQA). The BR noted that the Natural Resource Conservation Service (NRCS) web soil survey identified one soil type on the parcel classified as "Urban." According to NRCS, this soil is described as found on marine terraces consisting of fluviomarine deposits derived from sedimentary rock with a hydric soil rating: "yes". A "yes" indicates the soil is hydric and capable of supporting hydrophytic vegetation. In response to this finding, BDG received notification that "the applicant shall additionally submit a delineation of all wetland areas on the project site" (email to T. Johnson from LACO and Associates). This wetland report addresses that requirement for a wetland delineation of the parcel.

The parcel property consists of three lots located on the west side of South Franklin Street in the south-central part of Fort Bragg. The legal location includes portions of the Northwest ¼ of Section 18, Township 18 North, Range 17 West (Figure 1). The northern most parcel is a paved parking lot with the center parcel covered with a large building. The southern parcel is vacant and therefore the subject area of this report.

Figure 1

Methods

The parcel was visited on the afternoon of March 15, 2021 by WRM's principal biologist for the purpose of determining if wetlands, of any type, are present at the site. On that date, the weather was clear with a strong north wind blowing. Initial inspection of the parcel noted that there was no evidence of any wetland features but rather the site's vegetation consisted of annual grasses and forbs, lacking shrubs and or trees (see photo sections). To be certain that no wetland indicators were present, a systematic survey of the parcel was made following the Army Corp of Engineers (USACE) wetland determination data collection methodology and the definition of wetland boundaries contained in Section 13577 (b) of the California Code of Regulations (see Appendix). To do this, four test locations were selected to represent the general character of the parcel. As depicted on Figure 2 on the following page, one test location was placed within each quadrant of the parcel (northeast, northwest, southwest and southeast). At each location data was collected within a 1-meter square sample plot. At each plot the dominant vegetation was identified, soil structure and type were determined and evidence of hydrology was looked for. Soil structure was determined by excavating an 18+ inch deep hole and noting the soil profile description and any presence or absence of hydric soil indicators. Data was recorded on the USACE "Wetland Determination Data Form – Arid West Region." Data forms for each test location may be found in the appendix.

Results

No indicators of any type of wetland, stream course, vernal pools or vernal swales were found on the site. There were a limited number of wetland plants found but their frequency of presence was insufficient to constitute a wetland site. There was no evidence of hydric soil nor any wetland hydrology found. No part of this parcel may be considered a wetland area. Table 1 summarizes the data collected at each test plot location.

Table 1

Test plot #	Dominant vegetation	Soils	Hydrology
1	60% hydrophytic	Non-hydric dark sandy loam	none
2	47% upland 48% Fac upland	Non-hydric sandy loam	none
3	85% upland	Non-hydric sand with cobbles	none
4	81% upland	Non-hydric sand with cobbles	none

Figure 2 Test Plot Locations

Additional information

On the northern two parcels there are additional shrubs and trees that were planted at some time as part of a landscaping effort. Table 2 lists these species, none of which are wetland species and none were found on the southern parcel.

Table 2

Plant species identified on the northern two parcels

Common name	*Scientific name*
Monterey Cypress	Cupressus macrocarpa
Macartney rose	Rosa bracteate
Butterfly bush	Buddleja davidii
Mugo pine	Pinus mugo
Japanese quince	Chaenomeles japonica
Shaggy dwarf morning glory	Evolvulus nuttallianus
Common boxwood	Buxus sempervirens
Common myrtle	Myrtus communis
Pacific rhododendron	Rhododendron macrophyllum
Chinese silver grass	Miscanthus sinensis

For further information regarding this report, please contact:

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Appendix

1. References cited

Army Corp of Engineers reference and guidance letter used to conduct this study:

. The 1987 Corps of Engineers Wetlands Delineation Manual
. The Army Corp of Engineers field guide to the identification of the ordinary high-water mark in the arid west region of the western United States (2008),
. Regulatory Guidance Letter (RGL) 05-05, Ordinary High-Water Mark Identification (12/2005)
. The Army Corp of Engineers Jurisdictional Determination Form instructional guidebook
. The Army Corp of Engineers minimum standards for acceptance of aquatic resources delineation reports
. The Army Corps of Engineers, State of California 2016 wetland plant list
. The Army Corp of Engineers final map and drawing standards for the South Pacific Division regulatory program.

Turner, Byron E. LACO Associates 2021. Email to Terry Johnson, subject: Fort Bragg City Code, Wetland Delineation Report for Wetland ESHA.

Wildland Resource Managers. 2019. Grocery Outlet Fort Bragg, California Property Biological Review. Unpub. report for Best Development Group, Sacramento, California.

