

Hallmark-Barham Specific Plan EIR
Technical Appendices

Appendix E.4
Jurisdictional Findings

Memorandum

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Date: May 27, 2020

To: Ms. Mariana McGrain
Hallmark Communities, Inc.
740 Lomas Santa Fe Drive, Suite 204
Solana Beach, CA 92075

From: Stacy Nigro

Subject: Jurisdictional Findings for 943 Barham Drive Project Site, San Marcos, CA

HELIX Proj. No.: HMC-16

Message: Dear Ms. McGrain,

This memo summarizes the jurisdictional findings from field work conducted on the property located at 943 Barham Drive, San Marcos, California.

Methods

HELIX Environmental Planning, Inc. (HELIX) biologists Stacy Nigro and Jason Kurnow conducted a site visit on April 24, 2020 to assess the property for potential wetland habitats that could be potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA, and/or habitats regulated by the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 of the California Fish and Game Code.

Prior to beginning fieldwork, aerial imagery (Google Earth), the local soil survey, and National Wetland Inventory (U.S. Fish and Wildlife Service 2020) and U.S. Geological Survey quadrangle maps were reviewed to determine the location of potential jurisdictional areas within the project site.

Plants were identified according to The Jepson Manual: Vascular Plants of California (Baldwin et al. [2012]). Wetland affiliations of plant species follow the National Wetland Plant List (Lichvar et al. 2016). Soils information was taken from the U.S. Department of Agriculture's (USDA's) Web Soil Survey (2020) and USDA Hydric Soil Lists (1992). Soil colors were identified according to Munsell's Soil Color Charts (Kollmorgen 1994).

Potential USACE and RWQCB wetlands were determined using three criteria (vegetation, hydrology, and soils) established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008). Potential CDFW wetlands were determined based on the presence of riparian vegetation or a stream.

Memorandum (cont.)

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Four sampling points were studied, and soil pits were excavated at each of these locations. Photographs taken of the sampling points are included in Attachment A. Standard USACE wetland determination data forms were completed for each sampling point in the field, and are included in Attachment B.

Results

None of the four sampling points were determined to be wetland. The results for each sampling point are summarized below and further details can be found in Attachment B. Normal circumstances were present and neither vegetation, soil, or hydrology were significantly disturbed or naturally problematic. In addition, soil map units on site are not on the USDA Hydric Soils List and the National Wetlands Inventory does not show any features on the site.

Sampling Point 1A

Sampling Point 1A was taken in a low area of non-native grassland in the central portion of the site. Rippgut grass (*Bromus diandrus*), an upland species, was the dominant species present, thus the hydrophytic vegetation criterion was not met. A soil pit excavated to 19 inches did not reveal the presence of hydric soil indicators, thus the hydric soil criterion was not met. No secondary or primary indicators of wetland hydrology were observed; thus, the wetland hydrology criterion was not met. This sampling point did not meet any of the three wetland criteria for the USACE or RWQCB, nor is it a CDFW wetland or riparian habitat.

Sampling Point 1B

Sampling Point 1B was taken in non-native grassland in the central portion of the site, near to and upslope of Sampling Point 1A. Two upland species: rippgut grass and oats (*Avena* sp.), were the dominant species present, thus the hydrophytic vegetation criterion was not met. A soil pit excavated to 18 inches did not reveal the presence of hydric soil indicators, thus the hydric soil criterion was not met. No secondary or primary indicators of wetland hydrology were observed; thus, the wetland hydrology criterion was not met. This sampling point did not meet any of the three wetland criteria for the USACE or RWQCB, nor is it a CDFW wetland or riparian habitat.

Sampling Point 2

Sampling Point 2 was taken in non-native grassland in the southern portion of the site. One upland species: rattail fescue (*Festuca myuros*), was the dominant species present, thus the hydrophytic vegetation criterion was not met. A soil pit excavated to 8 inches did not reveal the presence of hydric soil indicators, thus the hydric soil criterion was not met. Deeper excavation was precluded by the presence of an underlying rock layer. No secondary or primary indicators of wetland hydrology were observed; thus, the wetland hydrology criterion was not met. This sampling point did not meet any of the three wetland criteria for the USACE or RWQCB, nor is it a CDFW wetland or riparian habitat.

Memorandum (cont.)

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Sampling Point 3

Sampling Point 3 was taken in non-native grassland in the central portion of the site. One upland species (ripgut grass) and one wetland species (curly dock [*Rumex crispus*]) were the dominant species present, thus the hydrophytic vegetation criterion was not met as it failed both the dominance test and the prevalence index. While curly dock can occur in wetland habitat, it also is frequently observed in upland habitat, particularly in grassland. Curly dock is rated as a facultative (FAC) species, which has equal likelihood of occurring in an upland as it does in a wetland; it is not a strongly hydrophytic species. A soil pit excavated to 20 inches did not reveal the presence of hydric soil indicators, thus the hydric soil criterion was not met. No secondary or primary indicators of wetland hydrology were observed; thus, the wetland hydrology criterion was not met. This sampling point did not meet any of the three wetland criteria for the USACE or RWQCB, nor is it a CDFW wetland or riparian habitat.

In summary, all sampling points were determined to be upland, wetlands were not observed on the project site.

If you have any questions about the content of this memo, please call me at 760-517-9054 or 619-462-1515.

Sincerely,

A handwritten signature in blue ink, appearing to read "Stacy Nigro".

Stacy Nigro
Principal Biologist

Enclosures

Figure 1 Sampling Point Locations
Attachment A Sampling Point Photos
Attachment B Wetland Determination Data Forms

Memorandum (cont.)

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References

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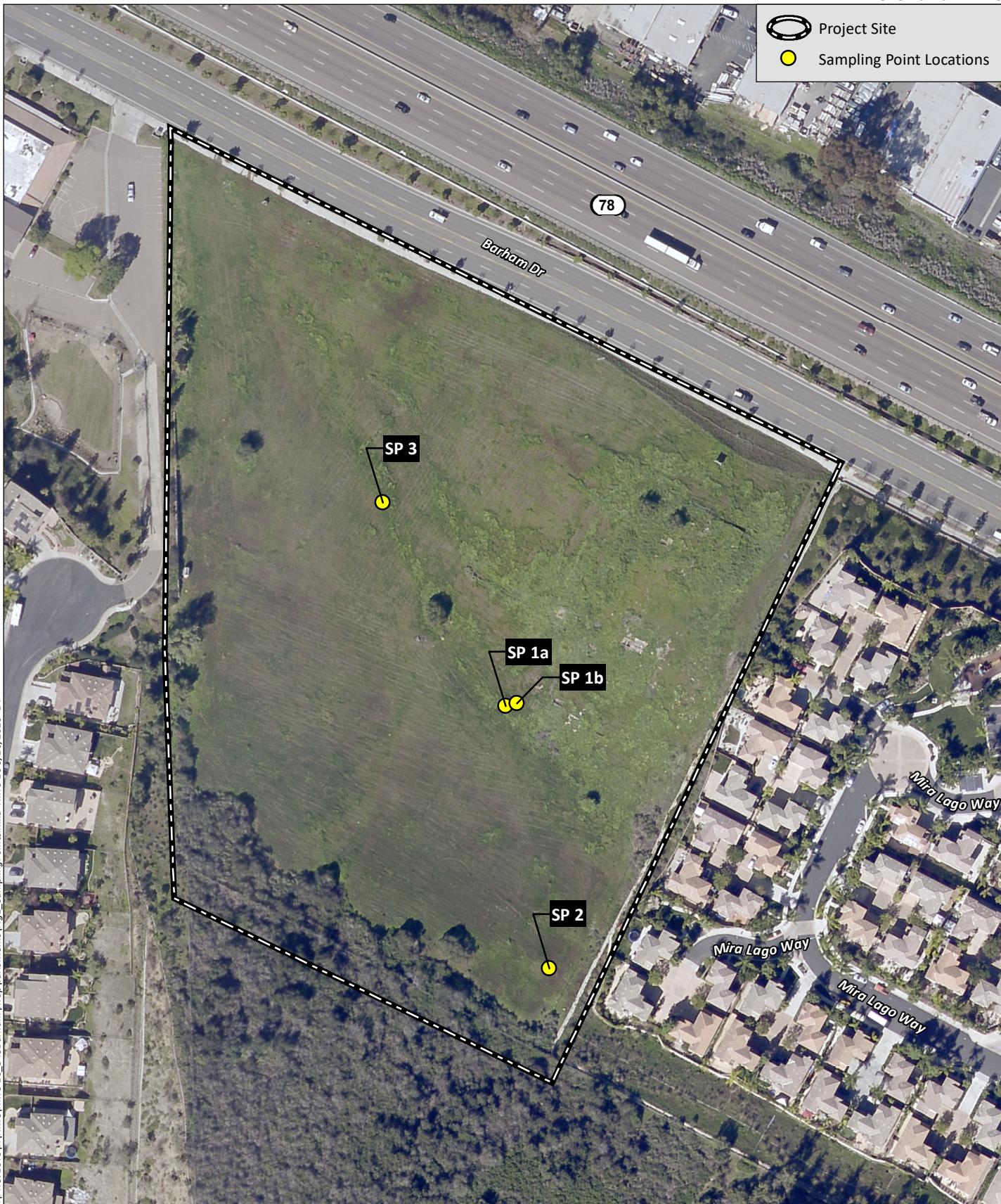
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U.S. Fish and Wildlife Service. 2020. National Wetlands Inventory. April 23. Available at <https://www.fws.gov/wetlands/data/mapper.html>.



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Source: Aerial (SanGIS, 2017)

Attachment A

Sampling Point Photos



Photo 1. Looking north at Sampling Point (SP-) 1A taken April 24, 2020 in the central portion of the site. SP-1A is in a low area within non-native grassland; it did not meet USACE, RWQCB, or CDFW wetland criteria.



Photo 2. Looking north at SP-1B taken April 24, 2020 in the central portion of the site. SP-1B is near SP-1A but located slightly upslope and to the east. This SP is non-native grassland; it did not meet USACE, RWQCB, or CDFW wetland criteria.

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Photo 3. Looking north at SP-2 taken April 24, 2020 in the southern portion of the site. SP-2 is located on a north-facing slope in non-native grassland. This SP did not meet USACE, RWQCB, or CDFW wetland criteria.



Photo 4. Looking north at SP-3 taken April 24, 2020 in the central portion of the site. SP-3 is in a low area of non-native grassland habitat; it did not meet USACE, RWQCB, or CDFW wetland criteria.

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Attachment B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 943 E Barham Dr - JO# HMC-16 City/County: San Marcos/San Diego Sampling Date: 4/24/2020
 Applicant/Owner: _____ State: CA Sampling Point: 1A
 Investigator(s): S. Nigro/J. Kurnow Section, Township, Range: 18/12S/2W San Marcos quadrangle
 Landform (hillslope, terrace, etc.): low spot Local relief (concave, convex, none): slightly concave Slope (%): 0
 Subregion (LRR): C Lat: 33.1358454684 Long: -117.138713486 Datum: WGS 1984
 Soil Map Unit Name: VsC - Vista coarse sandy loam, 5-9% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: SP taken in low area in non-native grassland at bottom of 2 converging slopes, one of which has residential development on adjacent parcel, which could potentially contribute runoff to this area. In addition, the area received much higher than average rainfall in March and April. SP does not meet wetland criteria.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>r=25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>11</u> x 4 = <u>44</u> UPL species <u>102</u> x 5 = <u>510</u> Column Totals: <u>115</u> (A) <u>560</u> (B) Prevalence Index = B/A = <u>4.9</u>
Sapling/Shrub Stratum (Plot size: <u>r=25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>r=8'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Bromus diandrus</u>	<u>70</u>	<u>X</u>	<u>UPL</u>	
2. <u>Avena sp.</u>	<u>20</u>	_____	<u>UPL</u>	
3. <u>Hordeum murinum</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Carduus pycnocephalus</u>	<u>5</u>	_____	<u>UPL</u>	
5. <u>Anagallis arvensis</u>	<u>5</u>	_____	<u>UPL</u>	
6. <u>Rumex crispus</u>	<u>2</u>	_____	<u>FAC</u>	
7. <u>Brassica nigra</u>	<u>2</u>	_____	<u>UPL</u>	
8. <u>Lactuca serriola</u>	<u>1</u>	_____	<u>FACU</u>	
<u>115</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>r=25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks:
 Upland vegetation is dominant. Sampling point taken here because it was a low area (landscape position suitable for wetland) supporting a few Rumex crispus (a FAC species). Area is dominated by upland vegetation (= non-native [annual] grassland) and does not support a dominance of hydrophytic vegetation.

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/2	100	-	-	-	-	clay loam	moist
5-19	10YR 3/3	100	-	-	-	-	clay loam	moist + saturated in lower part

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

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

Indicators for Problematic Hydric Soils³:

- 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)

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators 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:

No hydric soil indicators present.
 Observed pillbugs and earthworms in excavated soil, and pocket gopher mound 5' from pit.
 Photos 1-7

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes No _____ Depth (inches): 18
 Saturation Present? (includes capillary fringe) Yes No _____ Depth (inches): 14

Wetland Hydrology Present? Yes _____ No

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

Remarks:

No primary or secondary hydrology indicators observed. Soil moist with saturation at 14" and water table at 18" during the growing season during a normal rainfall year, but with much higher than average rainfall in the weeks leading up to the site visit (i.e., in March [5.7" while 2.5" is normal] and April [6.8" while 1.0" is normal]). Saturation and water table observations did not satisfy the hydrology indicators as they were deeper than 12" from the surface in the growing season. Saturation and water table observed below 12" likely related to high rainfall in March and April, and location of the pit in the lowest area near convergence of two slopes. FAC-Neutral test: W:U=0:1 (negative).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 943 E Barham Dr - JO# HMC-16 City/County: San Marcos/San Diego Sampling Date: 4/24/2020
 Applicant/Owner: _____ State: CA Sampling Point: 1B
 Investigator(s): S. Nigro/J. Kurnow Section, Township, Range: 18/12S/2W San Marcos quadrangle
 Landform (hillslope, terrace, etc.): just upslope of SP-1A Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C Lat: 33.1358544372 Long: -117.138672397 Datum: WGS 1984
 Soil Map Unit Name: VsC - Vista coarse sandy loam, 5-9% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: SP taken approximately 15' from SP-1A, in a slightly higher landscape position. The area received much higher than average rainfall in March and April. SP does not meet wetland criteria.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>r=25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>r=25'</u>)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	_____	_____	_____	FACU species <u>1</u> x 4 = <u>4</u>
<u>0</u> = Total Cover				UPL species <u>114</u> x 5 = <u>570</u>
				Column Totals: <u>115</u> (A) <u>574</u> (B)
				Prevalence Index = B/A = <u>5.0</u>
<u>Herb Stratum</u> (Plot size: <u>r=8'</u>)				Hydrophytic Vegetation Indicators:
1. <u>Bromus diandrus</u>	<u>80</u>	<u>X</u>	<u>UPL</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Avena sp.</u>	<u>25</u>	<u>X</u>	<u>UPL</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Anagallis arvensis</u>	<u>5</u>		<u>UPL</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Carduus pycnocephalus</u>	<u>3</u>		<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Lactuca serriola</u>	<u>1</u>		<u>FACU</u>	
6. <u>Amsinckia intermedia</u>	<u>1</u>		<u>UPL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>115</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>r=25'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

Remarks:
 Area is dominated by upland vegetation (= non-native [annual] grassland).

SOIL

Sampling Point: 1B

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/2	100	-	-	-	-	clay loam	moist

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 1 cm Muck (A9) **(LRR C)**
- 2 cm Muck (A10) **(LRR B)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators 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:

No hydric soil indicators present. Soil moisture likely due to much higher than average rainfall in March and April, and landscape position near the bottom of two converging slopes. Pocket gopher mounds near pit.
 Photos 12-14

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:

No primary or secondary hydrology indicators observed.
 FAC-Neutral test: W:U=0:2 (negative).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 943 E Barham Dr - JO# HMC-16 City/County: San Marcos/San Diego Sampling Date: 4/24/2020
 Applicant/Owner: _____ State: CA Sampling Point: 2
 Investigator(s): S. Nigro/J. Kurnow Section, Township, Range: 18/12S/2W San Marcos quadrangle
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30
 Subregion (LRR): C Lat: 33.1350461393 Long: -117.13854567 Datum: WGS 1984
 Soil Map Unit Name: VsE2 - Vista coarse sandy loam, 15-30% slopes, eroded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: SP taken on non-native grassland slope with underlying rock restrictive layer. The area received much higher than average rainfall in March and April. SP does not meet wetland criteria.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>r=25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>r=25'</u>)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>1</u> x 2 = <u>2</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	_____	_____	_____	FACU species <u>60</u> x 4 = <u>240</u>
	<u>0</u>	= Total Cover		UPL species <u>24</u> x 5 = <u>120</u>
				Column Totals: <u>85</u> (A) <u>362</u> (B)
				Prevalence Index = B/A = <u>4.3</u>
<u>Herb Stratum</u> (Plot size: <u>10' X 4'</u>)				Hydrophytic Vegetation Indicators:
1. <u>Festuca myuros</u>	<u>45</u>	<u>X</u>	<u>FACU</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Bromus hordeaceus</u>	<u>15</u>		<u>FACU</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Logfia gallica</u>	<u>10</u>		<u>UPL</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Deinandra fasciculata (seedlings)</u>	<u>5</u>		<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Erodium sp.</u>	<u>5</u>		<u>UPL</u>	
6. <u>Anagallis arvensis</u>	<u>2</u>		<u>UPL</u>	
7. <u>Juncus bufonius</u>	<u>1</u>		<u>FACW</u>	
8. <u>Silene gallica + unk herb* (see remarks)</u>	<u>2 + 2</u>		<u>UPL + ?</u>	
	<u>87</u>	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>r=25'</u>)				Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>5</u> % Cover of Biotic Crust <u>0</u>				

Remarks:
 Upland vegetation is dominant.
 *Unknown herb was not flowering or fruiting. Possibly a species in Boraginaceae, e.g. Amsinckia intermedia or Cryptantha sp.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	60	-	-	-	-	loam	soil completely dry
0-8	10YR 3/3	40	-	-	-	-	loam	soil completely dry

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if present): Type: <u>rock layer</u> Depth (inches): <u>8</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
 No hydric soil indicators present. Soil pit depth limited by underlying rock layer.
 Photos 8-11

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Remarks:
 No primary or secondary hydrology indicators observed. Soil completely dry despite much higher than average rainfall in the weeks leading up to the site visit (i.e., in March [5.7" while 2.5" is normal] and April [6.8" while 1.0" is normal]). FAC-Neutral test: W:U=0:1(negative).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 943 E Barham Dr - JO# HMC-16 City/County: San Marcos/San Diego Sampling Date: 4/24/2020
 Applicant/Owner: _____ State: CA Sampling Point: 3
 Investigator(s): S. Nigro/J. Kurnow Section, Township, Range: 18/12S/2W San Marcos quadrangle
 Landform (hillslope, terrace, etc.): low spot Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C Lat: 33.1364633452 Long: -117.139165351 Datum: WGS 1984
 Soil Map Unit Name: VsC - Vista coarse sandy loam, 5-9% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: SP taken in low area in non-native grassland. The area received much higher than average rainfall in March and April. SP does not meet wetland criteria.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>r=25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>r=25'</u>)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>3</u> x 1 = <u>3</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4. _____	_____	_____	_____	FAC species <u>30</u> x 3 = <u>90</u>
5. _____	_____	_____	_____	FACU species <u>3</u> x 4 = <u>12</u>
<u>0</u> = Total Cover				UPL species <u>71</u> x 5 = <u>355</u>
				Column Totals: <u>107</u> (A) <u>560</u> (B)
				Prevalence Index = B/A = <u>5.2</u>
<u>Herb Stratum</u> (Plot size: <u>r=8'</u>)				Hydrophytic Vegetation Indicators:
1. <u>Bromus diandrus</u>	<u>40</u>	<u>X</u>	<u>UPL</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Rumex crispus</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Avena sp.</u>	<u>15</u>		<u>UPL</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Anagallis arvensis</u>	<u>5</u>		<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Erodium sp.</u>	<u>5</u>		<u>UPL</u>	
6. <u>Lythrum hyssopifolium</u>	<u>3</u>		<u>OBL</u>	
7. <u>Silene gallica + Cerastrium glomeratum</u>	<u>3+3</u>		<u>UPL</u>	
8. <u>Lactuca serriola</u>	<u>3</u>		<u>FACU</u>	
<u>107</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>r=25'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

Remarks:
 Upland vegetation is dominant. Sampling point taken here because it was a low area (landscape position suitable for wetland) supporting several Rumex crispus (a FAC species). Area is dominated by upland vegetation (= non-native [annual] grassland) and does not support a dominance of hydrophytic vegetation.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100	-	-	-	-	clay loam	moist
6-20	10YR 3/3	100	-	-	-	-	clay loam	moist

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators 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:

No hydric soil indicators present. Soil moisture likely due to low and flat landscape position combined with much higher than average rainfall in the weeks leading up to the site visit (i.e., in March [5.7" while 2.5" is normal] and April [6.8" while 1.0" is normal]). Photos 18-22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> 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): 16

Wetland Hydrology Present? Yes _____ No

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

Remarks:

No primary or secondary hydrology indicators observed. Saturation at 16" depth during the growing season in a higher than average rainfall period does not meet the A3 hydrology indicator, which requires saturation within 12 inches. FAC-Neutral test: W:U=0:1 (negative).