2. Photo page and data sheets for each test location follow this page:

Photo section

Photo 1 looks north across the southern parcel with South Franklin Street on the right. The building in the center is on the middle parcel. Annual grasses and forbs dominate the south parcel as seen in the photo, no wetlands are evident.

Photo 2 is taken at Sample Plot 4 looking north west across the southern parcel. The fence in the distance is the western edge of the parcel. No wetlands are evident.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ft. Bragg City/County: Ft. Bragg Sampling Date: 3/15/2021

Applicant/Owner: T. Johnson State: CA Sampling Point: 1

Investigator(s): S. Kerns Section, Township, Range: NW¼ Sec 18 T18N, R17W

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

Subregion (LRR): Cv Lat: 39.429614 Long: -123.804985 Datum: _____

Soil Map Unit Name: Urban NWI classification: _____

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Plantago lanceolata	5	yes	FAC
2. Trifolium subterraneum	40	yes	UP
3. Eschscholzia californica	5	yes	UP
4. Rumex acetosella	5	yes	Obl
5. Danthonia californica	40	yes	FAC
6. Scorzonerioides autumnalis	1	No	FACU
7. Oxalis pes-caprae	1	No	UP
8. Anthoxanthum odoratum	1	No	FACU
Total Cover:	98		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 5	x 1 = 5
FACW species 0	x 2 = 0
FAC species 45	x 3 = 135
FACU species 2	x 4 = 8
UPL species 45	x 5 = 225
Column Totals: 97 (A)	373 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

- ✓ Dominance Test is >50%
- N Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: Hydrophytic plants are present but not sufficient To qualify as a wetland dominants

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
1-18"	10R3-1	100	—				Sand/loam	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ 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)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ 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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ 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)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ft. Bragg City/County: Ft. Bragg Sampling Date: 3/15/2021
Applicant/Owner: T. Johnson / Best Development Group State: CA Sampling Point: 2
Investigator(s): S. Kerns Section, Township, Range: NW 1/4 Sec 18 T18N R17W
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): Cr Lat: 39.429677 Long: -123.805275 Datum:
Soil Map Unit Name: Urban NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Raphanus raphanistrum	12	No	UP
2. Bromus diandrus	40	Yes	UPL
3. Daucus carota	3	No	FACU
4. Rumex acetosella	15	Yes	FACU
5. Medicago polymorpha	20	Yes	FACU
6. Anthoxanthum odoratum	10	Yes	FACU
7. Oxalis pes-caprae	5	Yes	UP
8.			
Total Cover: 95			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	48	x 4 =	192
UPL species	47	x 5 =	253
Column Totals:	95 (A)		427 (B)

Prevalence Index = B/A = 4.49

Hydrophytic Vegetation Indicators:
N Dominance Test is >50%
N Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

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)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
1-18	10YR3-1	100					Sand/Sandy loam	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ 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)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ 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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ 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)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ft. Bragg City/County: Ft. Bragg Sampling Date: 3/15/2021

Applicant/Owner: T. Johnson State: CA Sampling Point: 3

Investigator(s): S. Horne Section, Township, Range: NW 1/4 Sec 18 T 18N R 17W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): Cr Lat: 39.429339 Long: -123.805447 Datum:

Soil Map Unit Name: Urban 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 N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

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

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

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

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Plantago lanceolata	10	Yes	FAC
2. Elymus glaucus	45	Yes	UP
3. Arctotheca calendula	20	Yes	UP
4. Trifolium subterraneum	20	Yes	UP
5. Anthoxanthum odoratum	5	No	FACU
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum ___ % Cover of Biotic Crust ___

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	10	x 3 = 30
FACU species	5	x 4 = 20
UPL species	85	x 5 = 425
Column Totals:	100 (A)	475 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ___ No ✓

Remarks:

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	10YR3/1	100					Sandy	
6-18							Sandy @ small stone	

[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)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ 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)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ 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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ 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)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ft. Bragg City/County: Ft. Bragg Sampling Date: 3/15/2021

Applicant/Owner: J. Johnson / Best Development Groups State: CA Sampling Point: 4

Investigator(s): S. Kerns Section, Township, Range: NW 1/4 Sec 18N R17W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): CR Lat: 39.429177 Long: -123.805113 Datum:

Soil Map Unit Name: Urban NWI classification:

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

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

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

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

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

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Holcus lanatus	50	yes	up
2. Panicum virgatum	30	yes	up
3. Leontodon saxatilis	10	yes	FACU
4. Vinca major	1	No	up
5.			
6.			
7.			
8.			
Total Cover:	91		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 10	x 4 = 40
UPL species 81	x 5 = 405
Column Totals: 91 (A)	445 (B)

Prevalence Index = B/A = 4.89

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 4

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	10YR3-1	100					Sand	
6-15	10YR3-1	100					Sand	@ small cobbles

[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)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ 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)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ 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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ 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)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks: