

APPENDIX B
Wetland Delineation Report

Prepared for

Lake Restoration Solutions, LLC

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Lehi, Utah 84043

UTAH LAKE RESTORATION PROJECT

DRAFT WETLAND DELINEATION

REPORT

Prepared by



engineers | scientists | innovators

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Project Number DE0475

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November 2021

Privileged and Confidential

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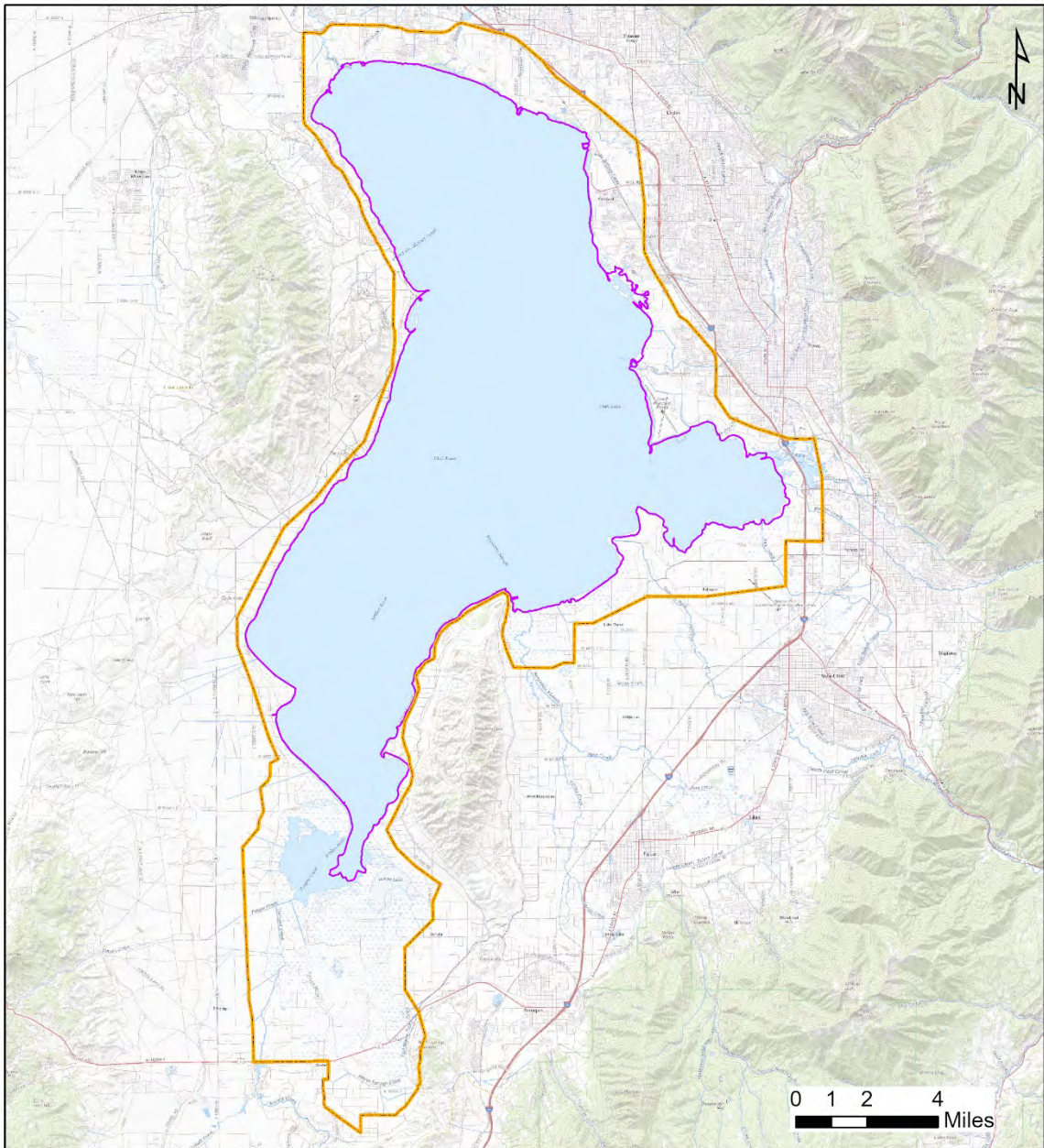
1. PROJECT BACKGROUND AND SITE DESCRIPTION

Lake Restoration Solutions, LLC tasked Geosyntec Consultants, Inc. (Geosyntec) to conduct a wetland and stream delineation for the Utah Lake Restoration Project (ULRP or Project) within Utah Lake in Utah County, Utah (area of analysis). The area of analysis is bounded by the City of Saratoga Springs and the Lake Mountains to the west; the cities of Lehi and American Fork to the north; the Cities of Pleasant Grove, Lindon, Orem, Provo, Springville, and Vineyard to the east; and the City of Genola, agricultural land, and West Mountain to the south.

Geosyntec conducted a field survey to document potentially jurisdictional wetlands and streams within the area of analysis (Figure 1) from 6 July to 11 July 2021. The field survey was only conducted on lands with public access that were located inside the defined area of analysis. These lands included the littoral shelf around Utah Lake, which was accessed via boat, and 10 public parks.

1.1. Area of Analysis

The proposed Project's area of analysis is defined by the Wetlands Desktop Assessment Boundary depicted on Figure 1. The area of analysis totals 146,247 acres or 229 square miles—approximately 58% open water and 42% terrestrial habitats. Terrestrial land use/landcover habitats include upland grasslands, woodlands, shrublands, developed/urban landscape, agriculture, sparsely-vegetated, and wetlands. Specific wetland habitats within the area of analysis are discussed further below.



- Area of Analysis - Wetlands Desktop Assessment Boundary
- Utah Lake at Compromise Line

Site Location Map

Utah Lake Restoration Project
Utah County, UT

Geosyntec
consultants

Austin, TX

November 2021

Figure

1

2. EXISTING SITE CONDITIONS

2.1. Wetlands

The desktop evaluation identified several wetland types within the area of analysis. Adopted by the USFWS in 1979, the NWI code is based on *the Classification of Wetlands and Deepwater Habitats of the United States* developed by Cowardin which serves as the national mapping standard for classifying wetlands and deepwater habitats (Cowardin et al. 1979). During the desktop assessment, each wetland polygon was mapped and assigned an NWI mapping convention that classifies the wetland type. The core components of the NWI code are System + Subsystem (optional) + Class + Subclass (optional), followed by a modifier shown in parenthesis that describes the water regime of the wetland. The modifier for the water regime is represented by letters that range from (A) Temporary Flooded, to (K) Artificially Flooded. An example of one of many wetlands along the shoreline of Utah Lake are classified as L2AB (F). This code includes the Lacustrine (L) system + Littoral subsystem (2) + Aquatic Bed (AB) class + Semipermanently Flooded (F). Table 1 details the wetland types from the desktop assessment.

Table 1. NWI and Cowardin Classification Results of the Wetlands Desktop Assessment

Wetland Type	Common Description	NWI Code (*)	Cowardin Classification (System, Subsystem, Class)	Acres
Lake	Deepwater lake	L1UB (G,H)	Lacustrine, limnetic, unconsolidated bottom	63,099.16
Lake	Shallow lake marshes	L2AB (F,H)	Lacustrine, littoral, aquatic bed	18,768.79
Lake	Shallow lake	L2UB (F)	Lacustrine, littoral, unconsolidated bottom	32.85
Lake	Dry alkaline lake beds	L2US (A,C,F)	Lacustrine, littoral, unconsolidated shore	3,392.35
Freshwater Pond	Deep basins, impoundments, sewage treatment ponds, beaver ponds	PAB (F,G,K)	Palustrine, aquatic bed	105.35
Freshwater Pond	Open water, gravel pits	PUB (F)	Palustrine, unconsolidated bottom	98.01
Freshwater Pond	Salt flats	PUS (A,C,K)	Palustrine, unconsolidated shore	126.54
Freshwater Emergent Wetland	Sparsely vegetated playas, salt flats	PEM1/US (A)	Palustrine, emergent persistent / unconsolidated shore	89.23
Freshwater Emergent Wetland	Basins, depressions, marches, meadows, springs, seeps, or vegetated drainage areas	PEM1 (A,B,C,F)	Palustrine, emergent persistent	25,699.64
Freshwater Forested Wetland	Cottonwood, riverbanks, floodplains, or drainage areas	PFO (A)	Palustrine, forested	87.62
Freshwater Shrub Wetland	Willow thicket, river banks or drainage areas	PSS (A,C)	Palustrine, scrub-shrub	585.61

Wetland Type	Common Description	NWI Code (*)	Cowardin Classification (System, Subsystem, Class)	Acres
Riverine	Meandering rivers, low gradient	R2UB (G,H)	Riverine, lower perennial, unconsolidated bottom	55.92
Riverine	Small streams, creeks, or irrigation ditches	R4SB (C)	Riverine, intermittent, streambed	118.16
Riverine	Irrigation ditches	R5UB (F,H)	Riverine, unknown perennial, unconsolidated bottom	39.18
Total				112,298.41

* - Water Regime Modifiers are identified in parenthesis: A - Temporary Flooded, B - Seasonally Saturated, C - Seasonally Flooded, E - Seasonally Flooded / Saturated, F - Semipermanently Flooded, G - Intermittently Exposed, H - Permanently Flooded, K - Artificially Flooded

During the field verification, each plant species was assigned an indicator status based on the National Wetland Plant List (Lichvar, 2018). The following indicator statuses were assigned to each plant species obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), upland (UPL).

Common herbaceous species within the delineated PEM wetlands included common reed (*Phragmites australis*, FACW), broadleaf cattail (*Typha latifolia*, OBL), Nevada bulrush (*Scirpus nevadensis*, OBL), and hard-stem club rush (*Schoenoplectus actus*, OBL). Common shrub species within the PSS wetlands included five-stamen tamarisk (*Tamarix chinensis*, FAC) and athel tamarisk (*Tamarix aphylla*, FAC). Common tree species within the PFO wetlands included arroyo willow (*Salix lasiolepis*, FACW) and narrow-leaf cottonwood (*Populus angustifolia*, FACW) (Photographic Log, Appendix C).

2.2. Soils

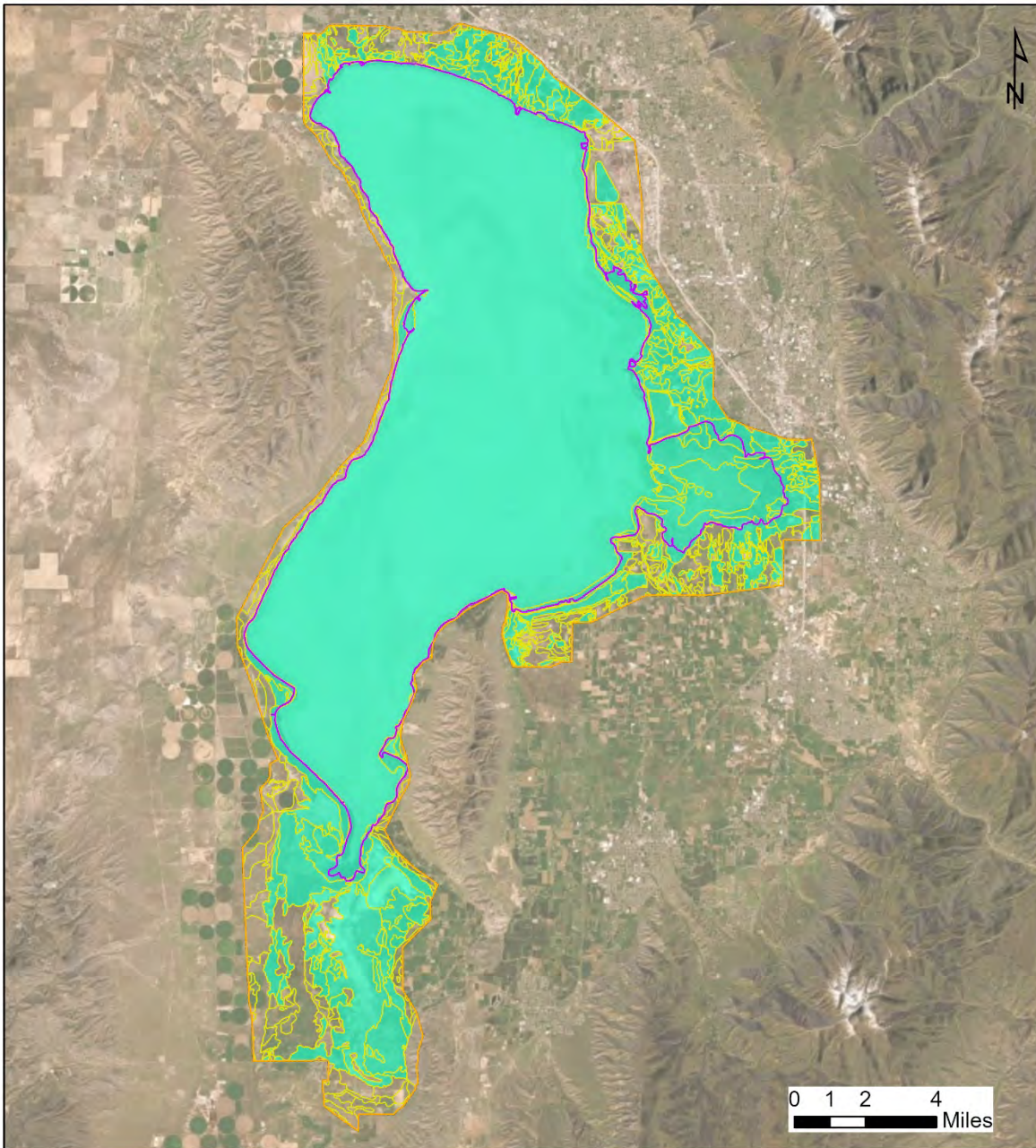
A U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) Web Soil Survey report was run for the Project Area to identify soil types. The report identified 60 soil types within the area of analysis; 31 soil series were identified as hydric. The soil series descriptions and characteristics are listed in Table 2 and illustrated in Figure 2.

Table 2: Soils Within the Area of Analysis

Map Unit Symbol	Soil Series	Acres within Project	Hydric?
AF	Aquic Ustifluvents, saline	482.35	Yes
BA	Beaches	681.34	Yes
BC	Beaches	505.06	Yes
Be	Benjamin silty clay, moderately alkali	106.73	Yes
Bm	Bramwell silt loam	36.68	Yes

Map Unit Symbol	Soil Series	Acres within Project	Hydric?
Bs	Bramwell silty clay loam, drained	4.98	Yes
Ch	Chipman loam	0.45	Yes
Ck	Chipman silty clay loam	8.02	Yes
Cm	Chipman silty clay loam, moderately deep water table	367.86	Yes
Cn	Chipman silty clay loam, moderately saline	177.20	Yes
Co	Chipman silty clay loam, strongly saline	2.52	Yes
Cp	Chipman-McBeth complex	32.60	Yes
DdC	Donnardo stony loam, 2 to 8 percent slopes	13.29	No
DdE	Donnardo stony loam, 8 to 25 percent slopes	17.56	No
DdF	Donnardo stony loam, 25 to 40 percent slopes	14.03	No
DeF	Donnardo-Hiko Peak complex, 25 to 40 percent slopes	3.05	No
FaB	Firmage gravelly loam, dry, 2 to 4 percent slopes	10.66	No
FgB	Freedom silt loam, 0 to 2 percent slopes	3.34	No
HdC	Hiko Peak stony sandy loam, 4 to 8 percent slopes	14.92	No
HdE	Hiko Peak stony sandy loam, 15 to 25 percent slopes	0.90	No
Hr	Holdaway silt loam	53.04	Yes
Hs	Holdaway silt loam, strongly saline-alkali	85.38	Yes
Ir	Ironton loam	6.06	Yes
Is	Ironton loam, moderately saline-alkali	4.49	Yes
JbC	Juab loam, 4 to 8 percent slopes	1.08	No
Jo	Jordan silt loam	0.34	No
Ks	Kirkham silty clay loam	7.71	No
Kt	Kirkham silty clay loam, moderately saline-alkali	25.84	No
Ku	Kirkham silty clay loam, strongly saline-alkali	12.77	Yes
LaC	Linoyer very fine sandy loam, 2 to 5 percent slopes	2.90	No
LmA	Layton fine sandy loam, slowly permeable substratum, 0 to 1 percent slopes	0.54	No
Lo	Logan silty clay loam	156.77	Yes
MbC2	Manassa silt loam, 2 to 5 percent slopes, eroded	19.95	No
Mg	Mellor silt loam	92.99	No
Mh	McBeth silt loam	60.35	Yes
Mn	McBeth silt loam, moderately saline	18.09	Yes
MU	Mixed alluvial land	1555.07	Yes
MX	Mixed alluvial land, saline	20.82	Yes
Pd	Payson silty clay loam	5.79	No
Pf	Peteetneet peat	450.41	Yes
Pg	Peteetneet-Holdaway complex	6.31	Yes
PK	Pits and dumps	5.34	No
PnA	Pleasant Vale loam, 0 to 2 percent slopes	7.02	No
Po	Provo Bay silt loam	562.13	Yes

Map Unit Symbol	Soil Series	Acres within Project	Hydric?
PoC	Pleasant Vale loam, extended season, 3 to 6 percent slopes	3.33	No
PsB	Pleasant Vale silty clay loam, 1 to 3 percent slopes	1.29	No
PY	Provo Bay peaty silt loam	139.54	Yes
Pz	Provo Bay silty clay loam	2499.89	Yes
Rr	Roshe Springs silt loam	14.52	Yes
RV	Riverwash	4.41	Yes
Sa	Saltair silt loam	259.57	Yes
ScD	Sanpete gravelly fine sandy loam, 4 to 15 percent slopes	64.60	No
ScF	Sanpete gravelly fine sandy loam, 15 to 40 percent slopes	7.53	No
SdE	Saxby-Rock outcrop complex, 10 to 30 percent slopes	7.34	No
Sr	Sunset loam	10.17	No
Ss	Sunset loam, gravelly substratum	0.78	No
St	Sunset loam, clay substratum	0.00	No
Su	Sunset loam, moderately saline	24.67	No
UL	Urban land	26.45	No
W	Water	84453.88	Yes



<ul style="list-style-type: none"> ▮ Area of Analysis - Wetlands Desktop Assessment Boundary ▮ Utah Lake at Compromise Line ▮ NRCS Soil Series ▮ NRCS Hydric Soil Series 	NRCS Soil Series Map Utah Lake Restoration Project Utah County, UT	
		Figure 2
	Austin, TX	November 2021

2.3. Climatic Conditions

The field surveys were conducted during 6 through 11 July 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). Only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25/21 through the end of the survey date. The observed Year-to-Date amount was 6.64", which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District, the lake elevation was 4,485.346', which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. See Wetland Determination Data Forms (Appendix B) for additional climatic discussion.

3. SURVEY METHODOLOGY

Prior to field efforts, Geosyntec ecologists completed a desktop assessment of the area of analysis using ESRI® ArcMap geographic information systems (GIS) software and available federal and state digital data.

The GIS desktop assessment was conducted to identify potential water resources associated with wetlands, streams, seeps/springs, water bodies, and other waters of the U.S. and/or state to be further supported by ground-truthing of the results with pedestrian field verifications. The desktop assessment used a variety of publicly available datasets and remote sensing technologies:

- United States Geological Survey (USGS) 1:24,000 quadrangles
- Light Detection and Ranging (LiDAR)-derived digital elevation model or digital terrain model backgrounds
- Image classification and multispectral analysis using current and historical high-resolution visible and infrared (IR) aerial imagery and georeferenced aerial photography
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI)
- Utah State Geographic Information Database wetlands
- USGS National Hydrography Dataset (NHD) flowlines and water bodies
- US Department of Agricultural Natural Resources Conservation Service soil series and hydric soils
- Federal Emergency Management Agency National Flood Hazard Layer
- USGS GAP/LANDFIRE National Terrestrial Ecosystems and National Land Cover Database land cover datasets
- Antecedent Precipitation Tool, National Weather Service National Oceanic and Atmospheric Administration (NOAA) Online Weather Data Climatic Summary, and U.S. Drought Monitor
- Utah Division of Water Rights Utah Lake contents

In addition to the above sources, the desktop assessment included remote sensing on current and historical high-resolution visible and Infrared (IR) aerial imagery that were referenced to seasonal dry/wet periods to identify high lake base levels. IR imagery during drought periods (e.g., 2016) were used to identify contributing seeps/springs by locating areas with distinct plant growth vigor. The remote sensing used aerial imagery from the following years: 1996, 2006, 2009, 2011, 2012, 2014, 2016, 2018, 2020, and 2021.

USFWS NWI polygons were used as the base and augmented to include any areas with a wet signature. Additionally, an area was mapped as a wetland if an aerial imagery review showed it possessed a remote-sensed signature of either inundation or saturation. The NHD flowlines were used to identify the primary and secondary tributaries to the lake, including irrigation ditches and canals. The Cowardin classification was applied to each desktop wetland polygon utilizing *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1992) following USFWS mapping and coding procedures.

Geosyntec conducted a pedestrian survey of lands that were publicly accessible between 6 July and 11 July 2021. This included a lakeside verification of the littoral shelf around Utah Lake—accessed via boat—and 10 public parks. These parks included:

1. Marina Park
2. Saratoga Springs Park
3. Eagle Park
4. Unnamed open space along the edge of Saratoga Springs (adjacent to residential)
5. Inlet Park
6. Shoreline Park
7. American Fork Boat Harbor
8. Geneva Resort
9. Utah Lake State Park
10. Lincoln Beach

Upland and wetland features were delineated and recorded using a handheld global positioning system (GPS) device capable of submeter accuracy. Wetlands were described in the field using Cowardin classification (Cowardin, et al., 1979), which categorizes wetlands based on the associated ecological system: marine, estuarine, riverine, lacustrine, and palustrine. Wetland and upland data sheets are compiled in Appendix B. Photographs were taken at each area of interest and compiled into the attached photographic log in Appendix C.

In general, wetlands and other Waters of the U.S. are federally protected under Section 404 of the Clean Water Act. The definition of wetlands (40 Code of Federal Regulations §230.3(t)) is *"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."*

Geosyntec performed a wetlands/waters delineation of the publicly accessible land within the area of analysis in accordance with the three-parameter methodology outlined in the 1987 USACE *Wetlands Delineation Manual* (Manual; Environmental Laboratory, 1987); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0* (Environmental Laboratory, 2008).

The three parameters required for identifying a jurisdictional wetland are as follows:

Hydrophytic vegetation - Hydrophytic vegetation is determined by the dominant species present at any given data point, where each species is assigned a plant indicator status as to its preference/tolerance for wetland conditions. Data points with dominant species that are greater than 50 percent facultative or wetter are considered to meet the hydrophytic vegetation criterion.

Hydrology - At each data point, the delineator evaluates the area for evidence of hydrology. The Manual identifies both primary and secondary hydrologic indicators, where one primary indicator or two secondary indicators must be observed for the data point to meet the hydrology criterion. Indicators include saturated soils in the upper 12 inches, inundation, water marks, drift lines, sediment deposits, drainage patterns, oxidized root channels in the upper 12 inches, water-stained leaves, local soil survey data, etc.

Hydric soils - Evaluating hydric soils presence requires the delineator to sample the upper 12 inches of soil to obtain a profile description and identify hydric soil indicators, such as histosols, histic epipedons, sulfidic odor, aquic moisture regime, reducing conditions, gleyed or low-chroma colors, concretions, etc. In most cases, hydric soils are most efficiently identified by the profile description, where the soil coloration is compared to the Munsell Color chart system to determine if the material meets hydric conditions.

Geosyntec identified and delineated resources potentially regulated under the 1972 Clean Water Act as *Waters of the United States* and under Utah Administrative Code (UAC) R317-2.

Geosyntec also conducted an evaluation to identify and delineate watercourses that was based on whether the feature exhibited typical watercourse characteristics such as a defined streambed and streambanks, an exclusion of terrestrial vegetation, hydrologically sorted substrate material, and the presence of an ordinary high water mark. These watercourses were identified and classified as regulated under the 1972 Clean Water Act as *Waters of the United States* and under UAC R317-2.

Wetlands and streams located within the Area of analysis which were available for public access were identified, delineated, and boundaries mapped utilizing the methods identified above.

4. SURVEY RESULTS

A summary of wetland and stream (riverine) areas identified within the area of analysis through the desktop survey and verified in the field totaled 112,140.09 acres and is provided in Table 3. Figures showing the locations of delineated wetlands are presented in Appendix A.

Table 3: Aquatic Resources Within the Area of Analysis

	Verified Wetlands	Desktop Wetlands
Wetland Type	Acreage	Acreage
Freshwater Emergent Wetland	25,788.87	21,385.91
Freshwater Forested Wetland	87.62	32.40
Freshwater Pond	329.90	327.53
Freshwater Shrub Wetland	585.61	910.68
Lake	85,293.16	89,273.36
Riverine	213.25	210.21
Total	112,298.41	112,140.09

5. STATEMENT OF LIMITATIONS

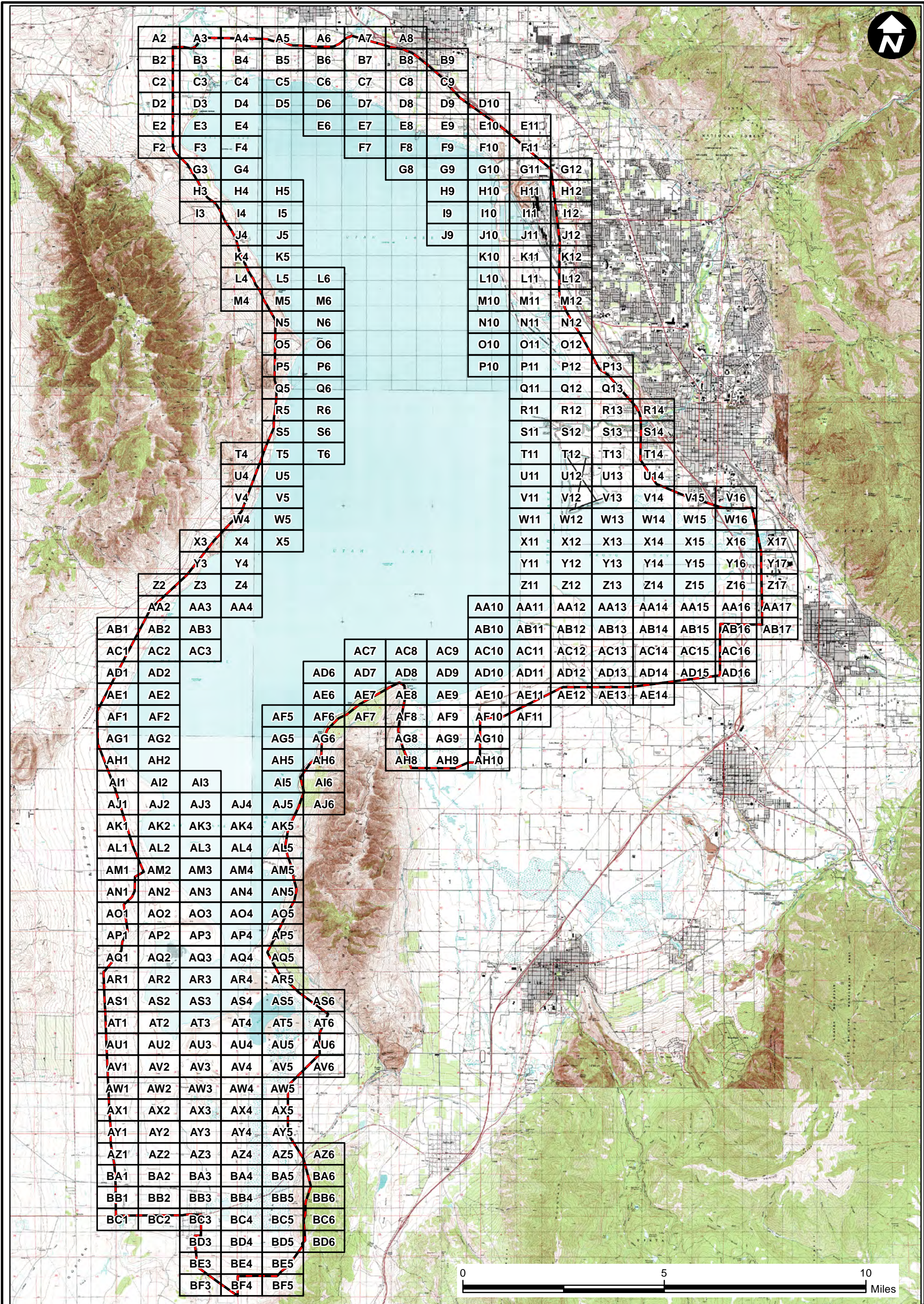
This investigation was limited to the Project Area shown herein. Geosyntec did not examine areas outside of the area of analysis or lands that were privately owned, thus no information is provided regarding the presence or absence of regulated wetlands and watercourses in these areas.

This investigation was conducted 6 July through 11 July 2021. Human-induced or natural changes at the site may occur after this date which may cause changes in the presence and extent of potentially regulated wetlands and watercourses.

6. REFERENCES

- Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.
- Deter, J. 2020. Antecedent Precipitation Tool (Version 1.0.13). U.S. Army Corps of Engineers. Downloaded from <https://github.com/jDeters-USACE/Antecedent-Precipitation-Tool/releases/tag/v1.0.13>. August 1, 2020.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station. Vicksburg, Mississippi. 117 pages.
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- U.S. Department of Agriculture, Natural Resources Conservation Service, Field Office Technical Guide. State Soil Data Access (SDA) Hydric Soils List for Utah Accessed October 2021 at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html#reportref.
- U.S. Army Corps of Engineers. 2018. National Wetland Plant List, version 3.4. Accessed July 2021 at http://wetland_plants.usace.army.mil/
- U.S. Army Corps of Engineers. 2008. **Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0**, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Utah Administrative Code R317-2. Water Quality. Rule 2: Standards of Quality for Waters of the State. Accessed August 2021 at <https://adminrules.utah.gov/public/search/R317-2/Current%20Rule>

APPENDIX A
Field Delineation Results Mapbook



Legend

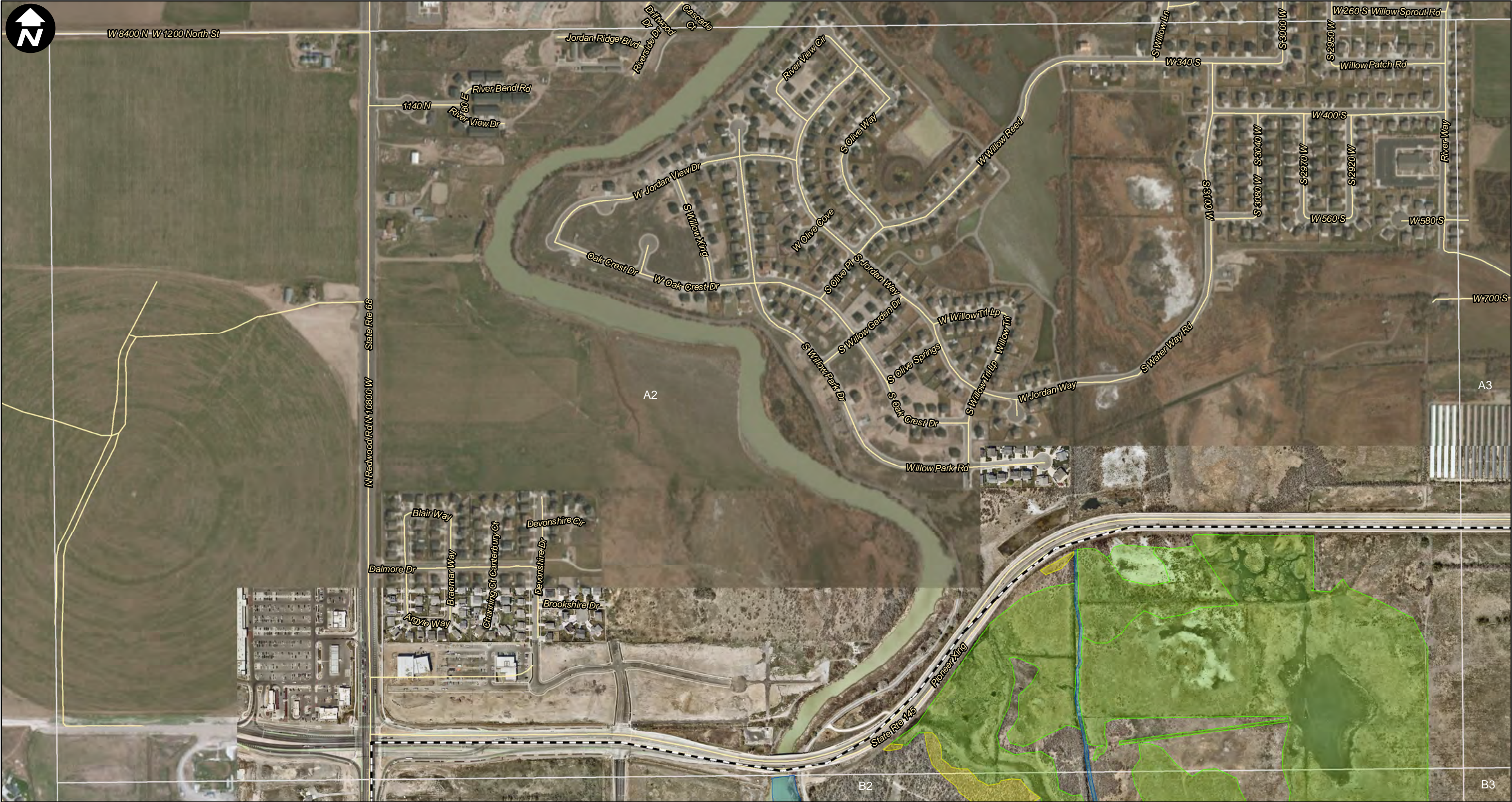
-  Grid Map
-  Wetlands Desktop Assessment Boundary

Datasource:
1:24,000 USGS Topographical Quadrangles
for Saratoga Springs, Pelican Point, Orem,
BridalVeil Falls, Soldiers Pass, Lincoln Point,
Provo, Springville, Goshen Valley North, West
Mountain, Spanish Fork, Spanish Fork Peak,
Goshen, Santaquin, Payson Lakes, and Birdseye.

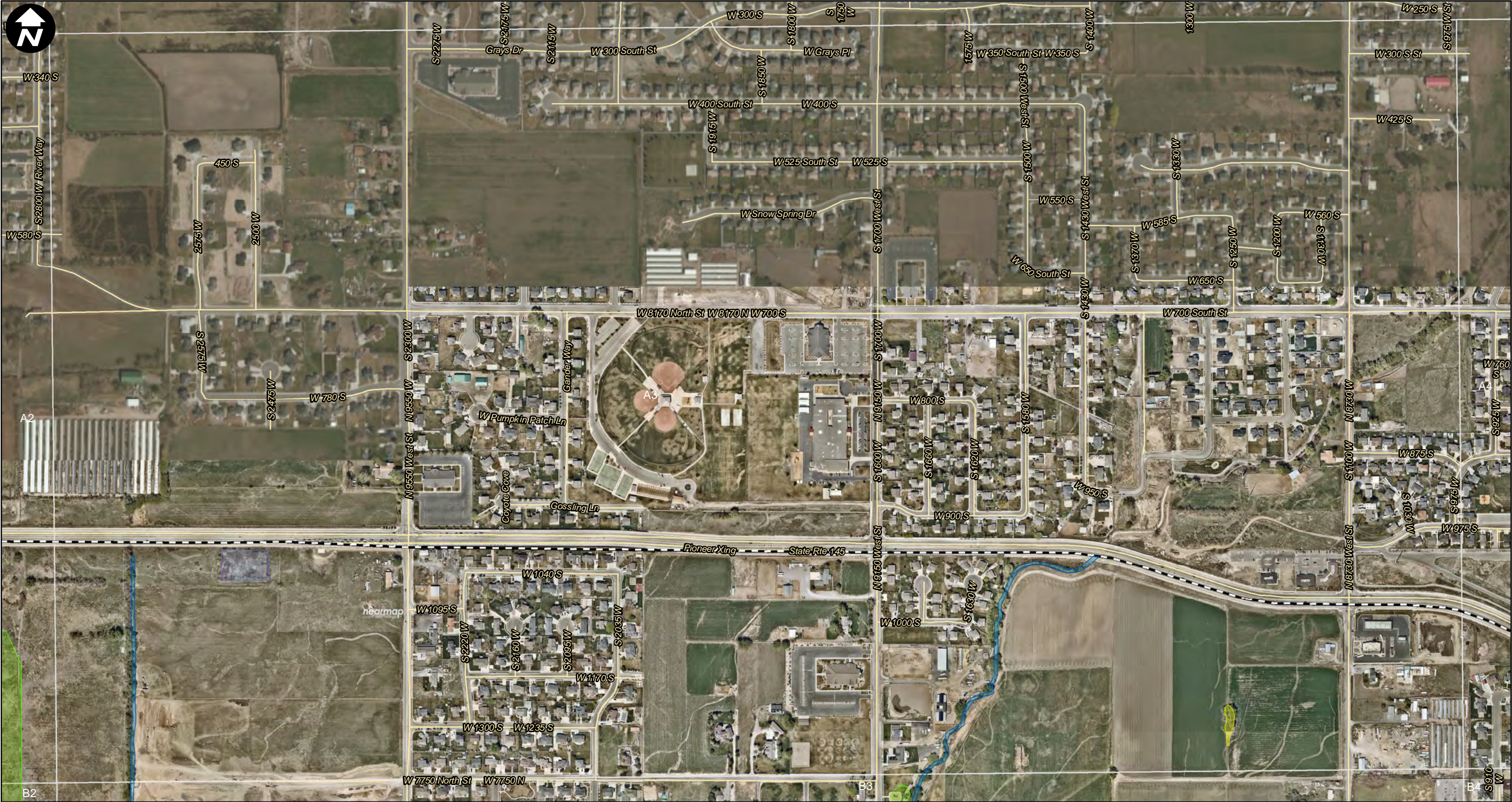
Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah









Overview Map

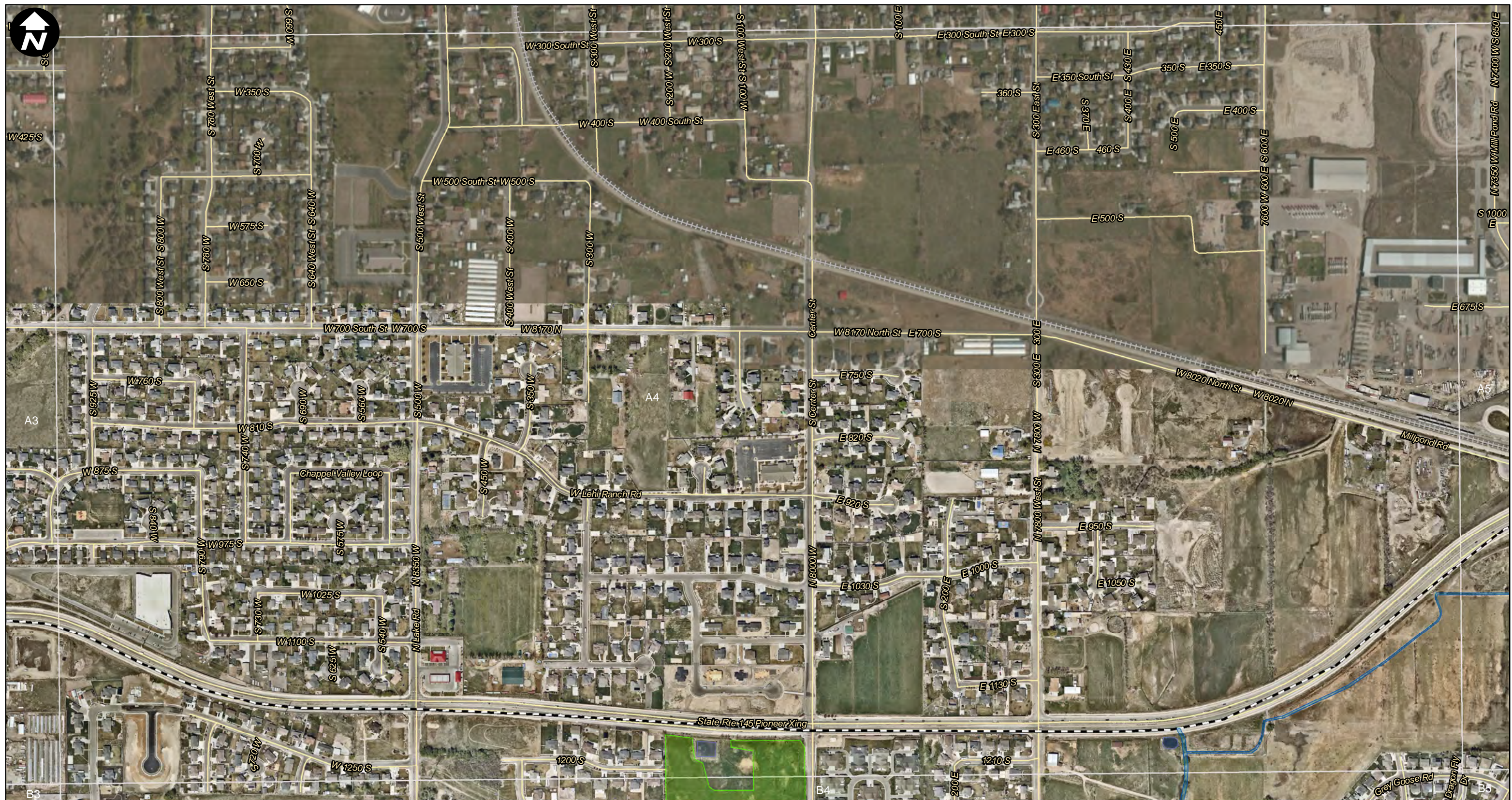
Geosyntec
consultants

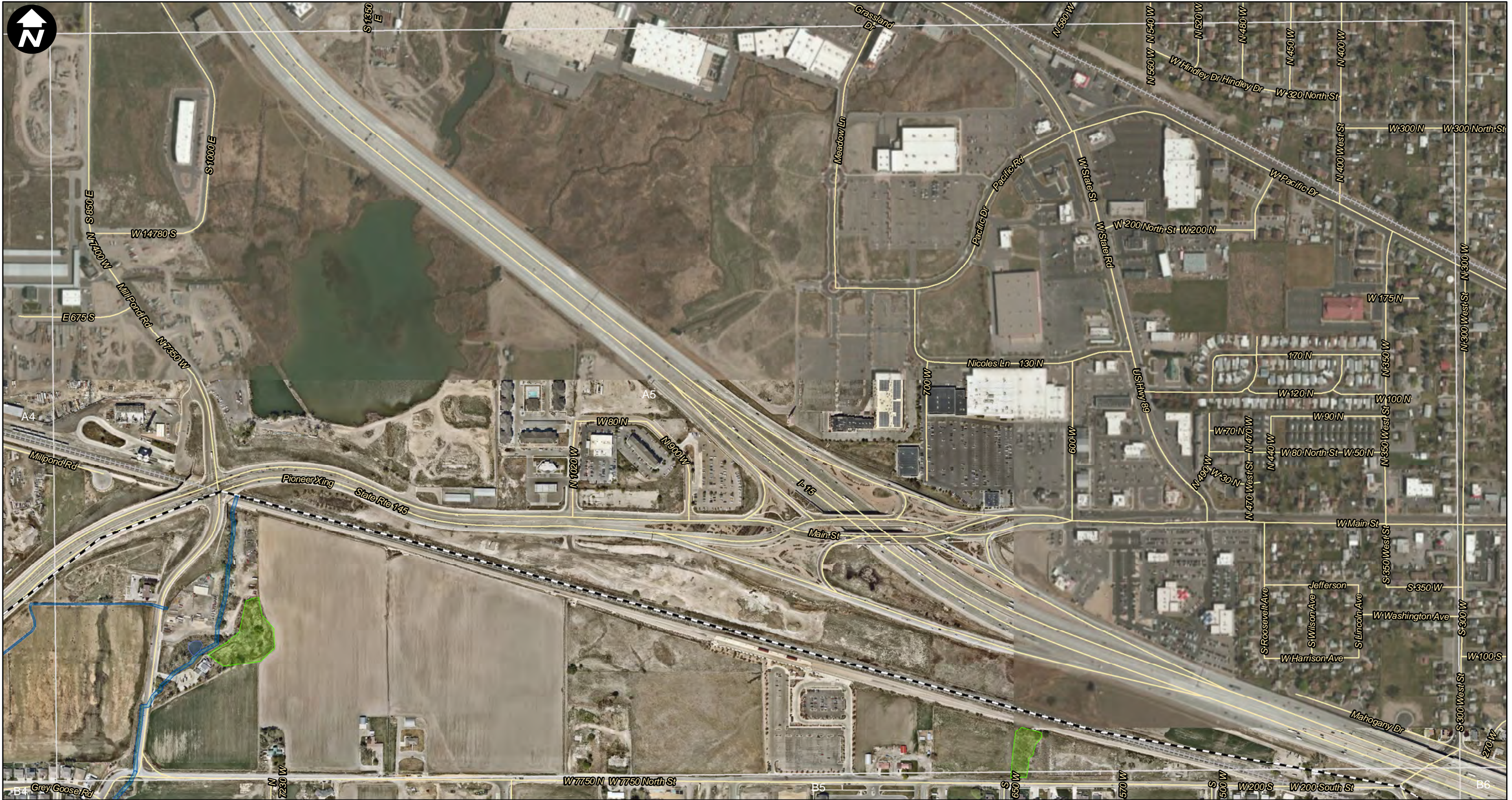


Legend	
Grid Map	Freshwater Shrub Wetland
Wetlands Desktop Assessment Boundary	Riverine
Streets	
Wetland Type	
Freshwater Emergent Wetland	
Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021	
Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
A2	
DE0475	November 2021



Legend		Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
 Grid Map	 Freshwater Shrub Wetland	Wetlands Desktop Assessment	
 Wetlands Desktop Assessment Boundary	 Freshwater Pond		
 Streets	 Riverine		
Wetland Type			
 Freshwater Emergent Wetland		Grid Map	
		A3	
		DE0475	November 2021





Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Rails		Freshwater Pond
	Wetlands Desktop Assessment Boundary		Riverine
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021
Grid Map	
A5	



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Pond

Riverine

A2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

B2

Provo

Paragon

Salem

San Juan

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

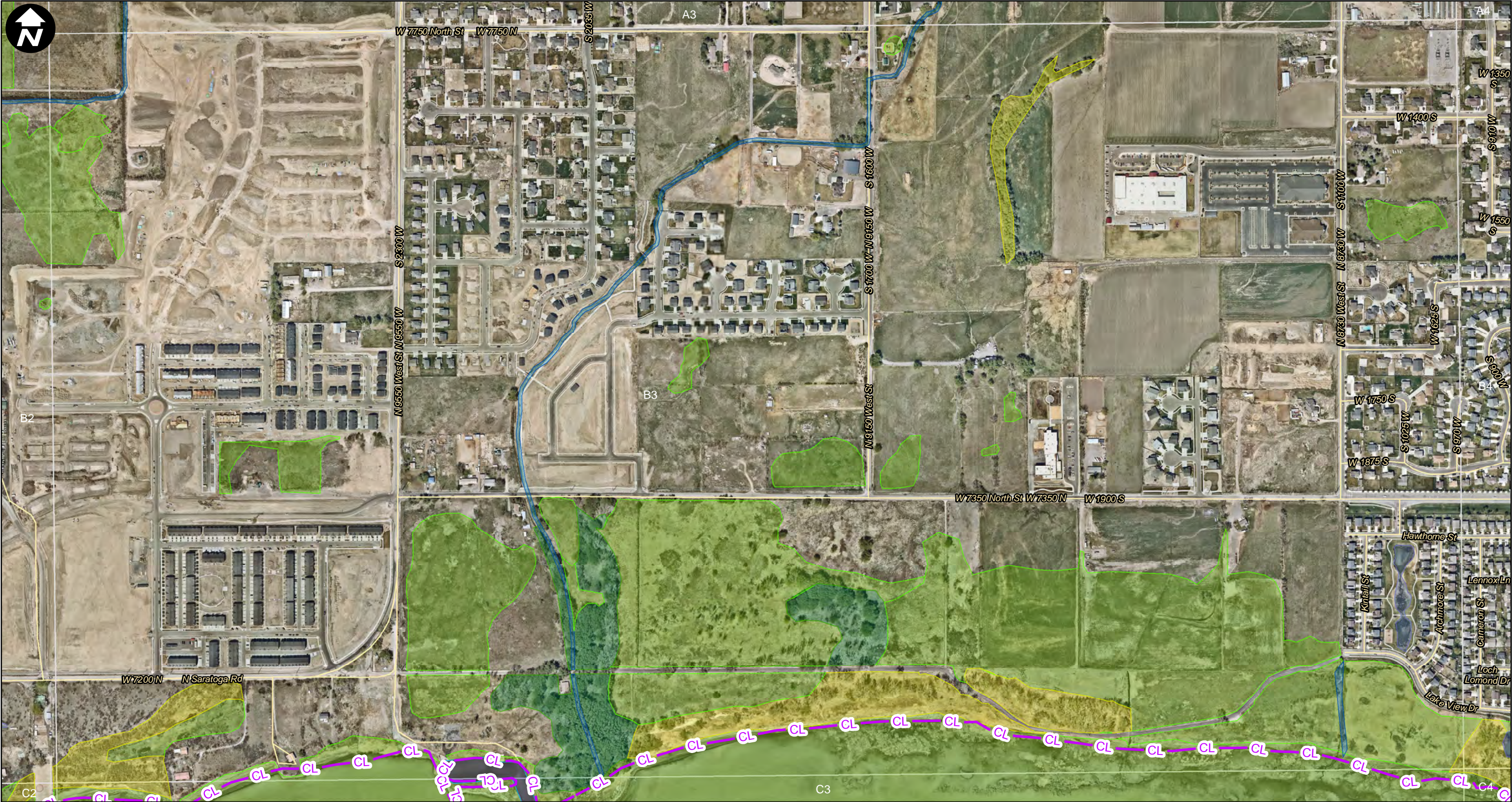
DE0475

November 2021

Grid Map

B2

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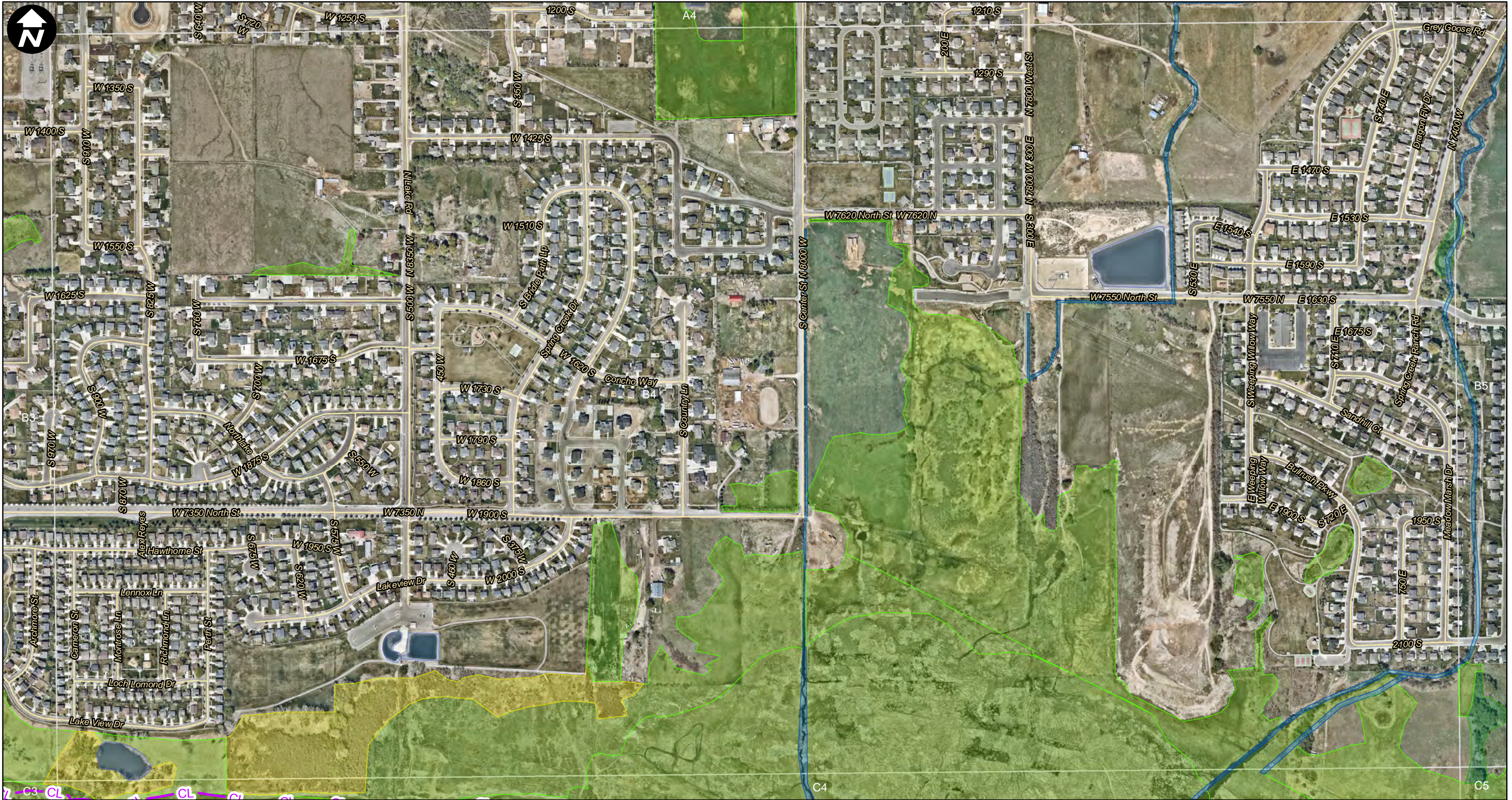
Legend		Wetland Type		Water	
	Grid Map		Freshwater Emergent Wetland		Lake
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland		Riverine
	Compromise Line Boundary		Freshwater Forested Wetland		
	Streets		Freshwater Pond		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
B3	
DE0475	November 2021



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Forested Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

B4

Provo

Saint Grove

Paragon

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

B4

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Forested Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

B5

Provo

Paragon

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

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November 2021

Grid Map

B5

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



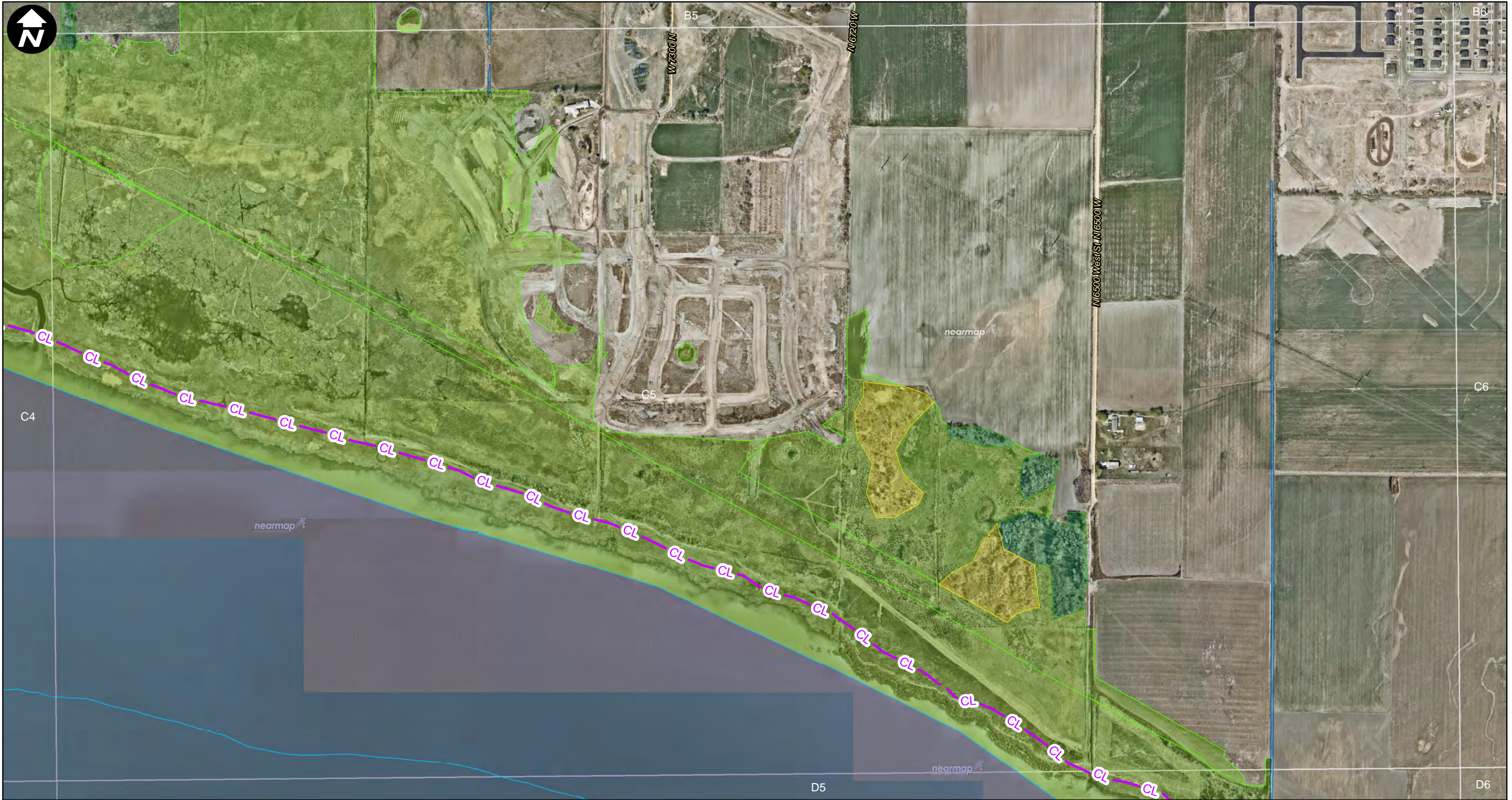
Legend		Wetland Type		Grid Map	
	Grid Map		Freshwater Emergent Wetland		
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland		
	Compromise Line Boundary		Freshwater Forested Wetland		
			Freshwater Pond		
			Lake		
			Riverine		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
C4	



Legend		Wetland Type		Riverine	
Grid Map		Freshwater Emergent Wetland			
Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland			
CL - Compromise Line Boundary		Freshwater Forested Wetland			
Streets		Lake			

0 675 1,350
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
C5	
DE0475	November 2021



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Forested Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

C6

Provo

Parson

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

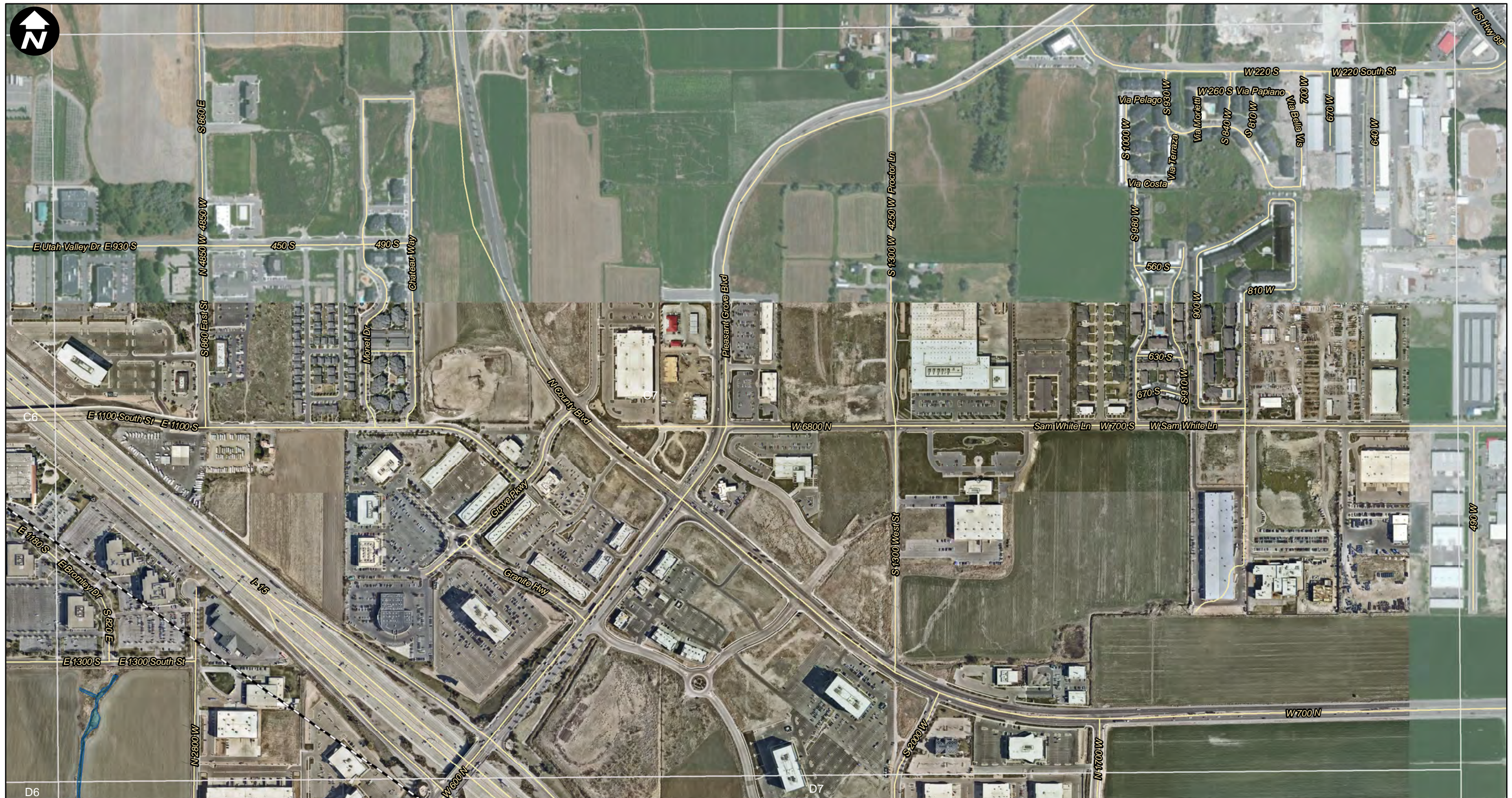
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Grid Map

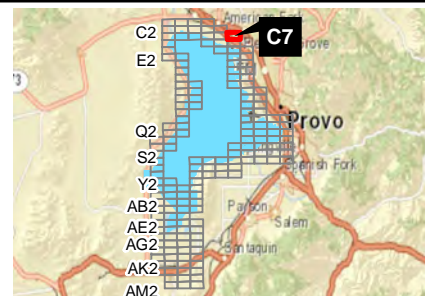
C6

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Legend

-  Grid Map
 Wetlands Desktop Assessment Boundary
 Streets
Wetland Type
 Riverine



Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

Grid Map

C7

DE0475

November 2021



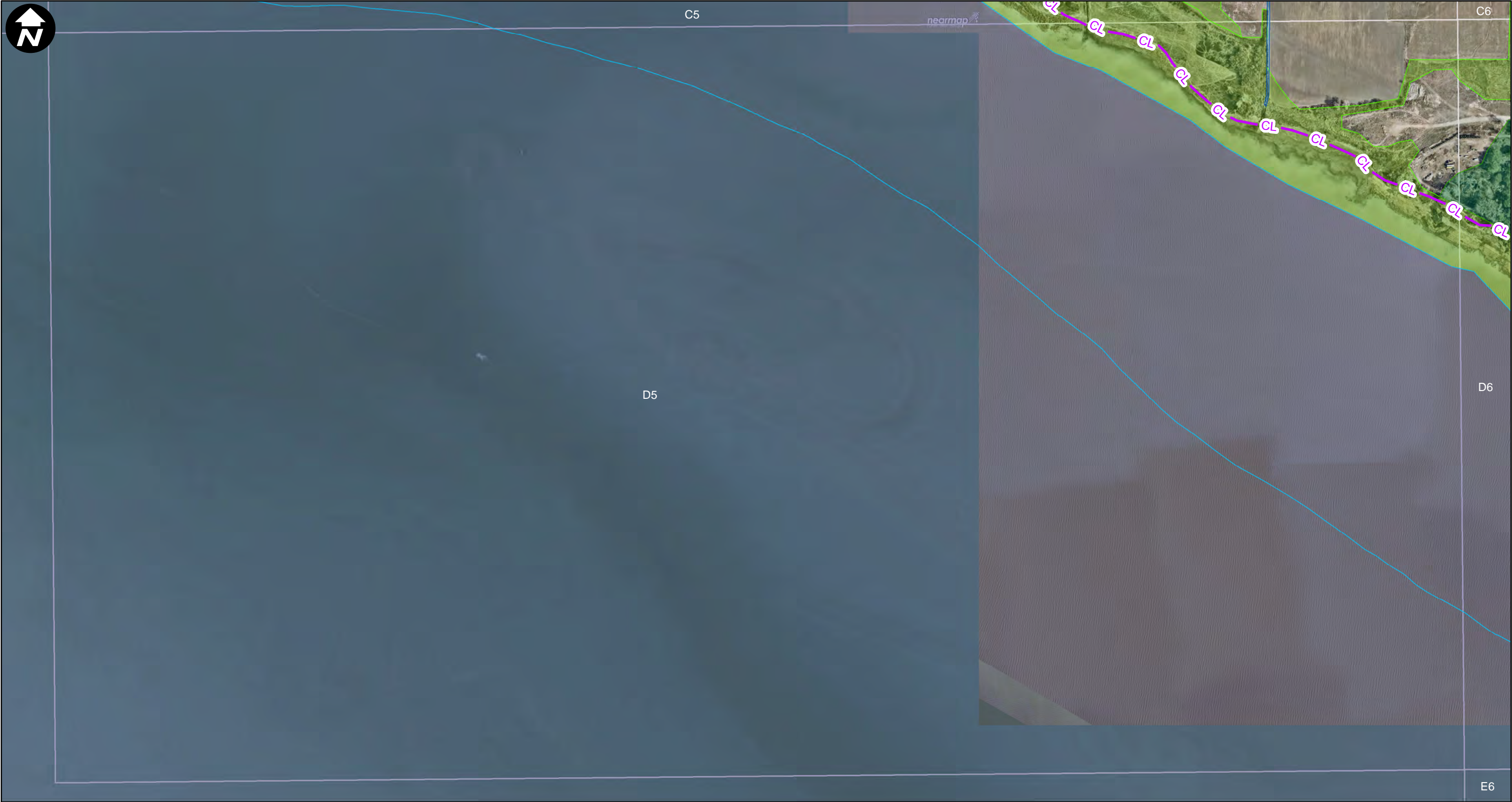
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
D2	



Grid Map

Wetlands Desktop Assessment Boundary

Compromise Line Boundary

Freshwater Emergent Wetland

Freshwater Forested Wetland

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

D5

Provo

Paragon

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

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Geosyntec

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Grid Map

D5

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond
	Compromise Line Boundary		Lake
	Streets		Riverine

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
E2	
DE0475	November 2021



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

E6

American Fork

St. George

Provo

Spanish Fork

Paragon

Salem

Santaquin

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

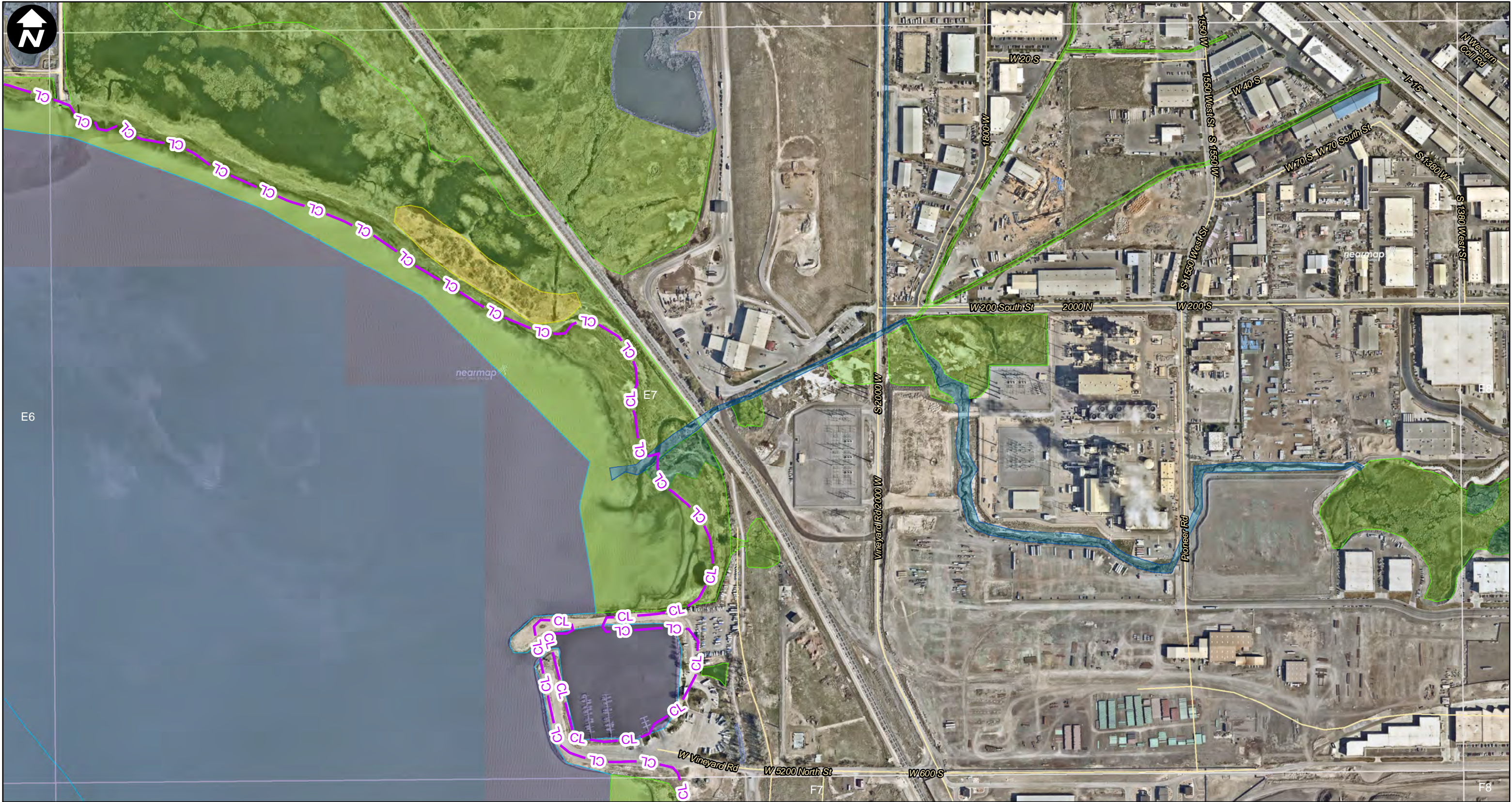
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Grid Map

E6

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Legend		Wetland Type	
Grid Map	Streets	Freshwater Pond	
Rails	Freshwater Emergent Wetland	Lake	
Wetlands Desktop Assessment Boundary	Freshwater Shrub Wetland	Riverine	
CL - Compromise Line Boundary	Freshwater Forested Wetland		

0 675 1,350
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	Grid Map
DE0475	E7
November 2021	



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Forested Wetland

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

Provo

Paragon

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

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November 2021

Grid Map

E8

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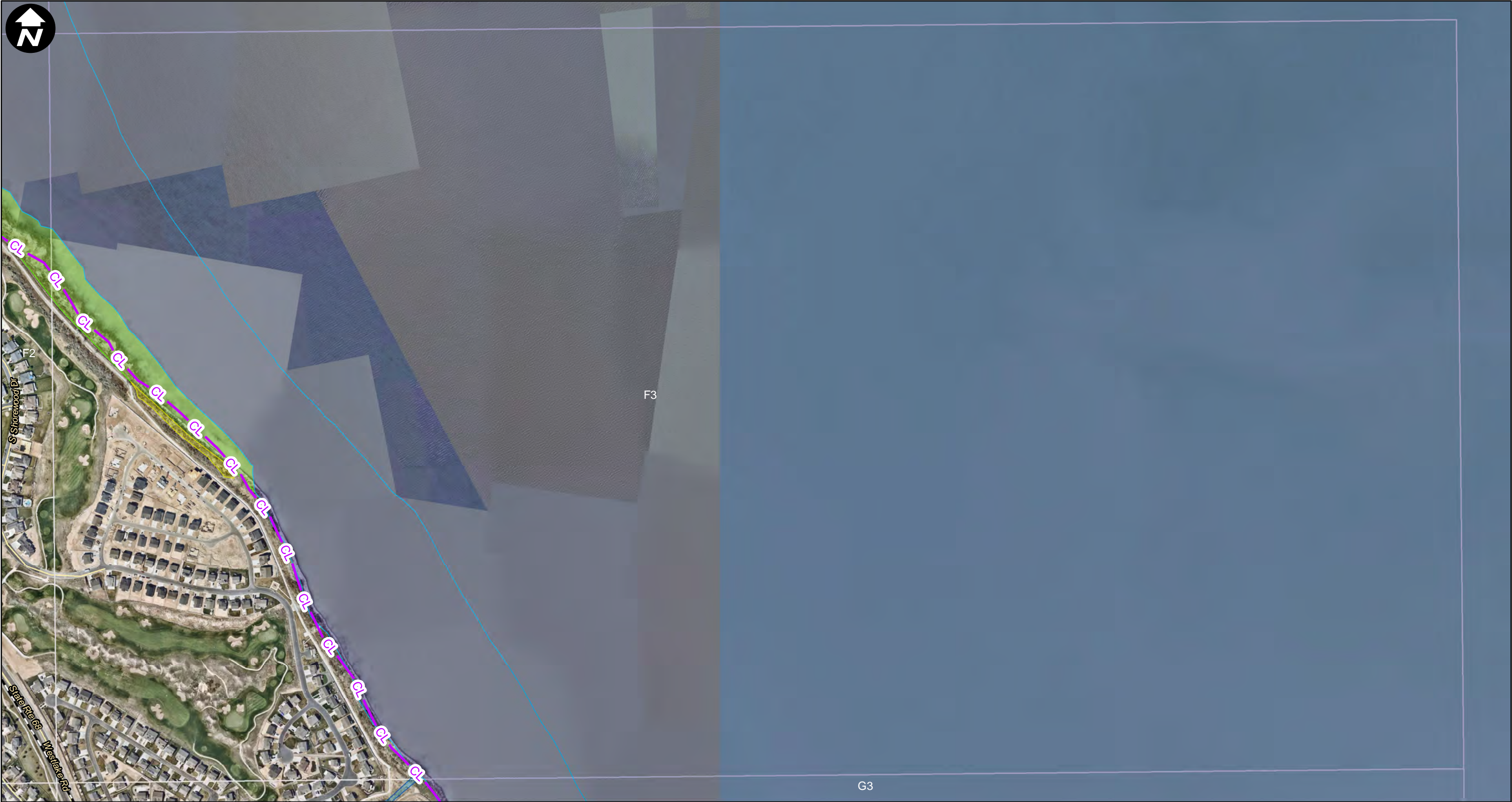
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
F2	



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

F3

0

675

1,350

Feet

Datasource:

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Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

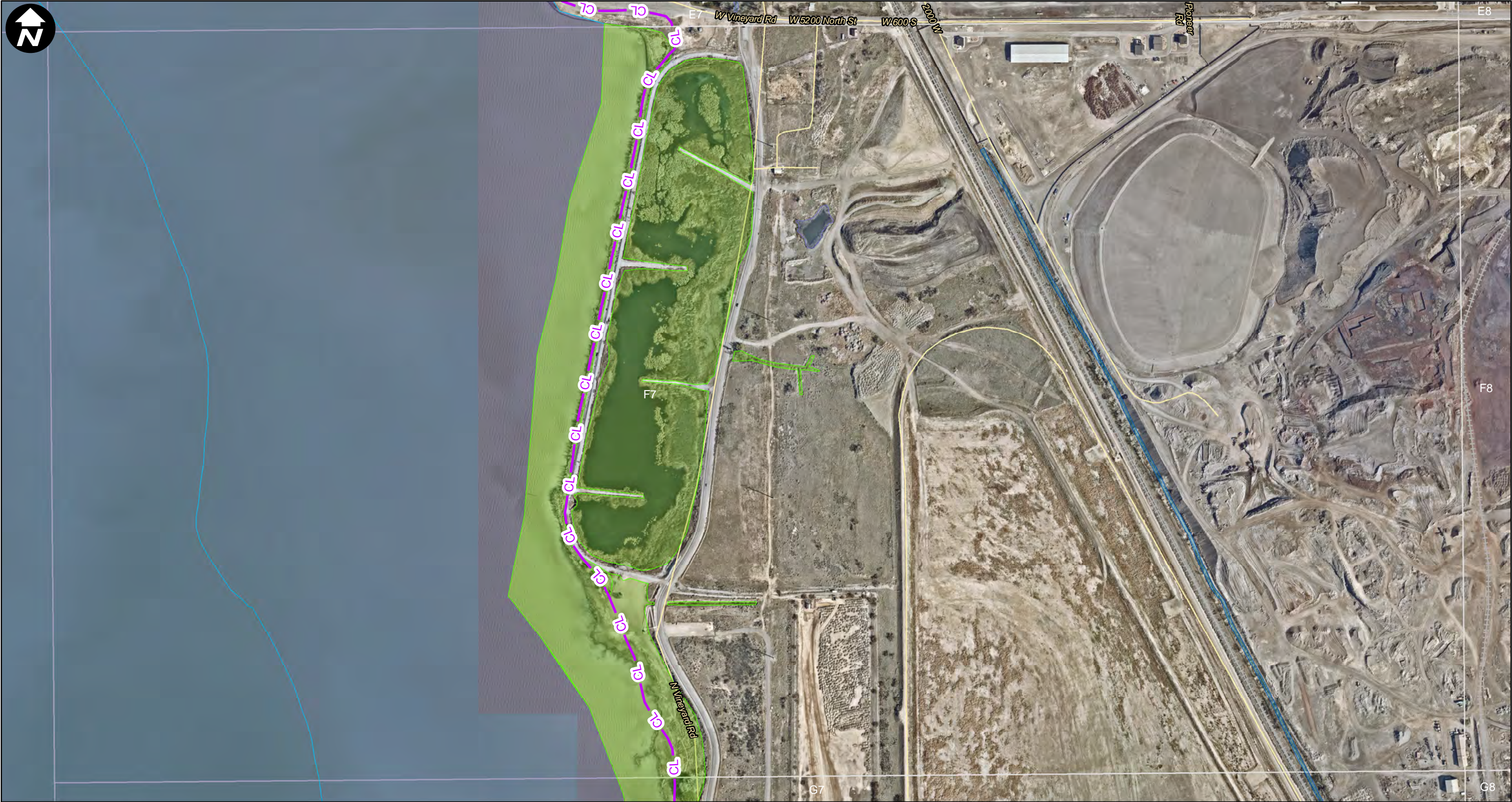
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November 2021

Grid Map

F3

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Grid Map

Rails

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Riverine

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

Provo

San Juan

Salem

Paragon

Spanish Fork

American Fork

F7

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

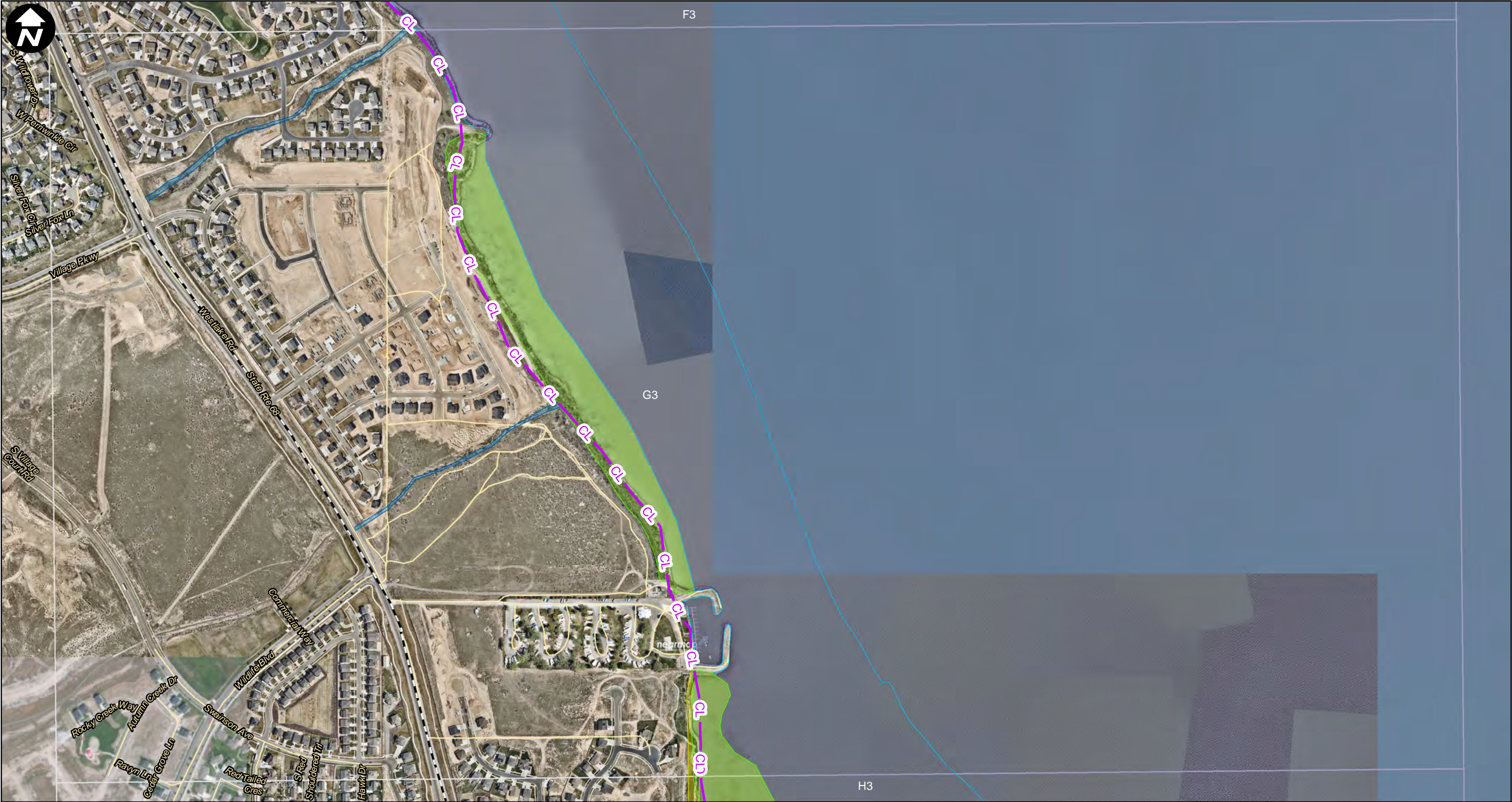
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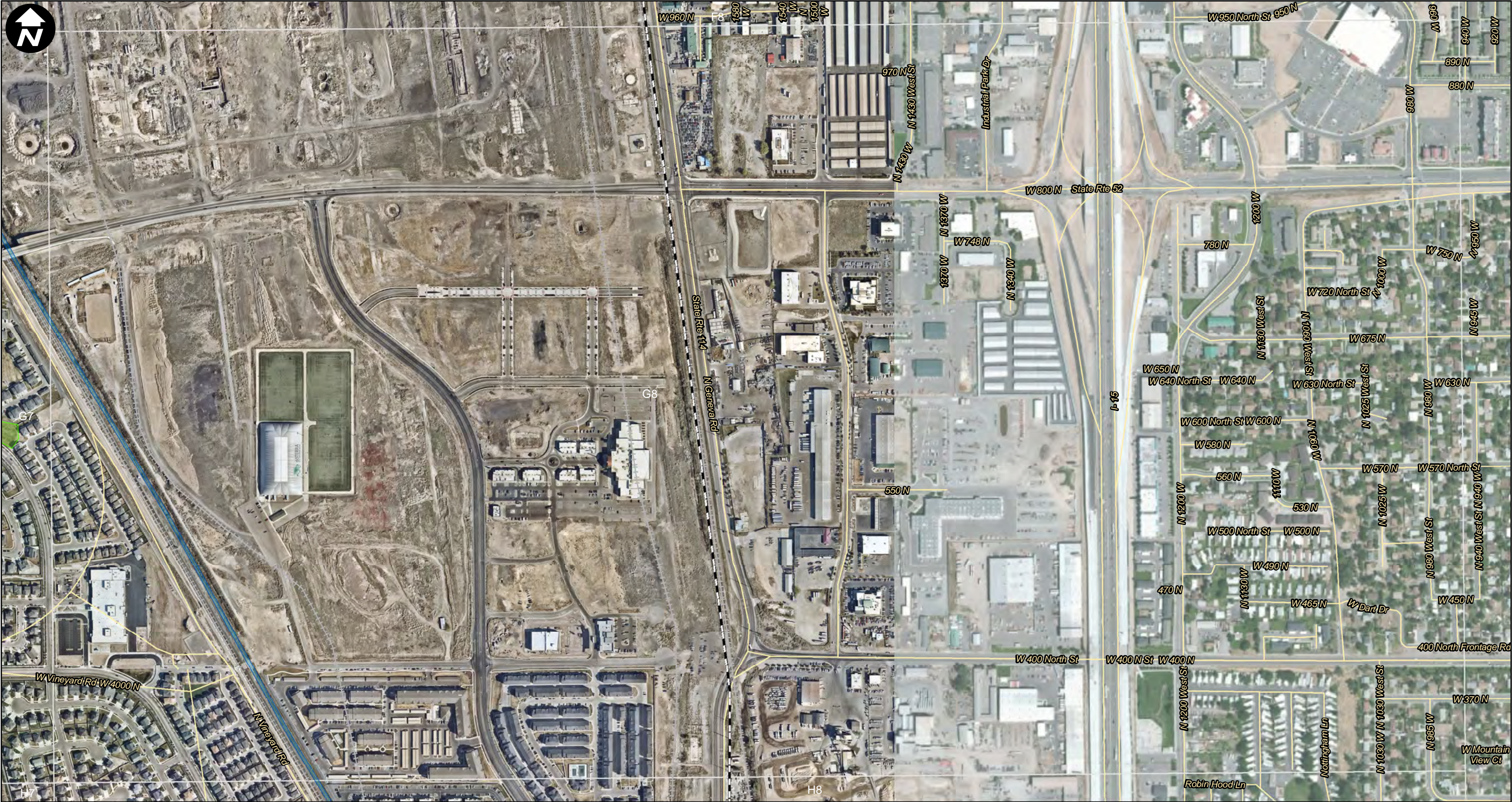
Grid Map

F7

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Legend			
	Grid Map		
	Wetlands Desktop Assessment Boundary		
	Compromise Line Boundary		
	Streets		
Wetland Type			
	Freshwater Emergent Wetland		
	Freshwater Shrub Wetland		
	Lake		
	Riverine		
		<p>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>	
Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah			
Wetlands Desktop Assessment			
		Grid Map	
DE0475		November 2021	
		G3	



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Riverine

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

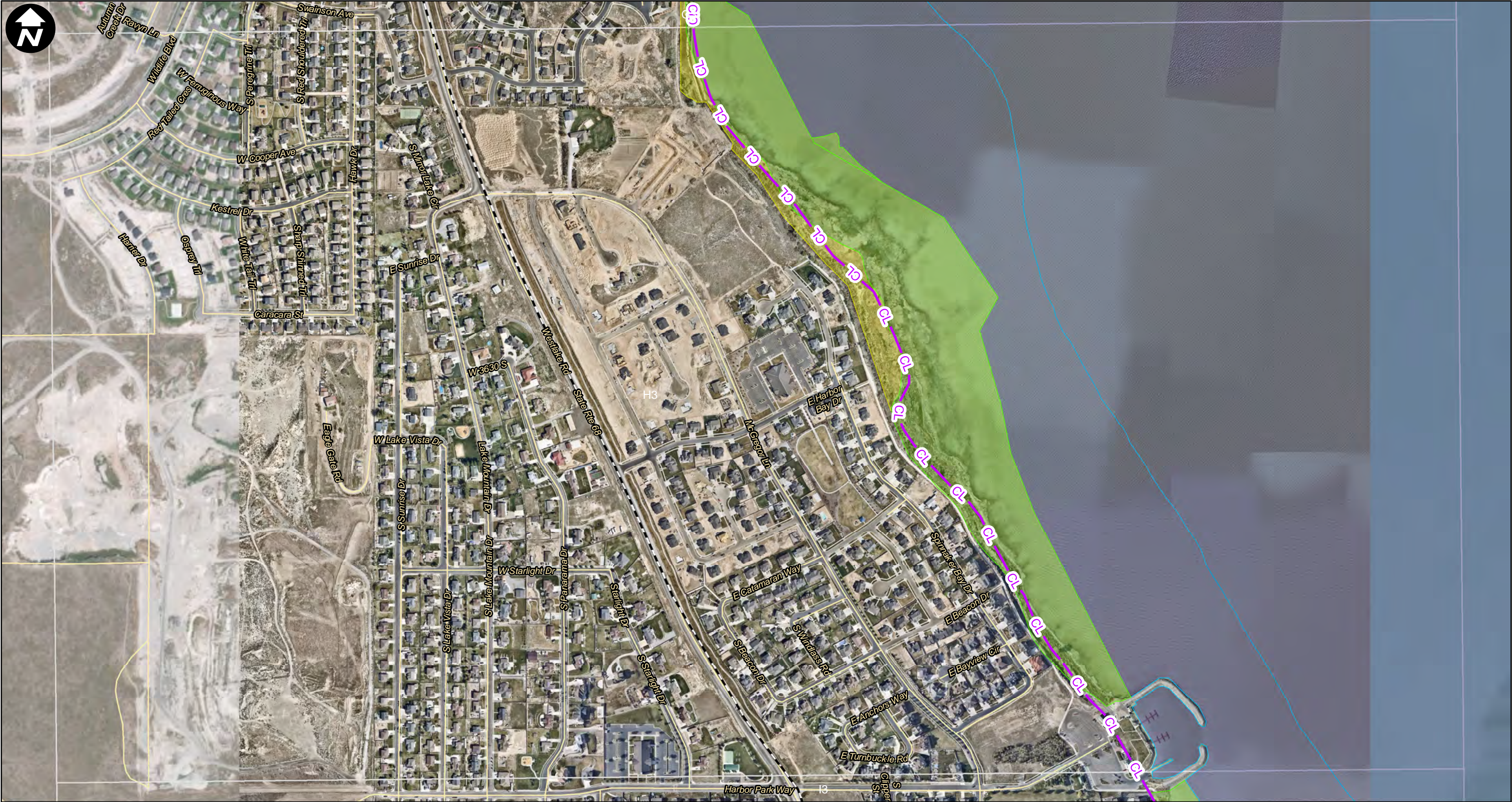
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Grid Map

G8

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Legend	
Grid Map	Wetland Type
Wetlands Desktop Assessment Boundary	Freshwater Emergent Wetland
CL - Compromise Line Boundary	Freshwater Shrub Wetland
Streets	Lake

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	Grid Map
DE0475	H3
November 2021	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
H7	
DE0475	November 2021



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		Riverine

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	Grid Map
DE0475	November 2021
I3	



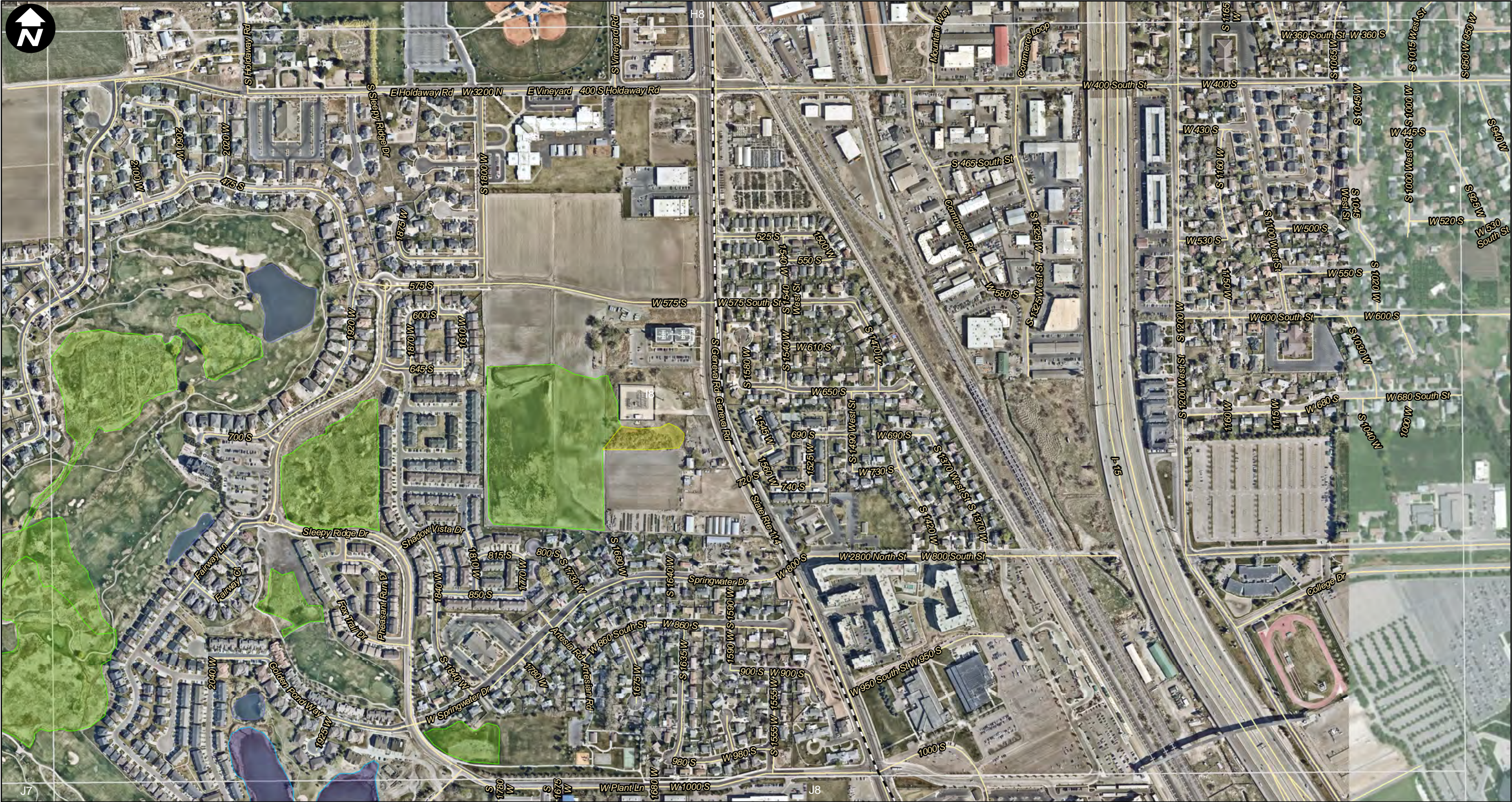
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Freshwater Forested Wetland
	Streets		Lake

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	I7
November 2021	



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Pond

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

18

Provo

Paragon

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Riverine
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
J3	



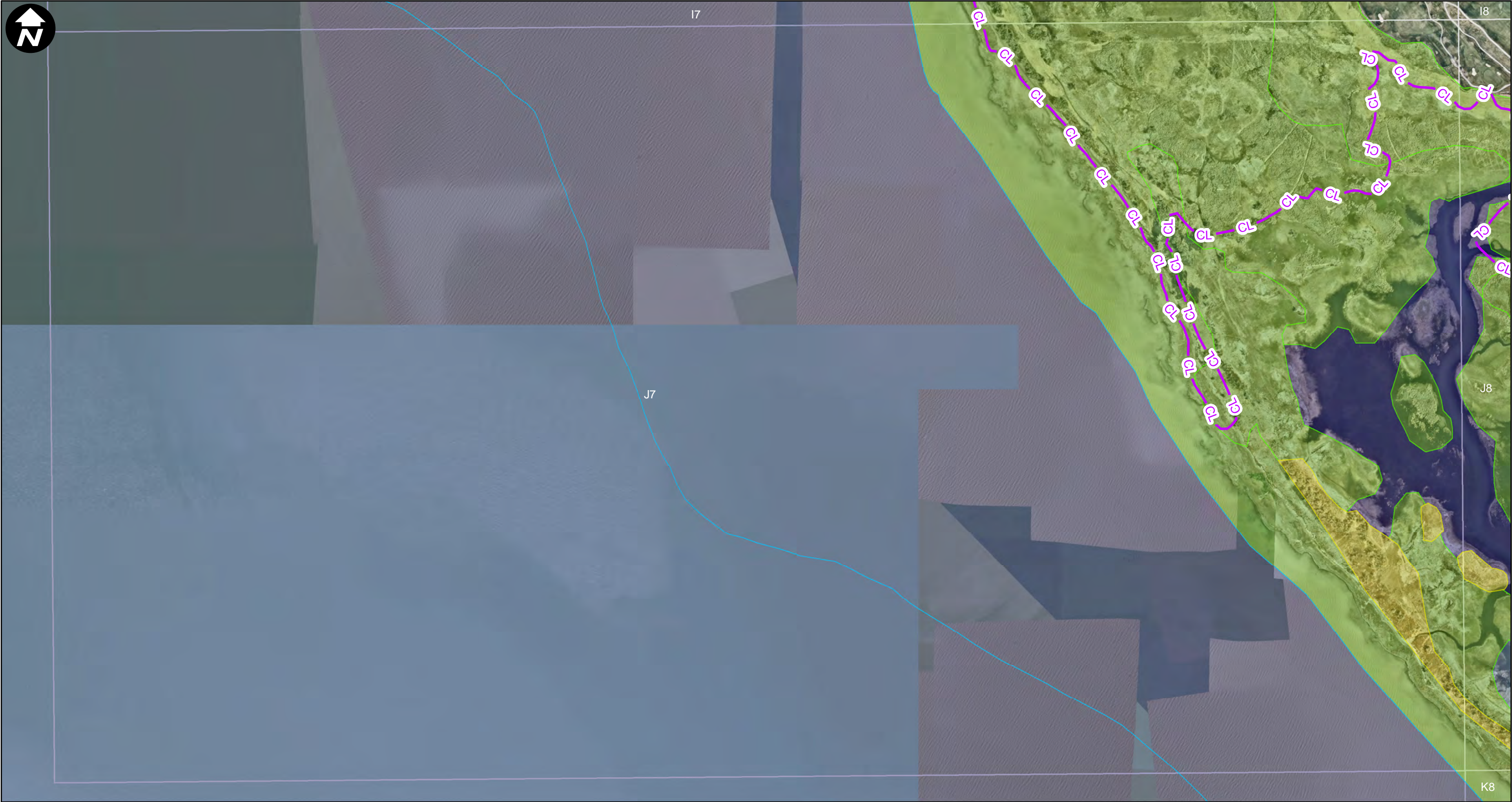
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		Riverine

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	November 2021
J4	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Freshwater Pond
			Lake

Grid Map
J7

0 675 1,350
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021





Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

K3

Provo

Payson

Salem

Spanish Fork

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

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Utah County, Utah

Wetlands Desktop Assessment

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Grid Map

K3

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL - Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

Riverine

06751,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Grid Map
K4

DE0475

November 2021



Legend		Wetland Type		Riverine	
	Grid Map		Freshwater Emergent Wetland		Riverine
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland		
	Compromise Line Boundary		Freshwater Pond		
	Streets		Lake		

0 675 1,350
Feet

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

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Grid Map

K8



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

L3

Provo

San Juan

Salem

Paragon

French Fork

American Fork

Pleasant Grove

0

675

1,350

Feet

Datasource:

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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

L3

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Santaquin

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

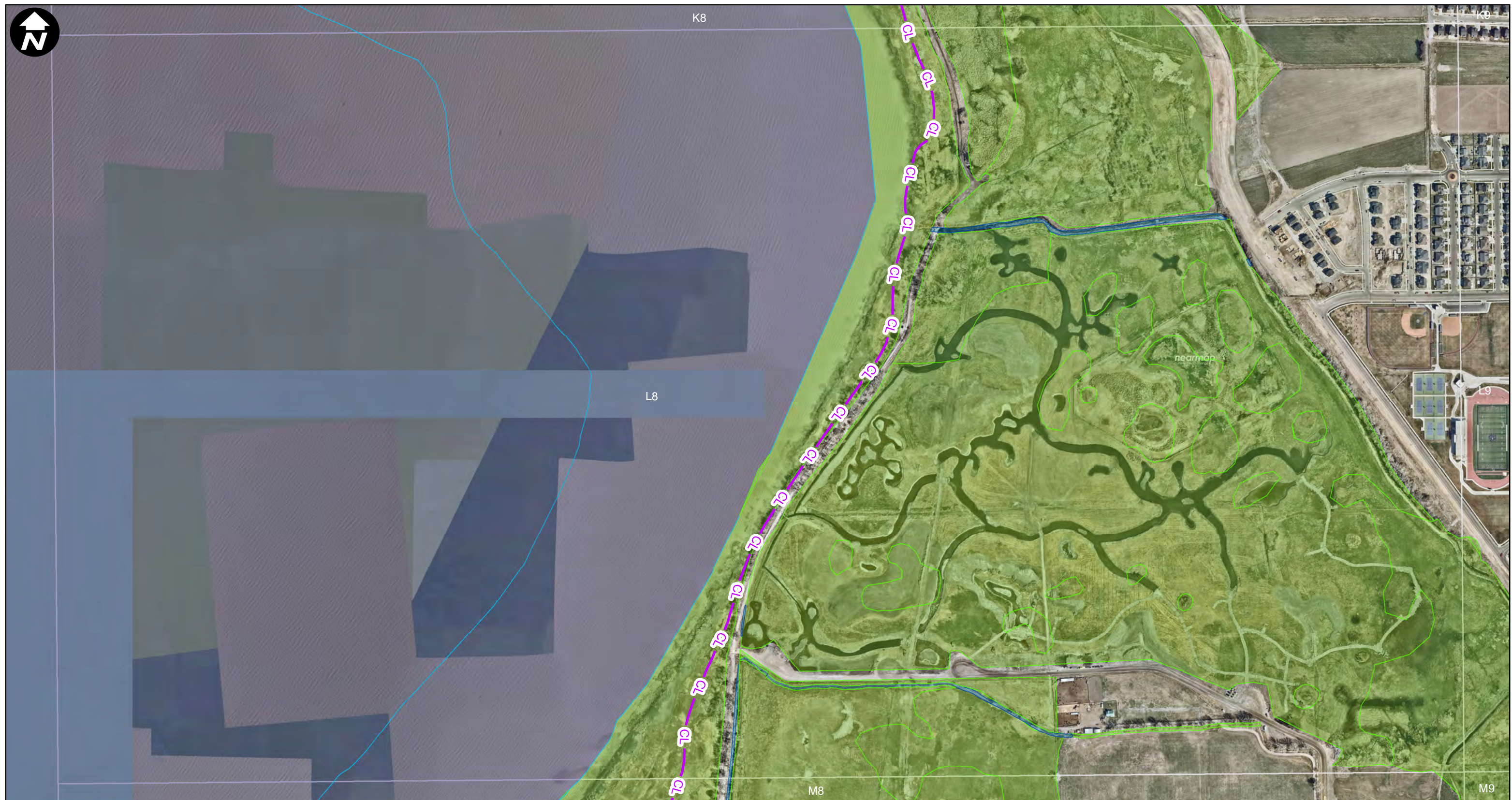
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November 2021





Grid Map

L4




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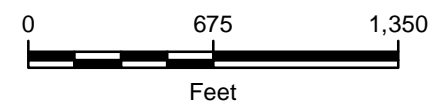
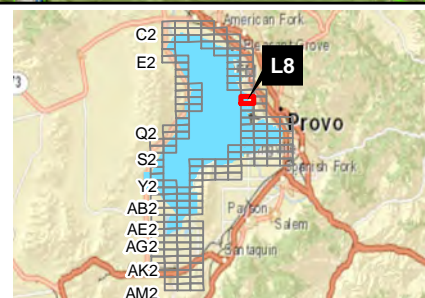


Legend

-  Grid Map
 Wetlands Desktop Assessment Boundary
 CL — Compromise Line Boundary
 Streets

Wetland Type

-  Freshwater Emergent Wetland
 Lake
 Riverine



Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

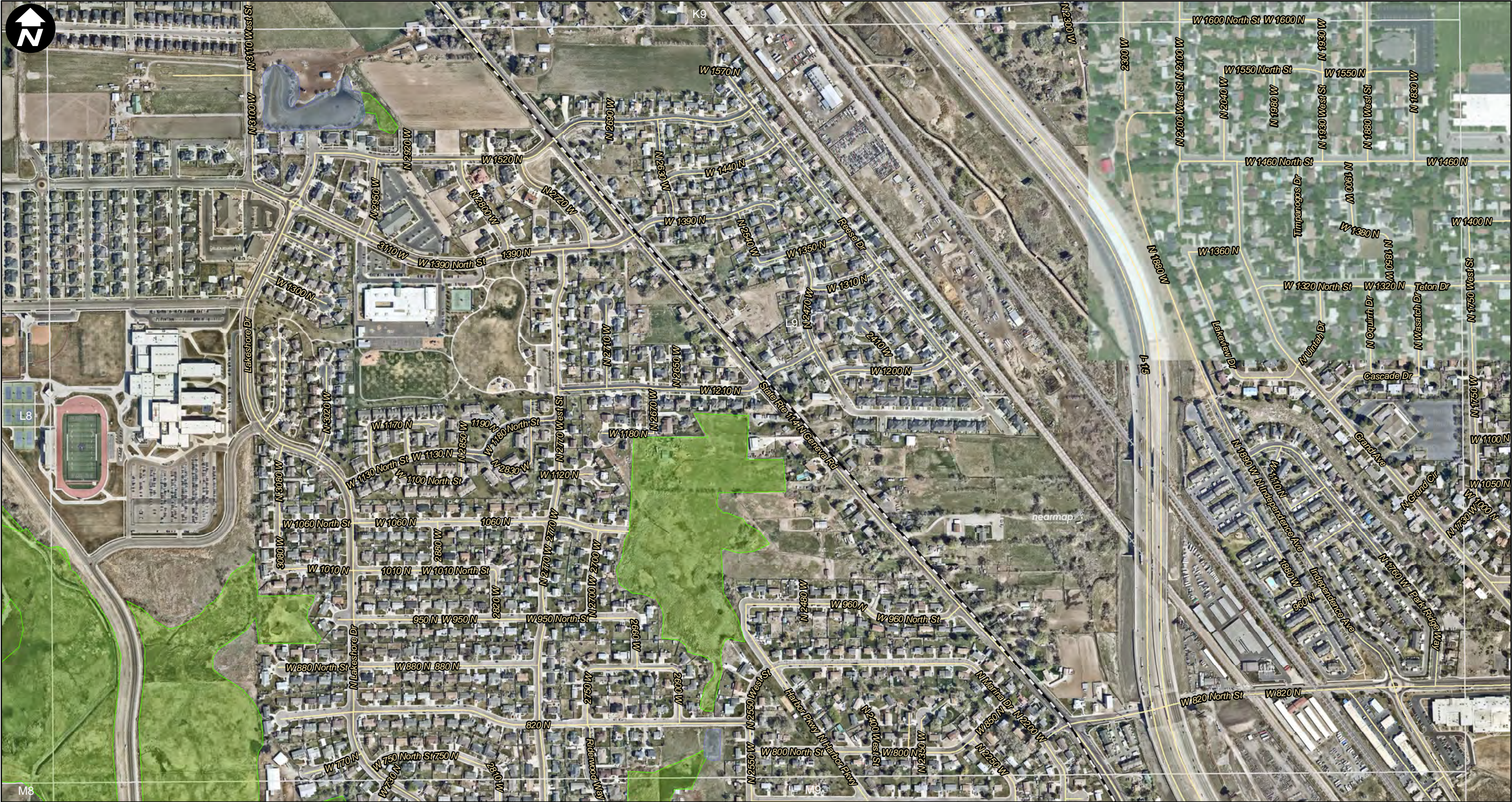
Geosyntec 
consultants

Grid Map

8

DE0475

November 2021



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

Provo

Paragon

Salem

San Juan

0

670

1,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
L9	
DE0475	November 2021

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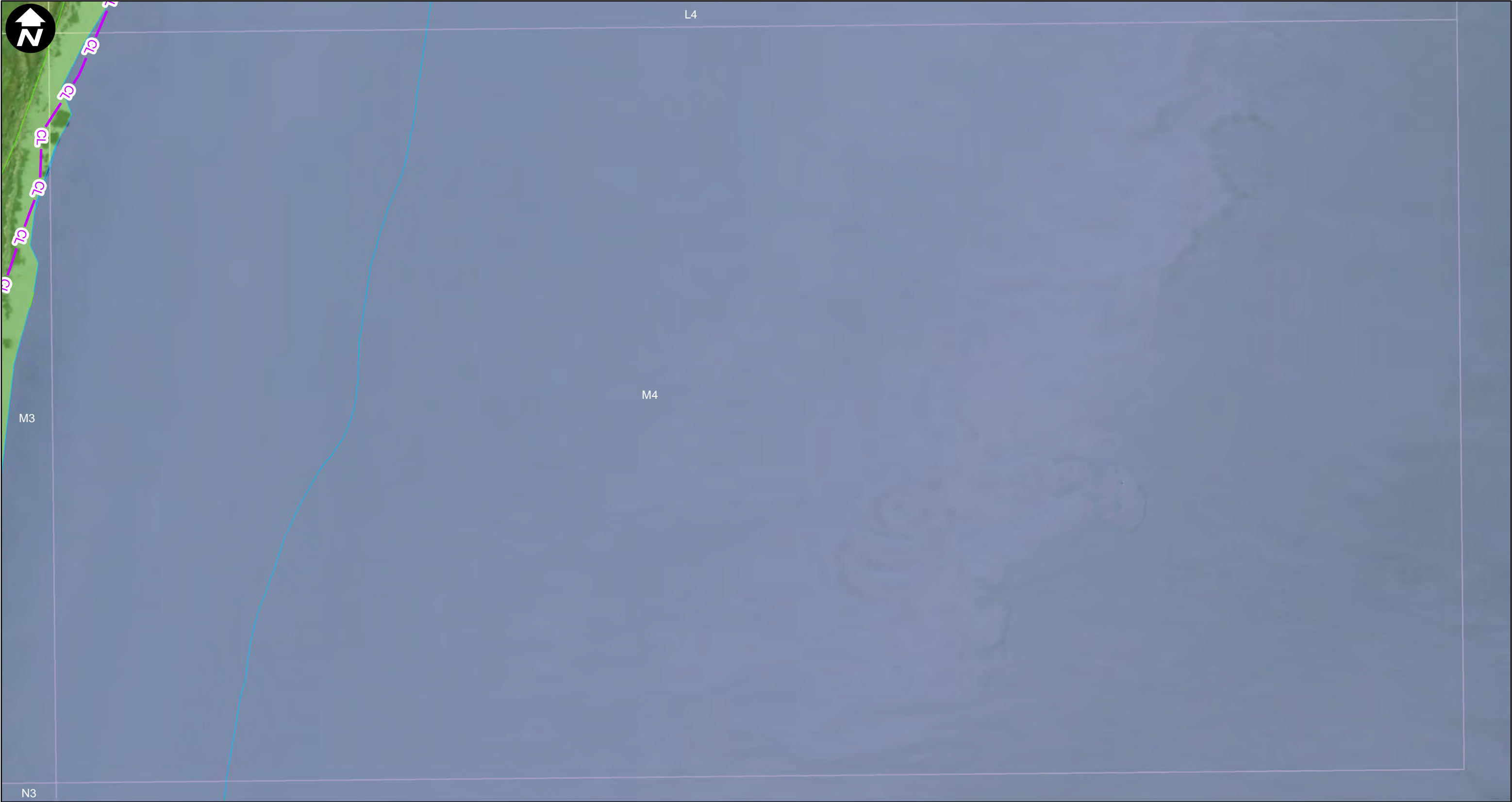
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond
	Compromise Line Boundary		Lake
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021
Grid Map M3	



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Wetland Type

Freshwater Emergent Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

Provo

Spanish Fork

Paragon

Salem

Santaquin

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

M4

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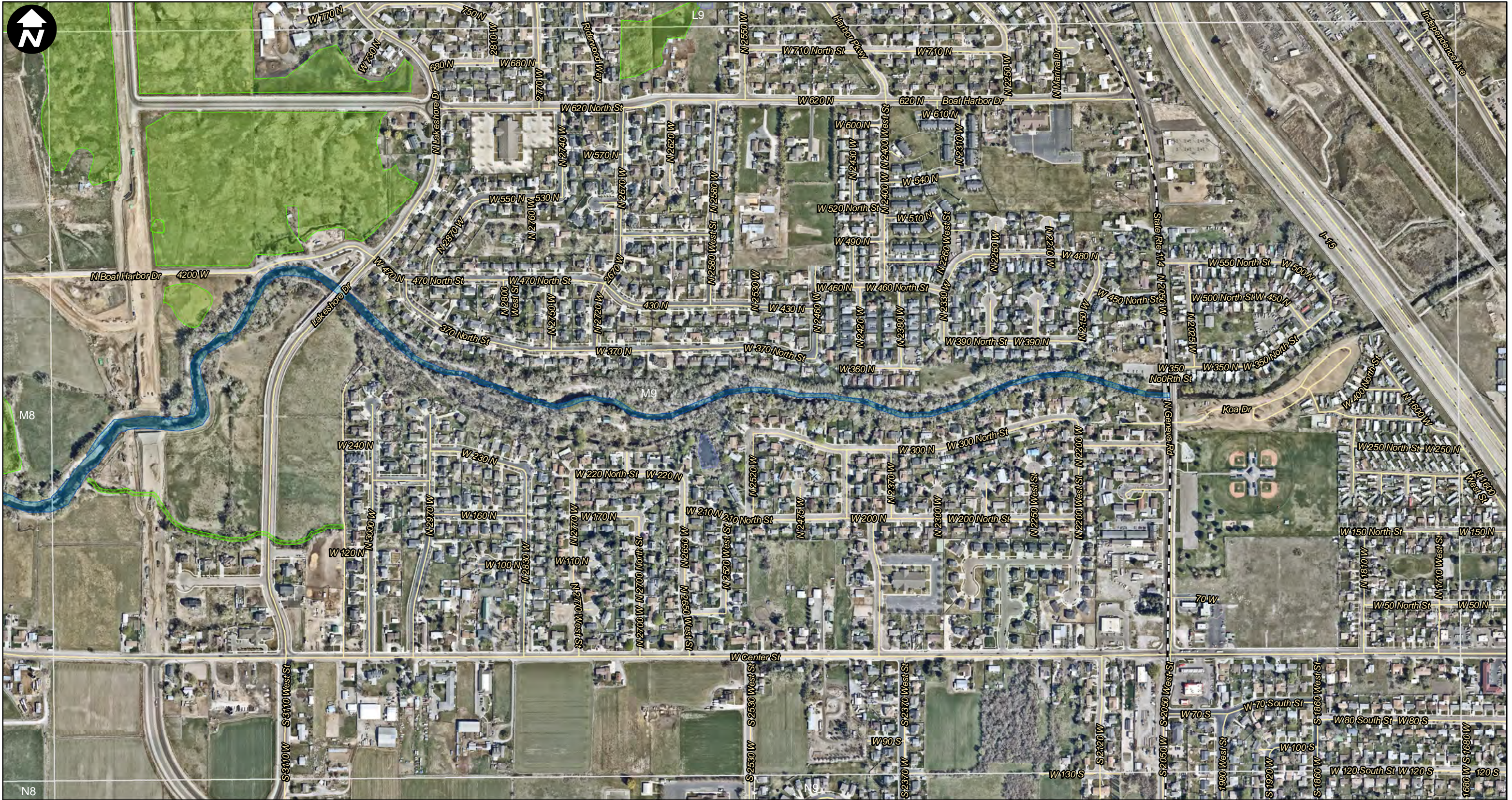
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond
	Compromise Line Boundary		Lake
	Streets		Riverine

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map M8	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Rails		Freshwater Pond
	Wetlands Desktop Assessment Boundary		Riverine
	Streets		

0 670 1,340
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
M9	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond
	Compromise Line Boundary		Lake
	Streets		Riverine

0 675 1,350
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map N3	



Legend

- Grid Map
- Wetlands Desktop Assessment Boundary
- CL - Compromise Line Boundary
- Streets

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Shrub Wetland
- Lake

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

Grid Map

N8

DE0475

November 2021



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

San Juan

0

670

1,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

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Grid Map

N9

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

0 675 1,350
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	O3
November 2021	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
O8	
DE0475	November 2021



Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Riverine

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

Grid Map





O9

DE0475




November 2021

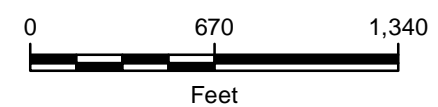
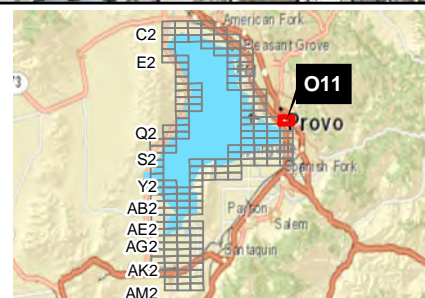


Legend

-  Grid Map
 Rails
 Wetlands Desktop Assessment Boundary
 Streets

Wetland Type

-  Freshwater Emergent Wetland
 Freshwater Pond
 Riverine



Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec 
consultants

Grid Map

011

DE0475

November 2021



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Riverine

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
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DE0475

Grid Map

P2

November 2021



Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

Riverine

06751,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

P3



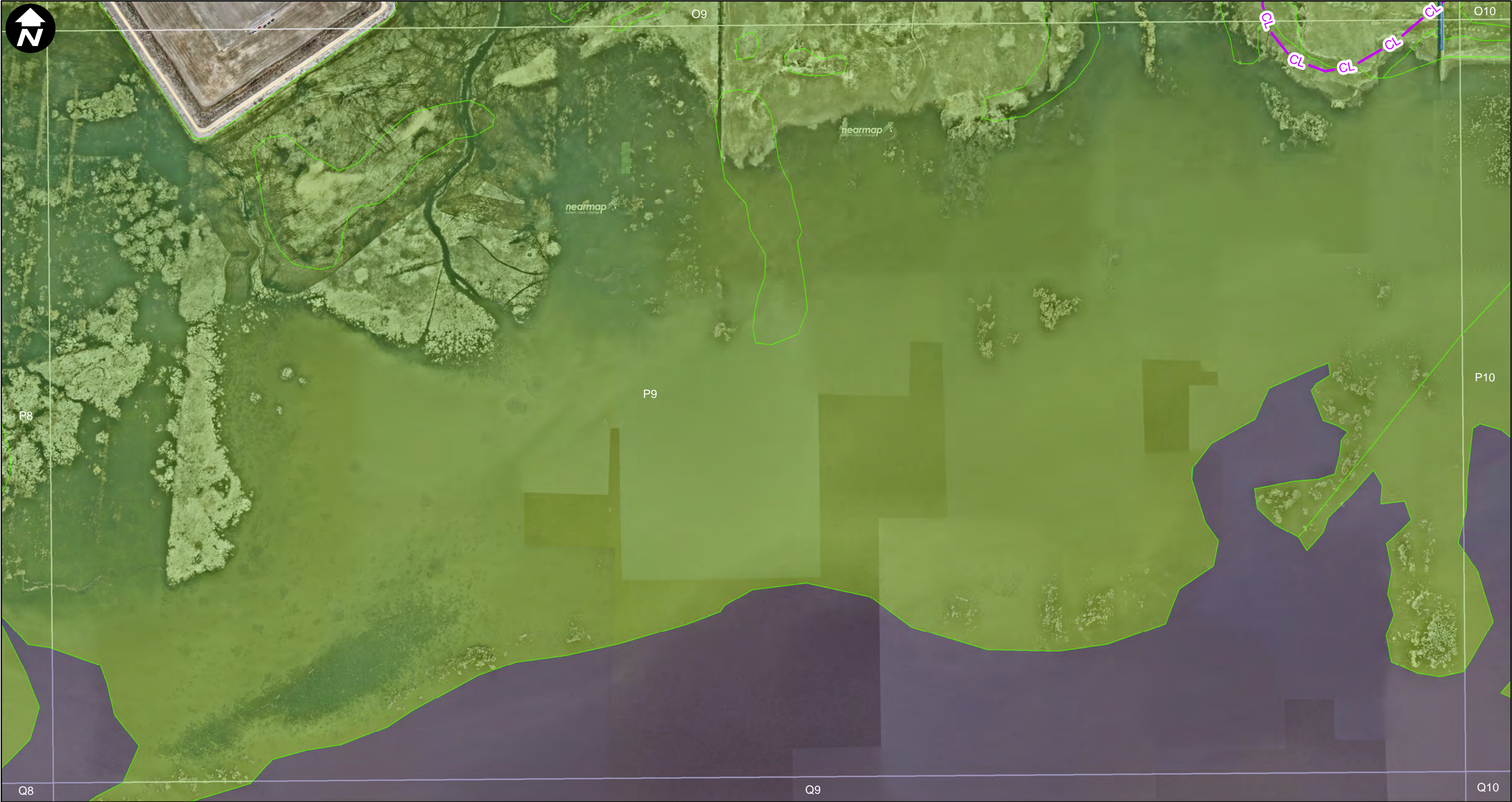
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021
Grid Map	
P8	

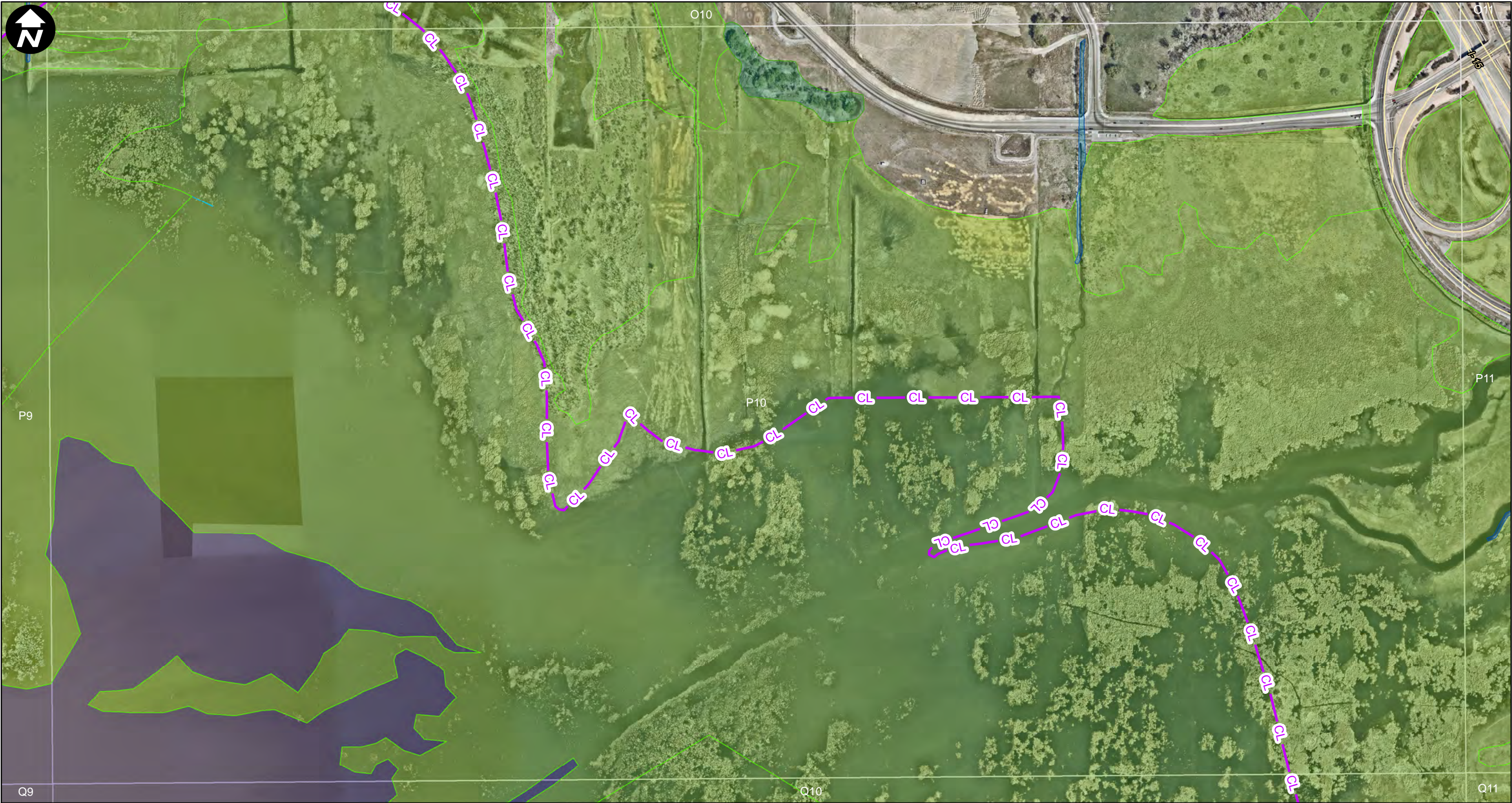


Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

0 670 1,340
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Grid Map	
P9	
DE0475	November 2021



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Forested Wetland

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Cheasant Grove

P10

Provo

French Fork

Paragon

Salem

San Juan

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

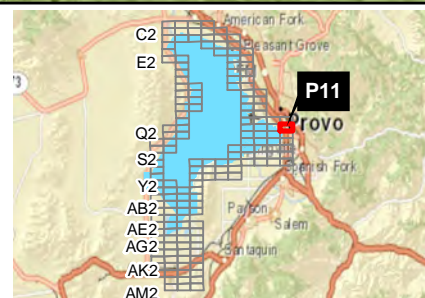
Grid Map

P10

DE0475

November 2021

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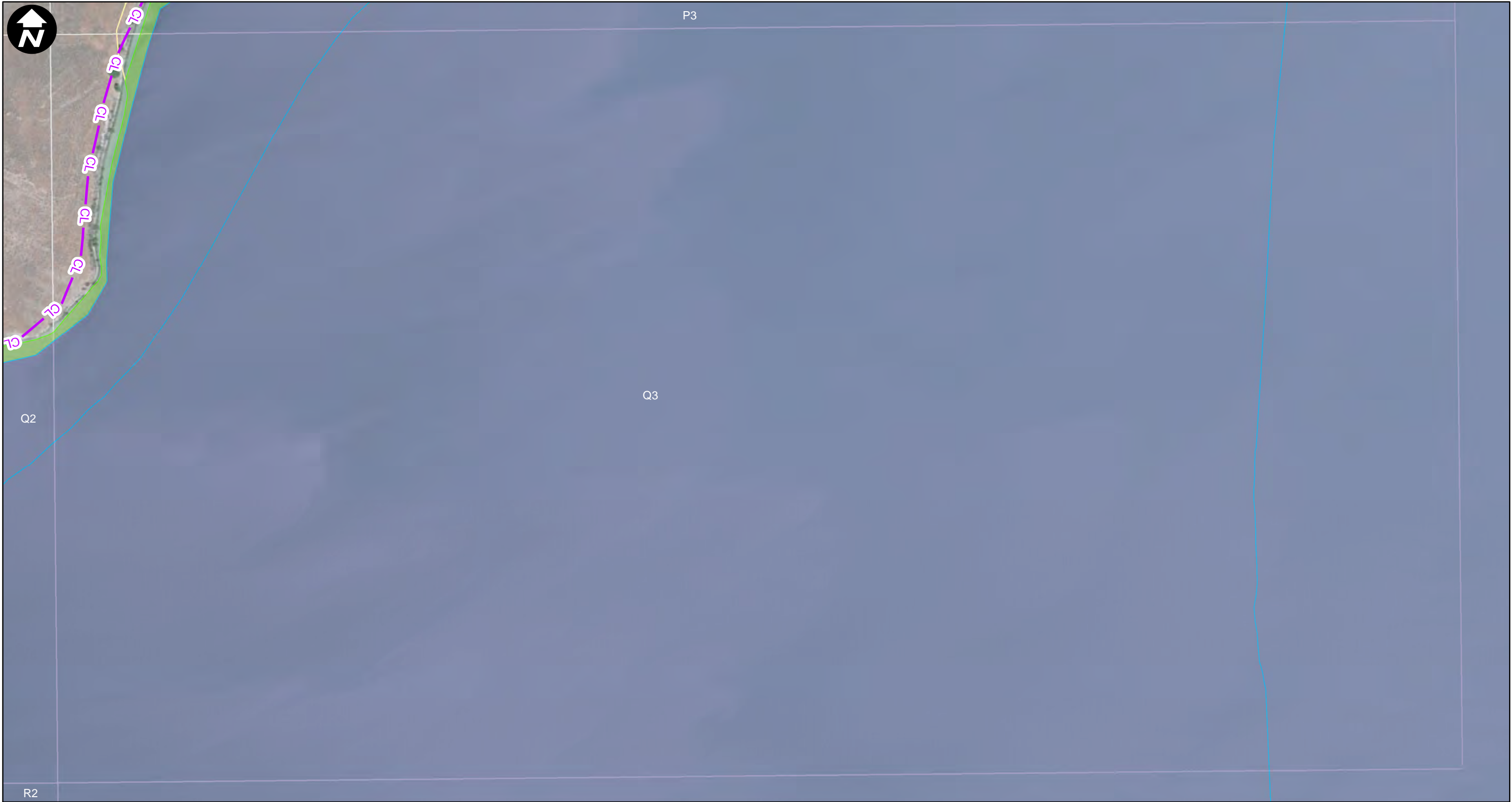
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
Q2	
DE0475	November 2021



Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

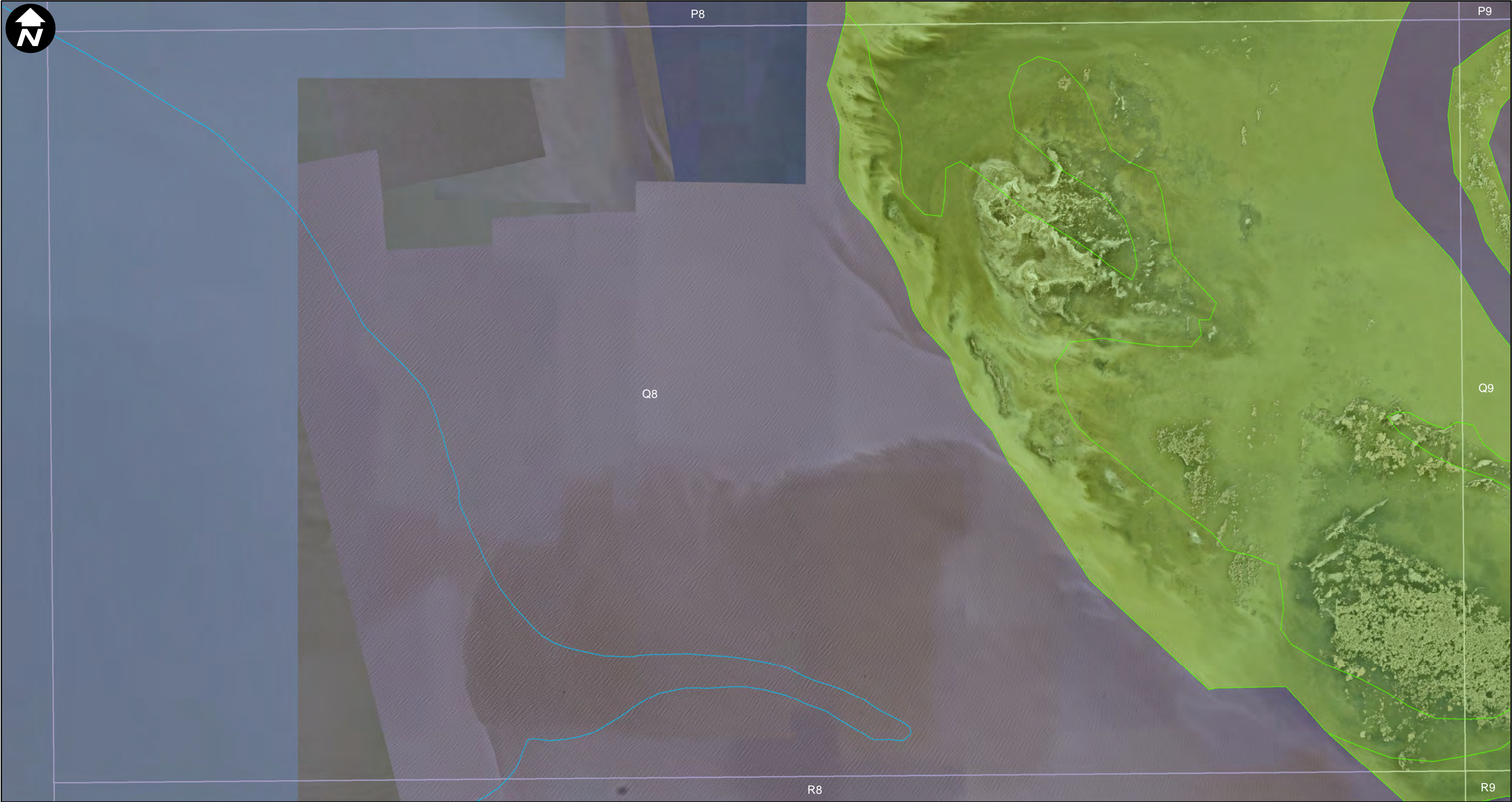
DE0475

November 2021


Grid Map


Q3

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



Legend

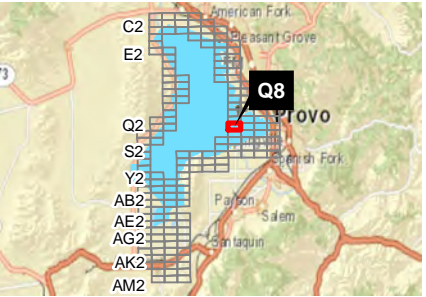
 Grid Map

 Wetlands Desktop Assessment Boundary

Wetland Type

 Freshwater Emergent Wetland

 Lake



0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

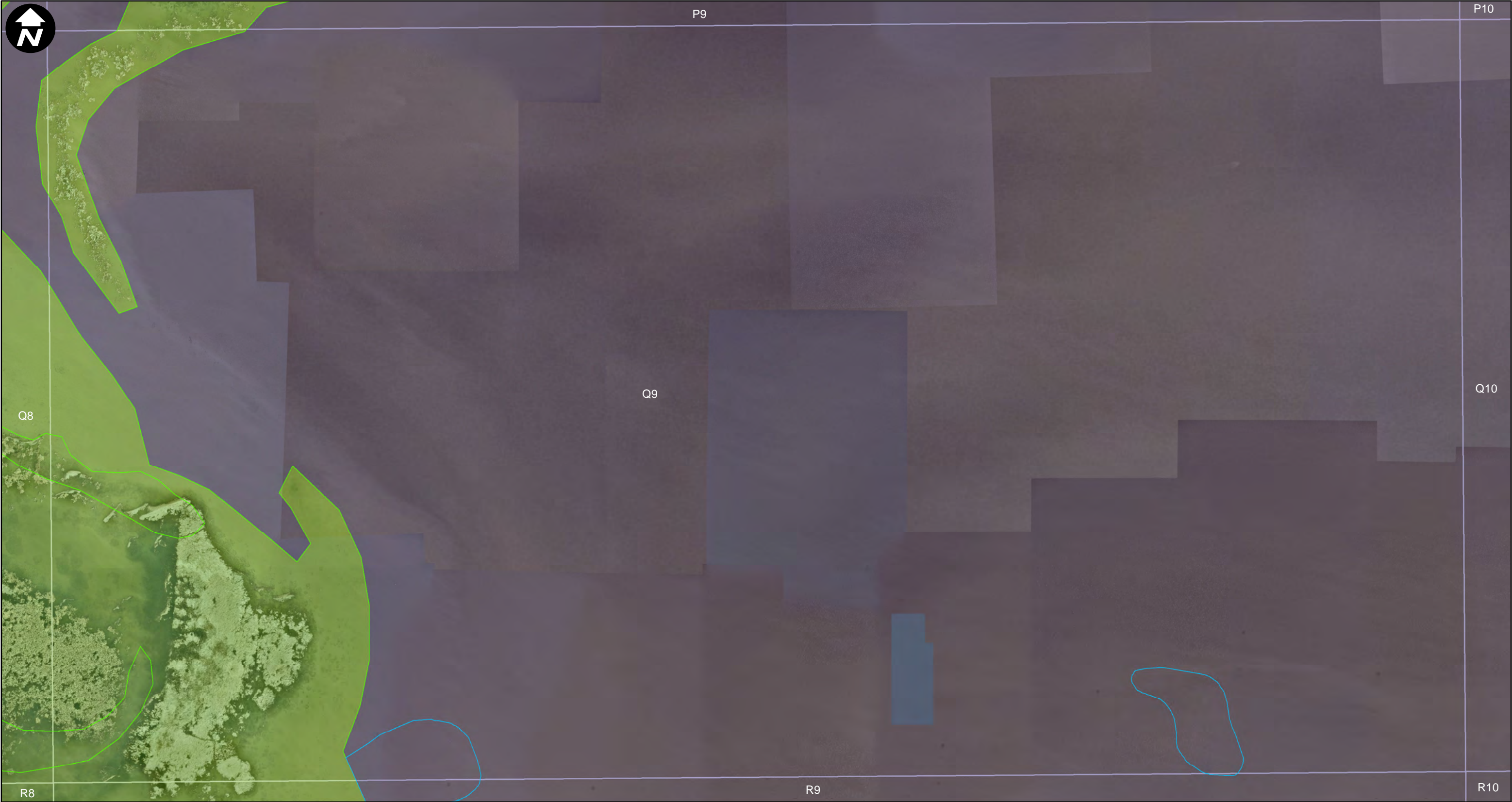
Geosyntec
consultants

DE0475

November 2021

Grid Map

Q8



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Wetland Type

Freshwater Emergent Wetland

Lake

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

DE0475November 2021

Grid Map

Q9

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

C2

E2

Q2

S2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Santaquin

0

670

1,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

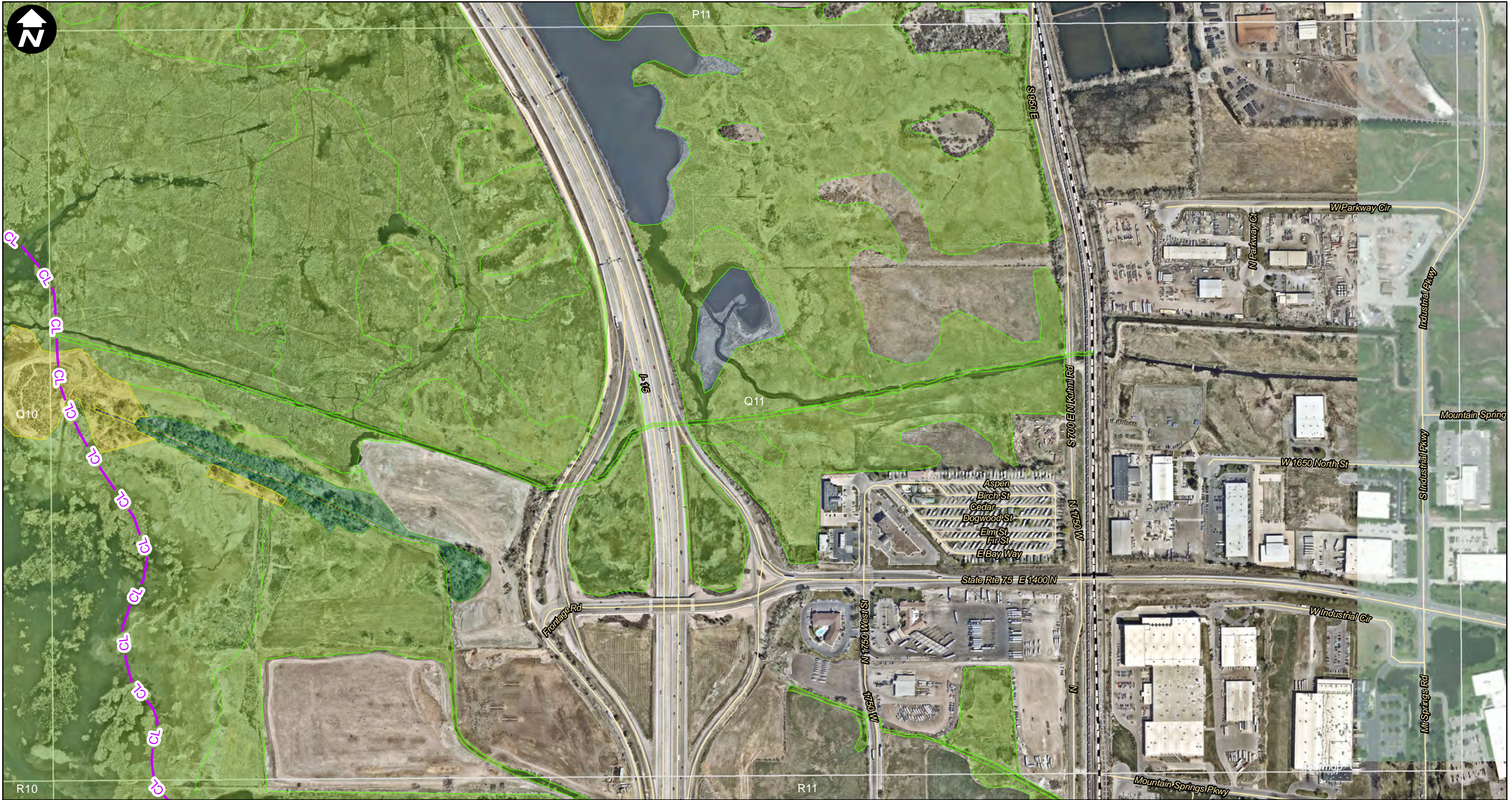
DE0475

November 2021

Grid Map

Q10

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Legend		Wetland Type	
Grid Map	Streets	Freshwater Emergent Wetland	Freshwater Pond
Rails		Freshwater Shrub Wetland	
Wetlands Desktop Assessment Boundary		Freshwater Forested Wetland	
CL - Compromise Line Boundary			

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

0 670 1,340

Feet

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021

Grid Map
Q11



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

06751,350

Feet

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475November 2021

Grid Map

R1

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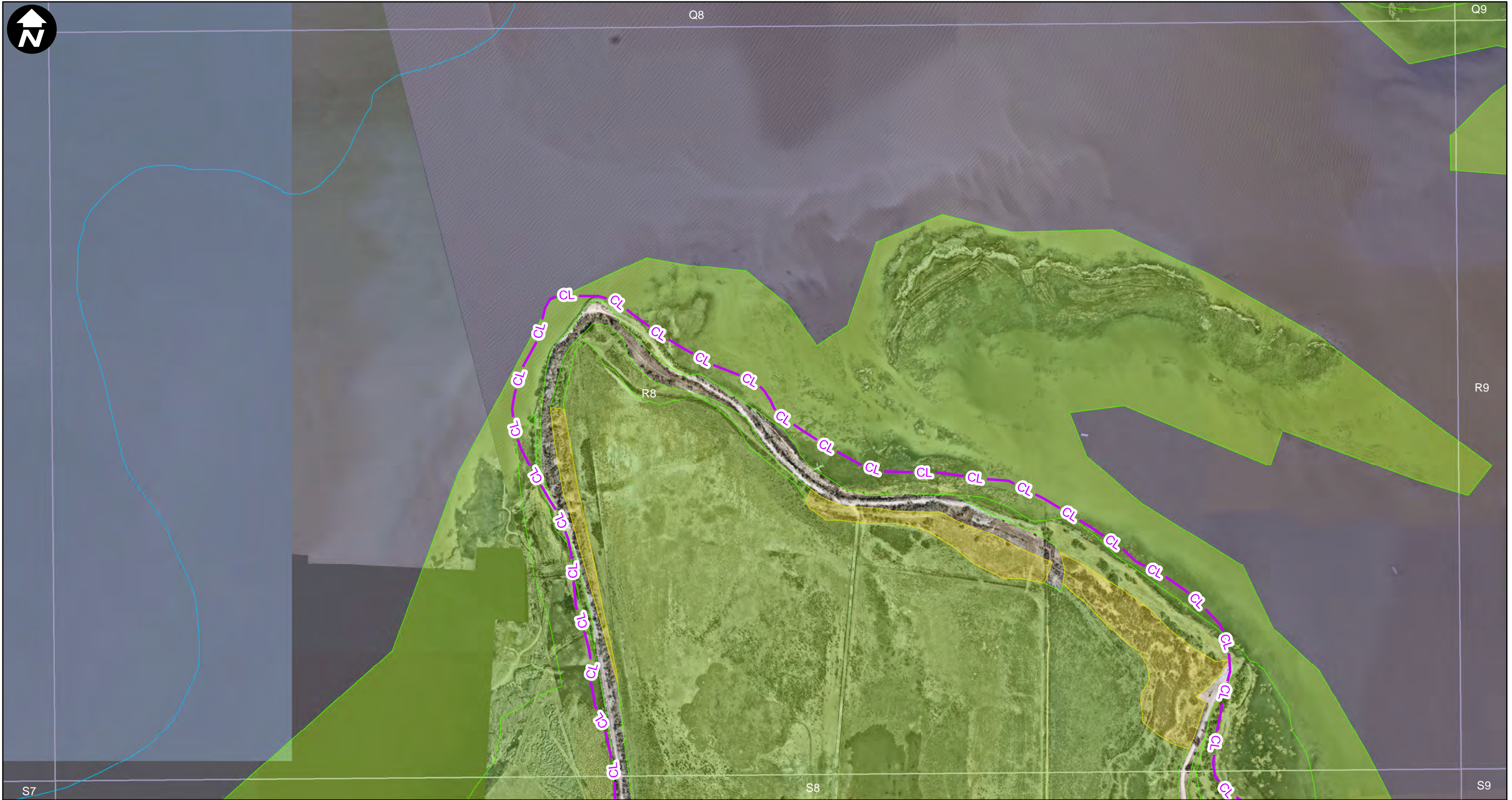
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
R2	
DE0475	November 2021



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

0 670 1,340
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
R8	
DE0475	November 2021



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
R9	
DE0475	November 2021



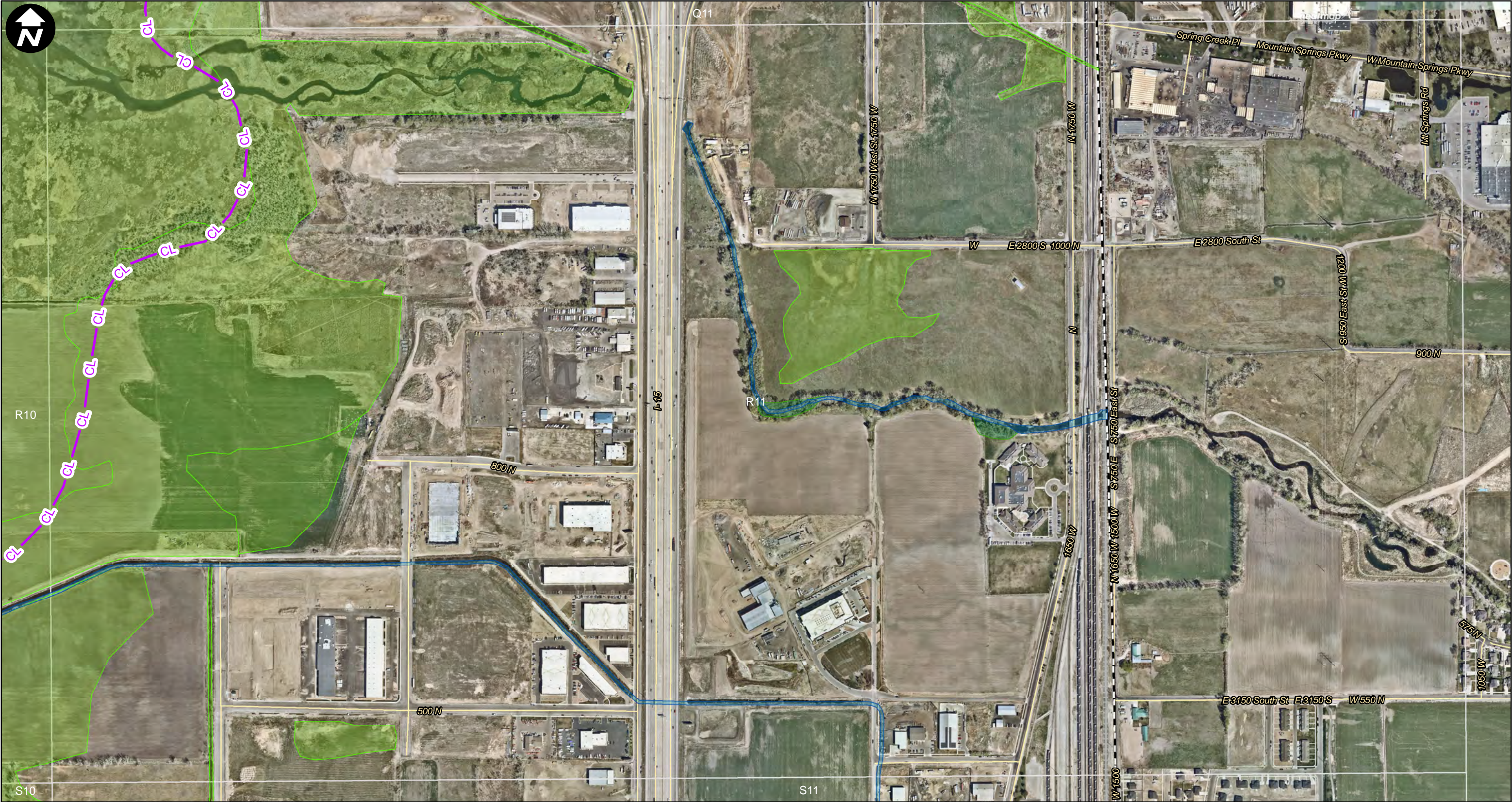
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Grid Map	
R10	
DE0475	November 2021



Grid Map

Rails

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Forested Wetland

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Santaquin

R11

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

R11

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

Provo

AM2
AK2
AG2
AE2
Y2
S2
Q2
E2
C2

0 675 1,350

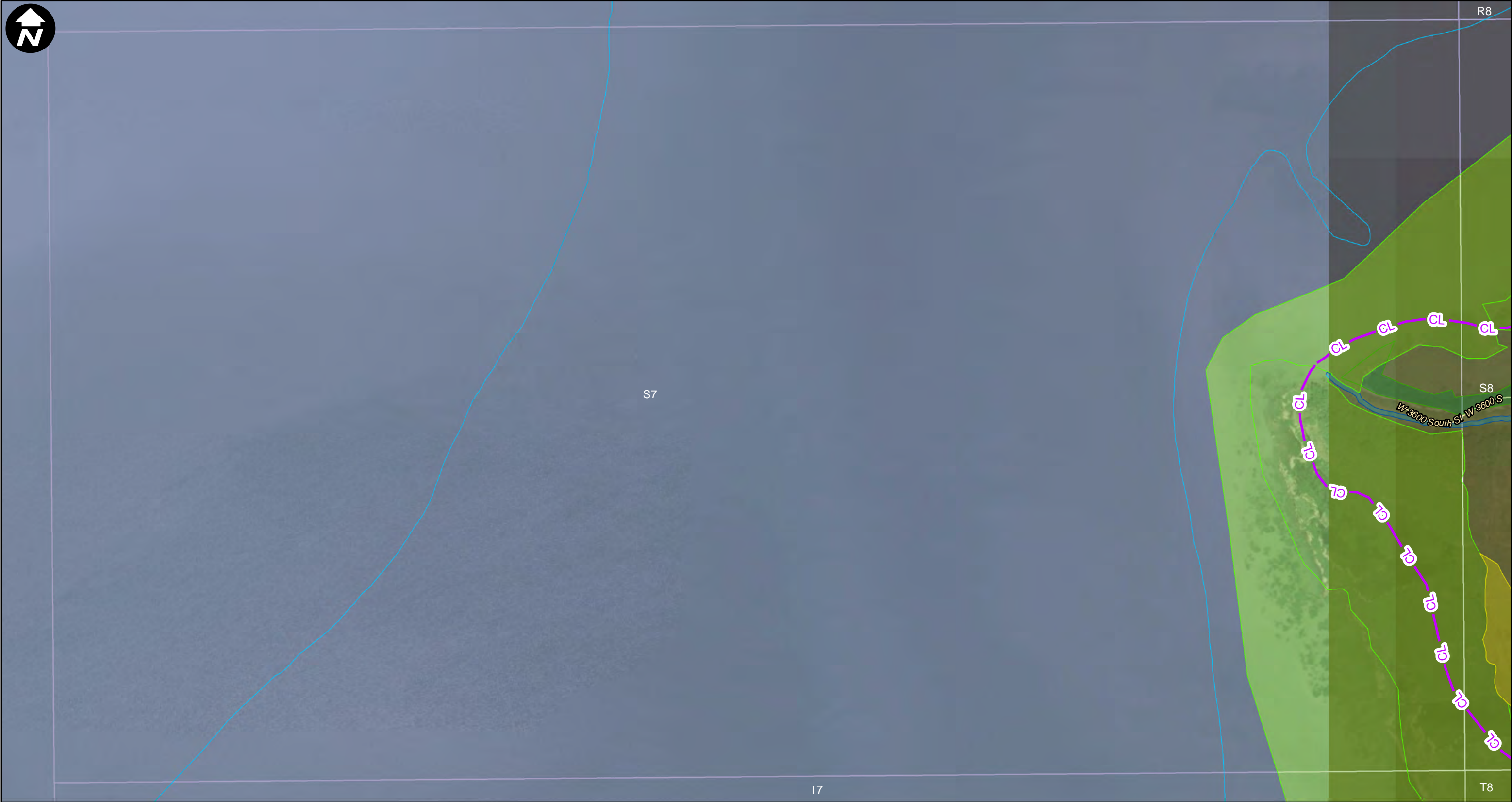
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	S1
November 2021	



Legend <div><div><div></div><div>Grid Map</div></div><div><div></div><div>Wetlands Desktop Assessment Boundary</div></div><div><div></div><div>CL - Compromise Line Boundary</div></div><div><div></div><div>Streets</div></div></div> <div>Wetland Type <div><div></div><div>Freshwater Emergent Wetland</div></div><div><div></div><div>Lake</div></div></div>				<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
		<p><i>Datasource:</i> -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>	<div></div>	Grid Map S2	
			DE0475	November 2021	



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Forested Wetland

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

S7 Provo

Spanish Fork

Paragon

Salem

Santaquin

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

S7

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



Legend		Wetland Type		Lake	
	Grid Map		Freshwater Emergent Wetland		Lake
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland		Riverine
	Compromise Line Boundary		Freshwater Forested Wetland		
	Streets		Freshwater Pond		

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

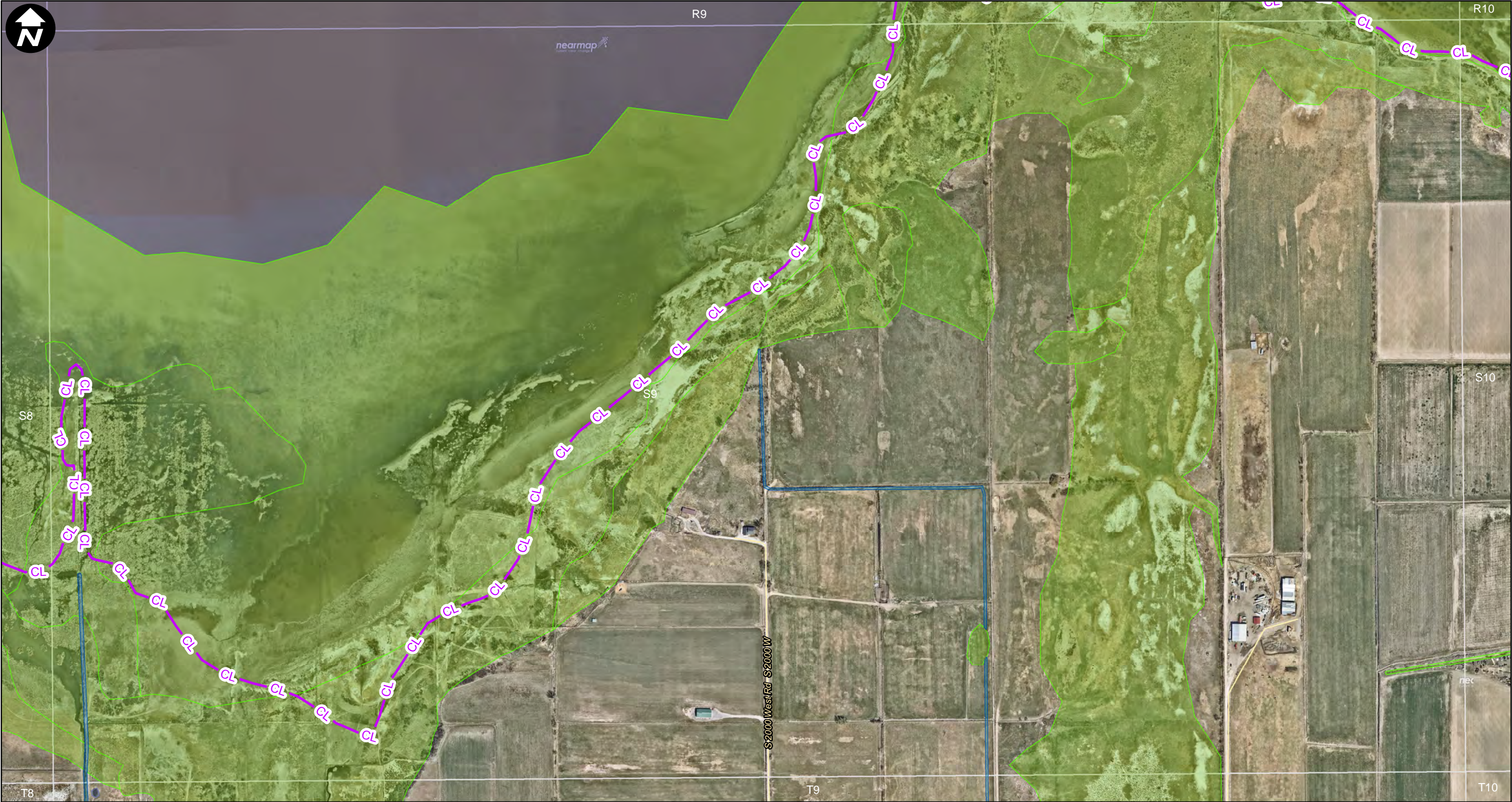
Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

Grid Map
S8

DE0475	November 2021
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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Lake

Riverine

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

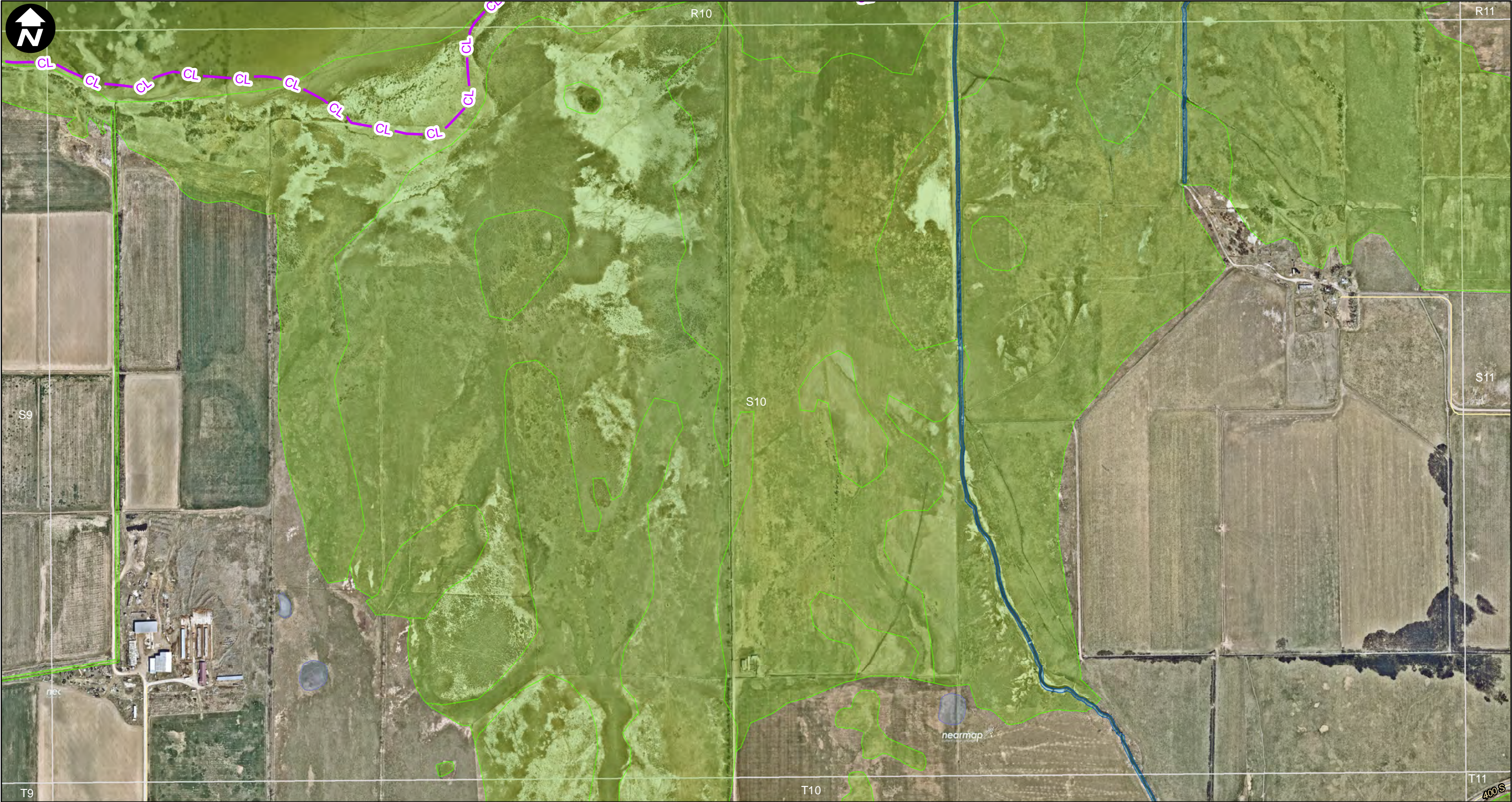
Wetlands Desktop Assessment

Grid Map
S9

DE0475

November 2021

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Spanish Fork

Paragon

Salem

Santaquin

S10

0

670

1,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

Grid Map

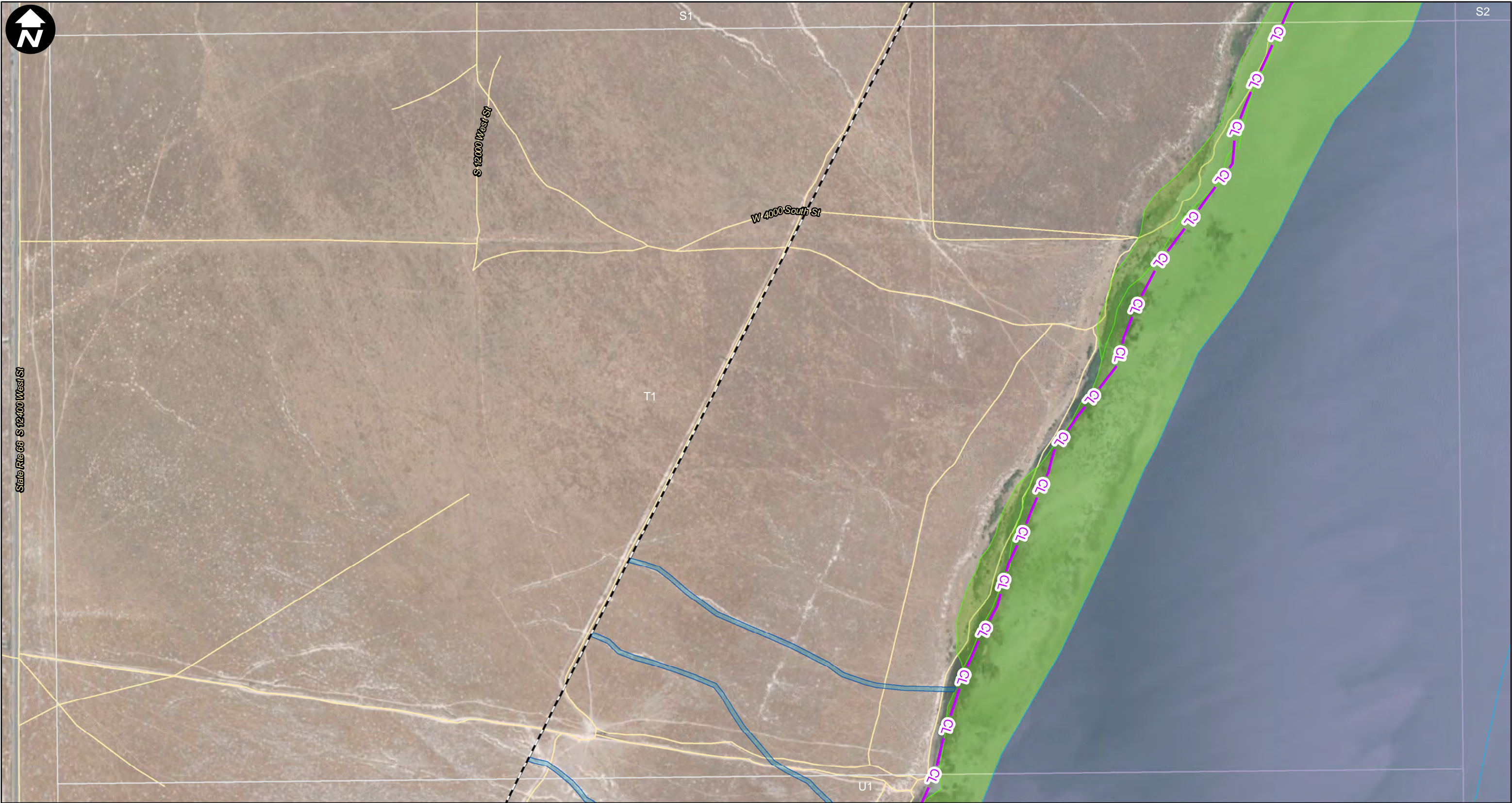
S10

DE0475

November 2021

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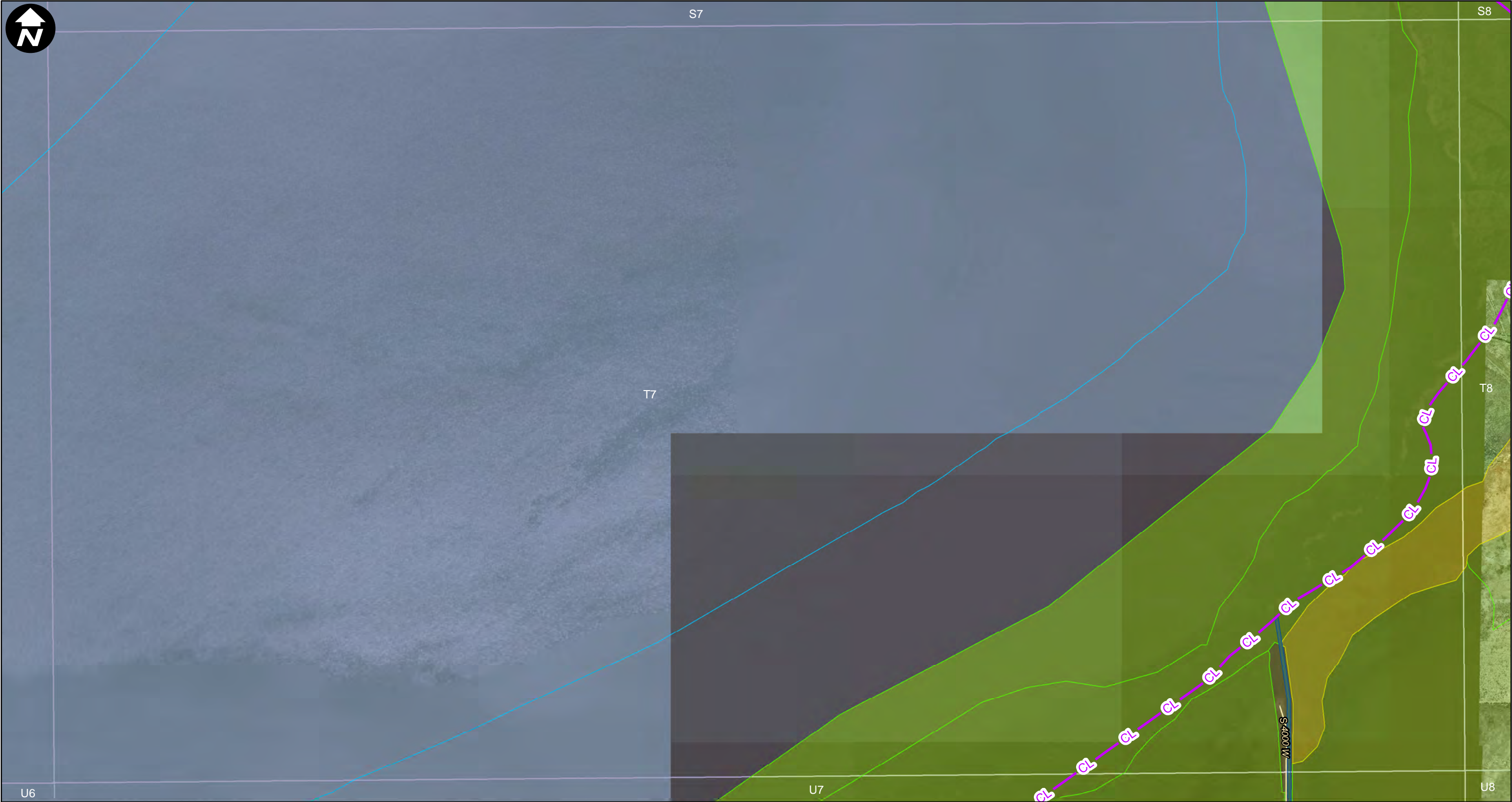


Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

Scale: 0 675 1,350 Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021
Grid Map	
T1	

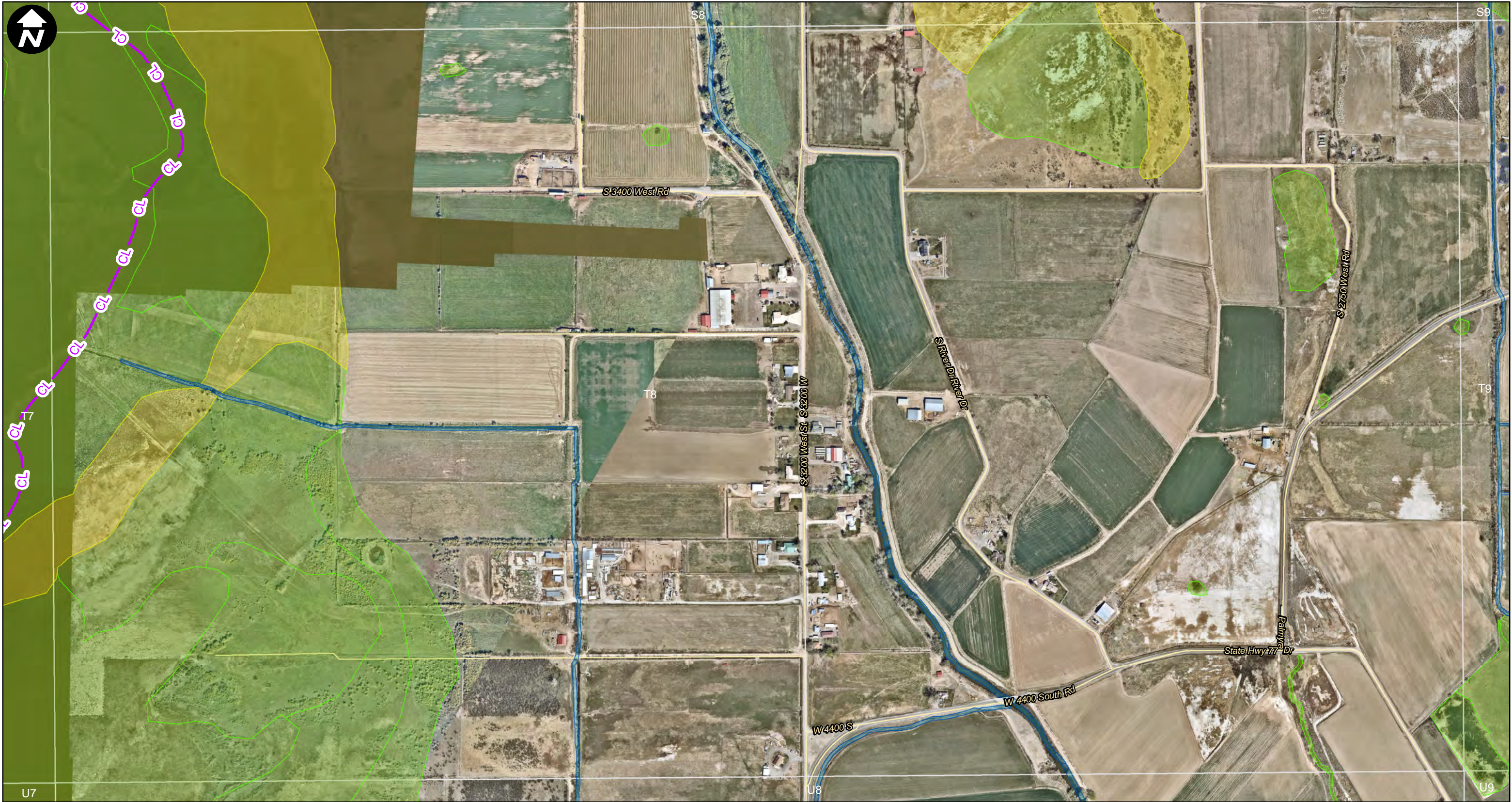


Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		Riverine

0 670 1,340
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Grid Map	
T7	
DE0475	November 2021



Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Pond

Riverine

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

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DE0475

November 2021

Grid Map

T8

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

San Juan

T9

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	Grid Map
DE0475	T9
November 2021	



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Riverine

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Grid Map
T10

DE0475

November 2021

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



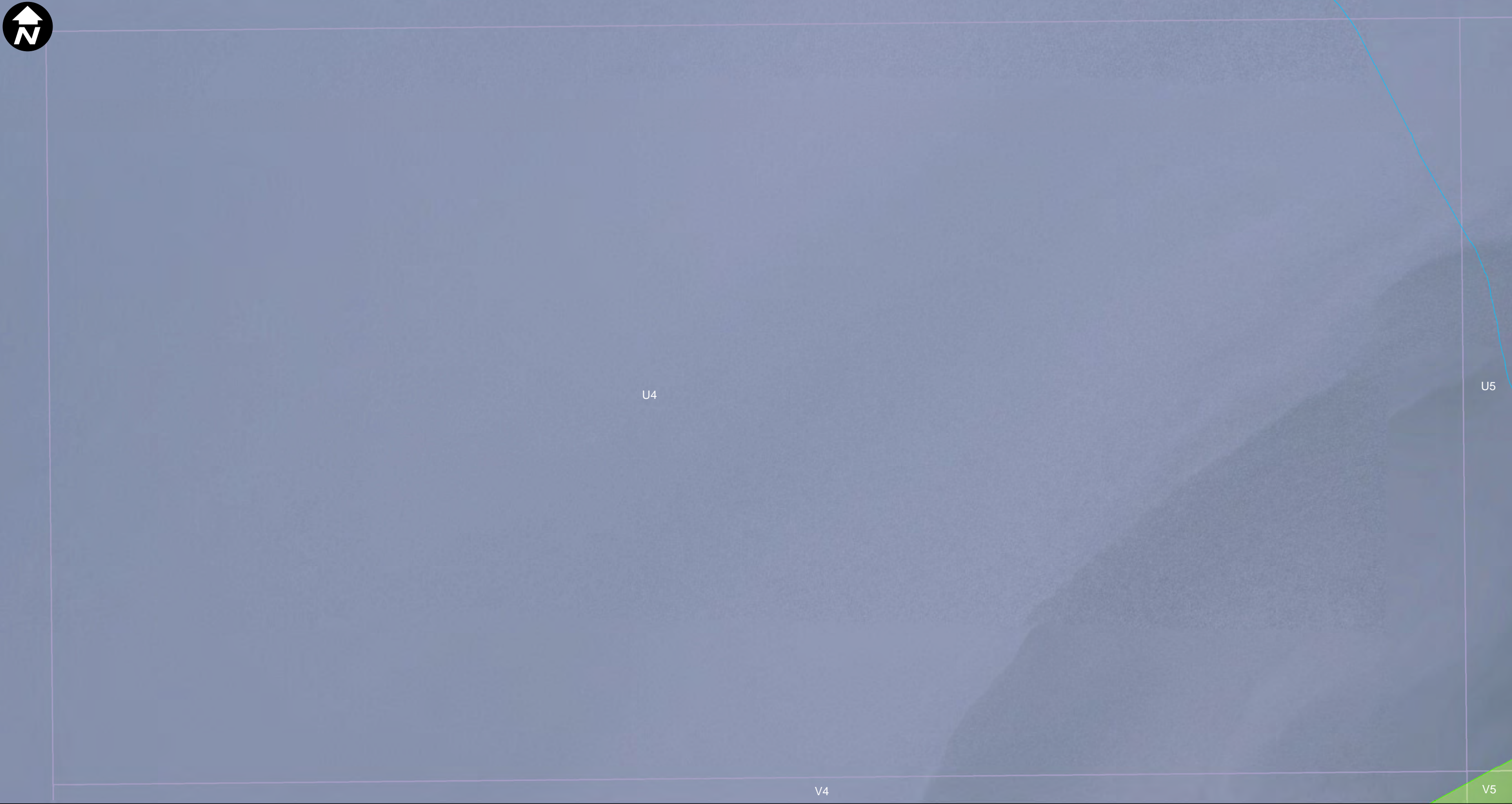


Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		Riverine


0 675 1,350
Feet


Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah		Grid Map U1
Wetlands Desktop Assessment		
DE0475	November 2021	





Legend

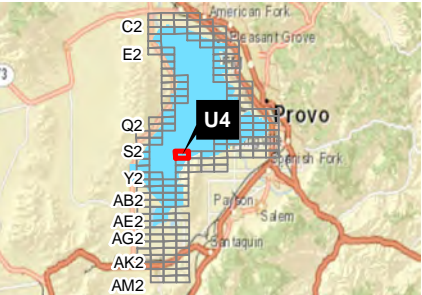
 Grid Map

 Wetlands Desktop Assessment Boundary

Wetland Type

 Freshwater Emergent Wetland

 Lake



06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

U4

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond
	Compromise Line Boundary		Lake
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
U5	



Legend		Wetland Type		Riverine	
	Grid Map		Freshwater Emergent Wetland		Riverine
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland		
	Compromise Line Boundary		Freshwater Pond		
	Streets		Lake		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Grid Map	
U6	
DE0475	November 2021



Legend

- Grid Map
- Wetlands Desktop Assessment Boundary
- CL - Compromise Line Boundary
- Streets

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Shrub Wetland
- Freshwater Pond
- Lake

Riverine

Inset map showing the location of U7 within a larger grid. The grid includes sections C2, E2, Q2, S2, Y2, AB2, AE2, AG2, AK2, and AM2. U7 is highlighted in black. The inset map also shows the location of U7 relative to Provo, Utah, and the American Fork, Pleasant Grove, and Spanish Fork areas.

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

DE0475

Grid Map

U7

November 2021



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

U8

American Fork

Pleasant Grove

Provo

Spanish Fork

Paragon

Salem

Santaquin

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

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DE0475

November 2021

Grid Map

U8

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Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

U9

U10

American Fork

Pleasant Grove

Spanish Fork

Paragon

Salem

San Juan

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

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DE0475

November 2021

Grid Map

U9

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

U10

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

DE0475November 2021

Grid Map
U10

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



Legend

Grid Map

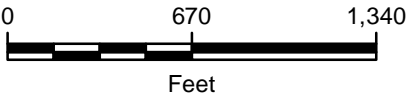
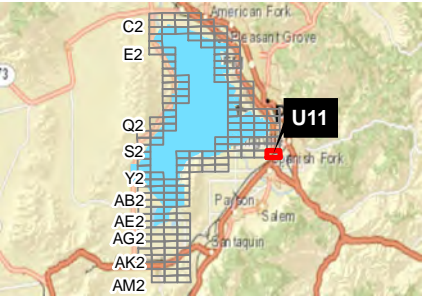
Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Riverine



Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

DE0475

November 2021

Grid Map

U11



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		Riverine

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	V1
November 2021	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond
	Compromise Line Boundary		Lake
	Streets		

Scale: 0, 675, 1,350 Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	V4
November 2021	



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

V5

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Legend		Wetland Type		Riverine	
	Grid Map		Freshwater Emergent Wetland		Freshwater Shrub Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Pond		Lake
	Compromise Line Boundary				
	Streets				

Inset map showing the location of V6 in the Provo area. The map includes labels for C2, E2, Q2, S2, Y2, AB2, AE2, AG2, AK2, and AM2. A red dot marks the location of V6. The map also shows the American Fork, Pleasant Grove, Provo, Payson, Salem, and San Juan.

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map	
V6	



Legend	
Grid Map	Freshwater Shrub Wetland
Wetlands Desktop Assessment Boundary	Freshwater Pond
Streets	Riverine
Wetland Type	
Freshwater Emergent Wetland	

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
V7	
DE0475	November 2021



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

Scale: 0 675 1,350 Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	November 2021
W1	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	November 2021
W4	



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

W5

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Santaquin

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021







Grid Map

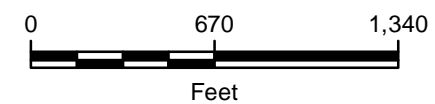
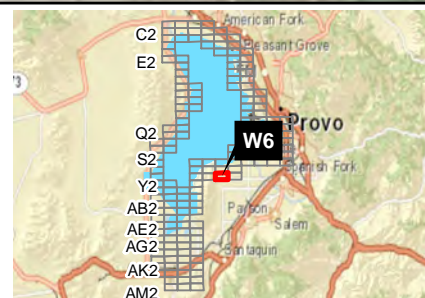
W5

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Legend

-  Grid Map
  Freshwater Pond
-  Wetlands Desktop Assessment Boundary
  Riverine
-  Streets
- Wetland Type**
-  Freshwater Emergent Wetland



Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

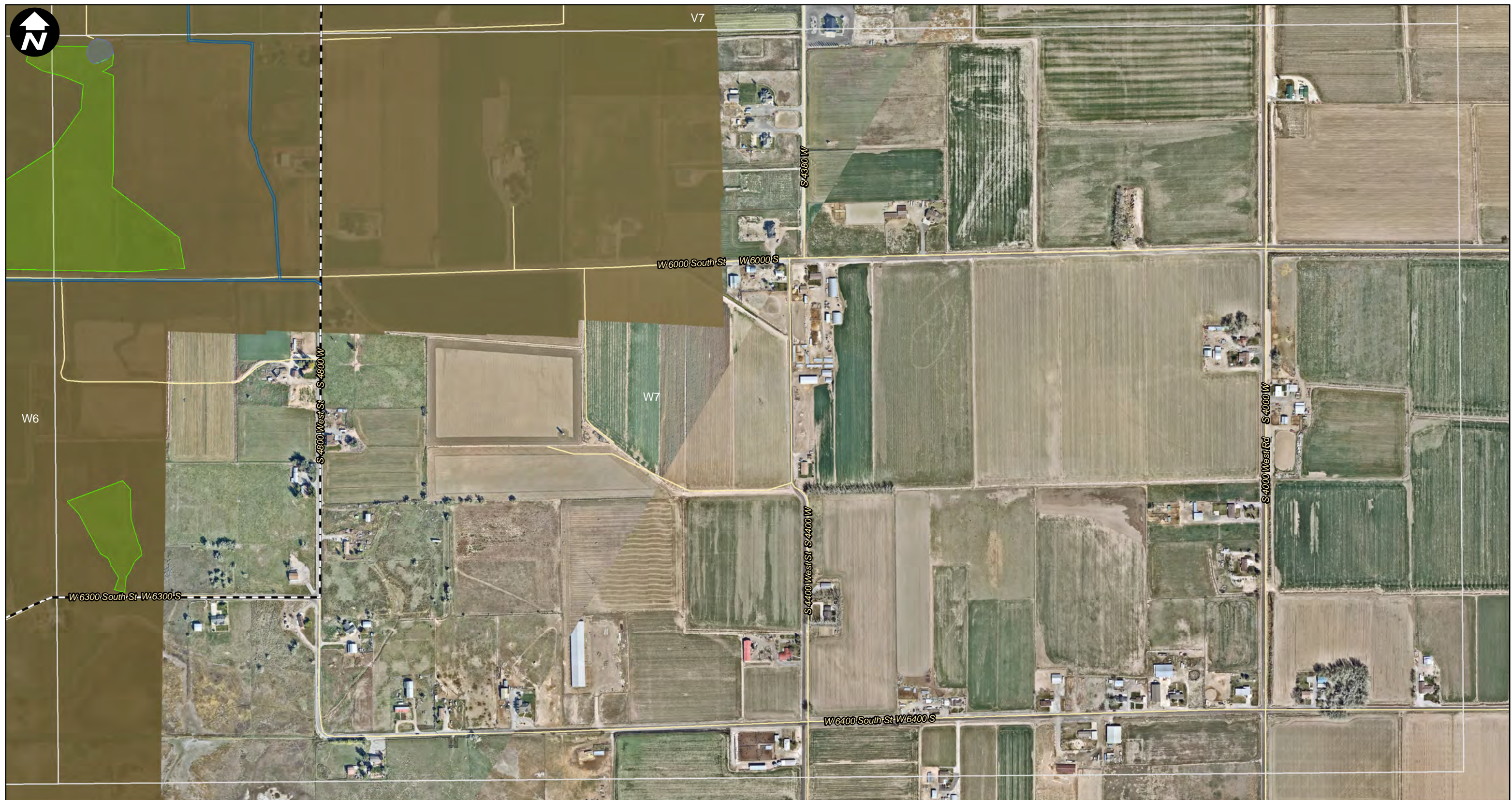
Geosyntec 
consultants

DE0475

November 2021

Grid Map

W6



Legend

☐ Grid Map

 Wetlands Desktop Assessment Boundary

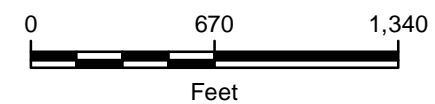
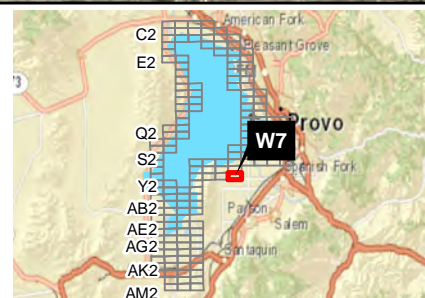
Streets

Wetland Type

 Freshwater Emergent Wetland

 Freshwater Pond

 Riverine



Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

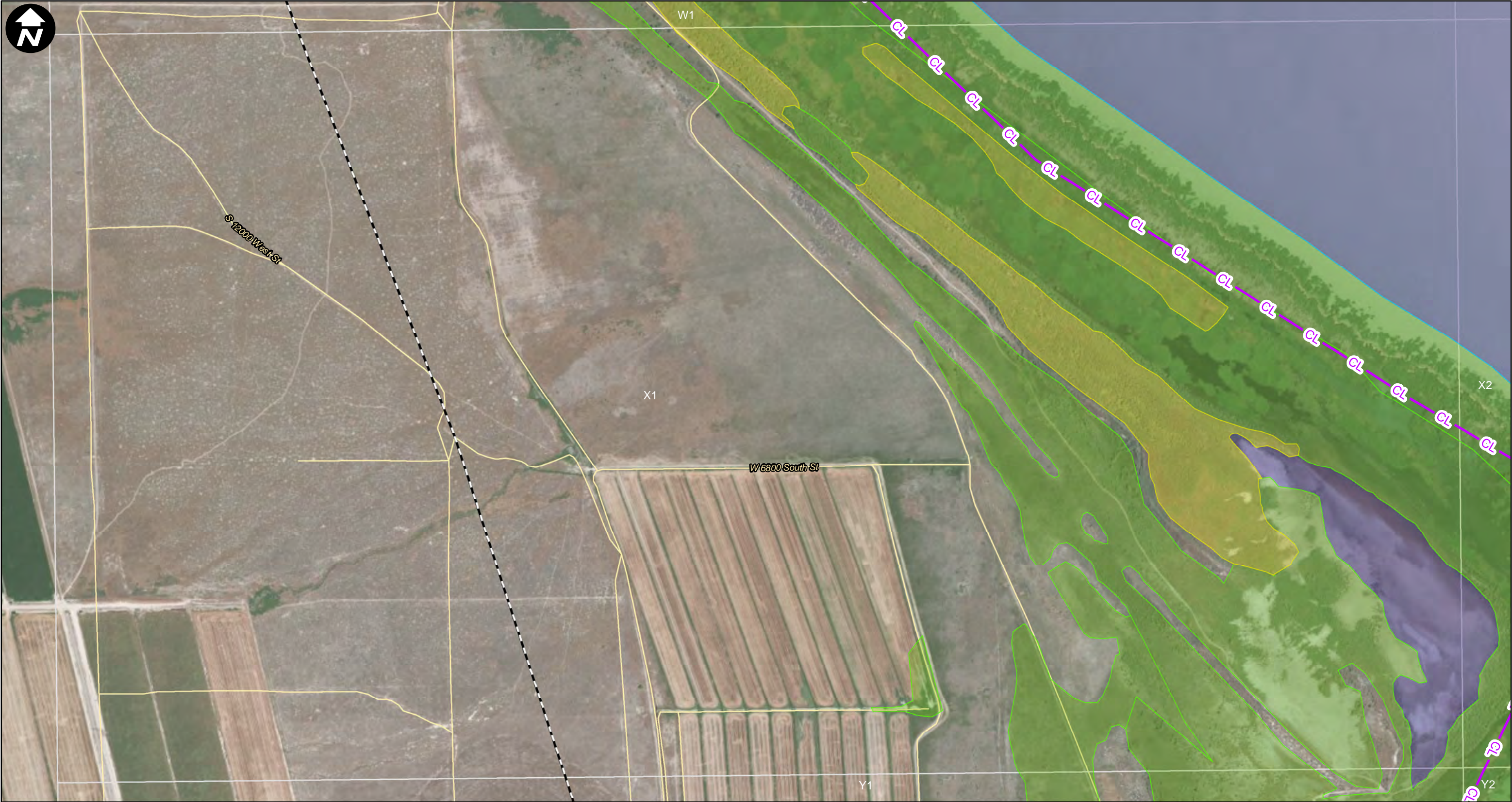
Geosyntec 
consultants

DE0475

November 2021

Grid Map

W7

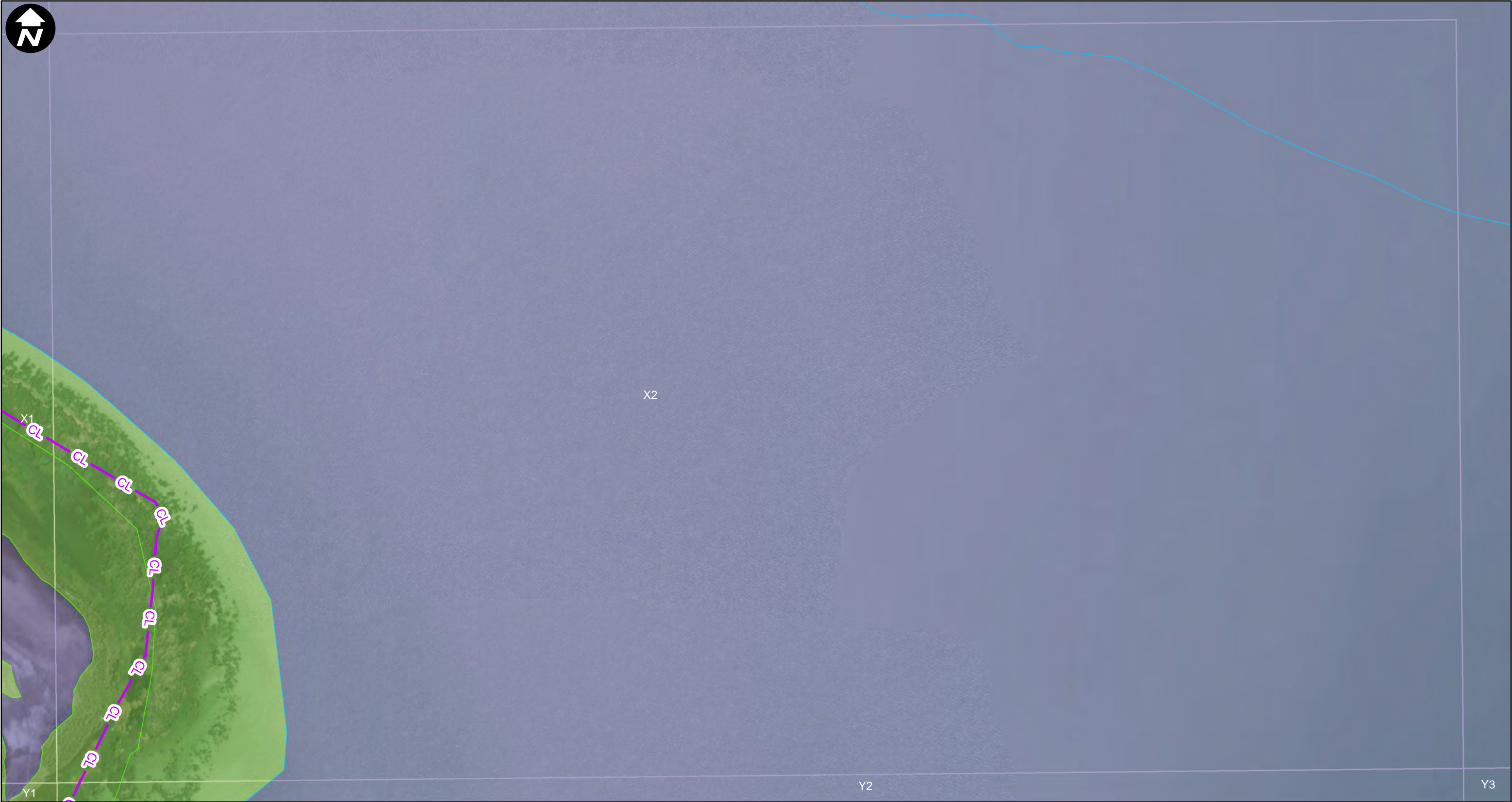


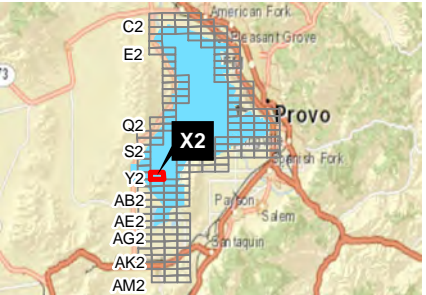
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

Scale: 0 675 1,350 Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021


Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021
Grid Map X1	





Legend <div><div><div></div> Grid Map</div><div><div></div> Wetlands Desktop Assessment Boundary</div><div><div>— CL —</div> Compromise Line Boundary</div></div> <div>Wetland Type <div><div></div> Freshwater Emergent Wetland</div><div><div></div> Lake</div></div>			<div>0 675 1,350 Feet</div> <p><small>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</small></p>	<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
			<div>Geosyntec consultants</div> <div>DE0475 November 2021</div>	<div>Grid Map</div> <div>X2</div>	




Legend

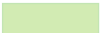
 Grid Map


 Wetlands Desktop Assessment Boundary


 CL - Compromise Line Boundary

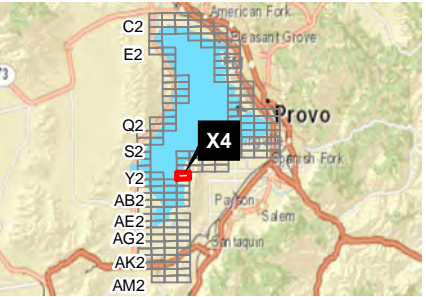
 Streets

Wetland Type

 Freshwater Emergent Wetland

 Lake

 Riverine



06751,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)


-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

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Geosyntec
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Grid Map

X4

DE0475

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Grid Map

Wetlands Desktop Assessment Boundary

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

C2

E2

Q2

S2

AB2

AE2

AG2

AK2

AM2

Y1

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

San Juan

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

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Grid Map

Y1

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Wetland Type

Freshwater Emergent Wetland

Lake

C2

E2

Q2

S2

X2

AB2

AE2

AG2

AK2

AM2

Y2

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Santaquin

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

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Grid Map

Y2

D:\Utah Lake - EISM - GIS\Projects_MXD\UTLake_11X17_DesktopWetlands_rev3.mxd 11/16/2021 11:42:36 AM



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map

Y3

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		Riverine
	Streets		

Scale: 0 675 1,350 Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	Y4
November 2021	



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	November 2021
Z1	



Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map

Z2

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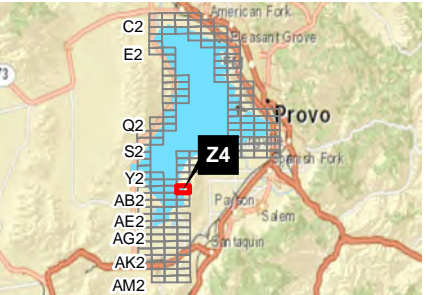
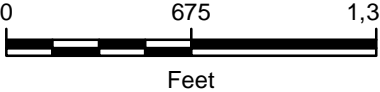

Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

Scale: 0 675 1,350 Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
	Grid Map
DE0475	Z3
November 2021	



Legend <div><div></div> Grid Map</div> <div><div></div> Wetlands Desktop Assessment Boundary</div> <div>Streets</div> Wetland Type <div><div></div> Freshwater Emergent Wetland</div>				 <p>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>		Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
		Wetlands Desktop Assessment				Grid Map	
				DE0475		November 2021	
						Z4	



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
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Grid Map


AA1


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Legend

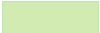
 Grid Map

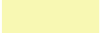
 Wetlands Desktop Assessment Boundary


 CL - Compromise Line Boundary

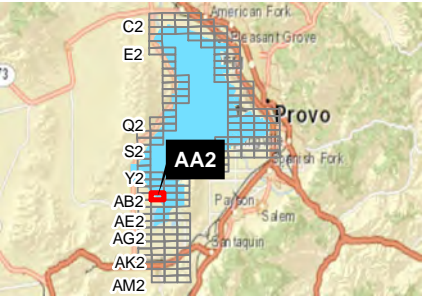
 Streets

Wetland Type

 Freshwater Emergent Wetland

 Freshwater Shrub Wetland

 Lake



06751,350

Feet

Datasource:

- Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
- Imagery feature service accessed on 11/17/2021

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Grid Map

AA2

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

American Fork

Pleasant Grove

Provo

Spanish Fork

Paragon

Salem

Santaquin

AA3

0

675

1,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

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Grid Map


AA3


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Legend

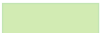
 Grid Map


 Wetlands Desktop Assessment Boundary

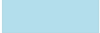
 CL - Compromise Line Boundary

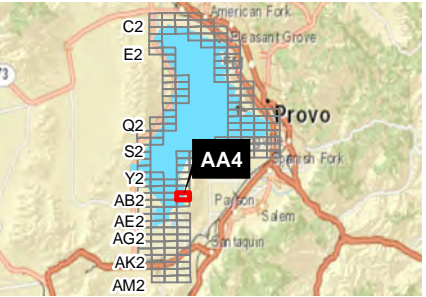
 Streets

Wetland Type

 Freshwater Emergent Wetland

 Lake

 Riverine




0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map
AA4

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Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AB1

American Fork

Pleasant Grove

Provo

Spanish Fork

Salem

Santaquin

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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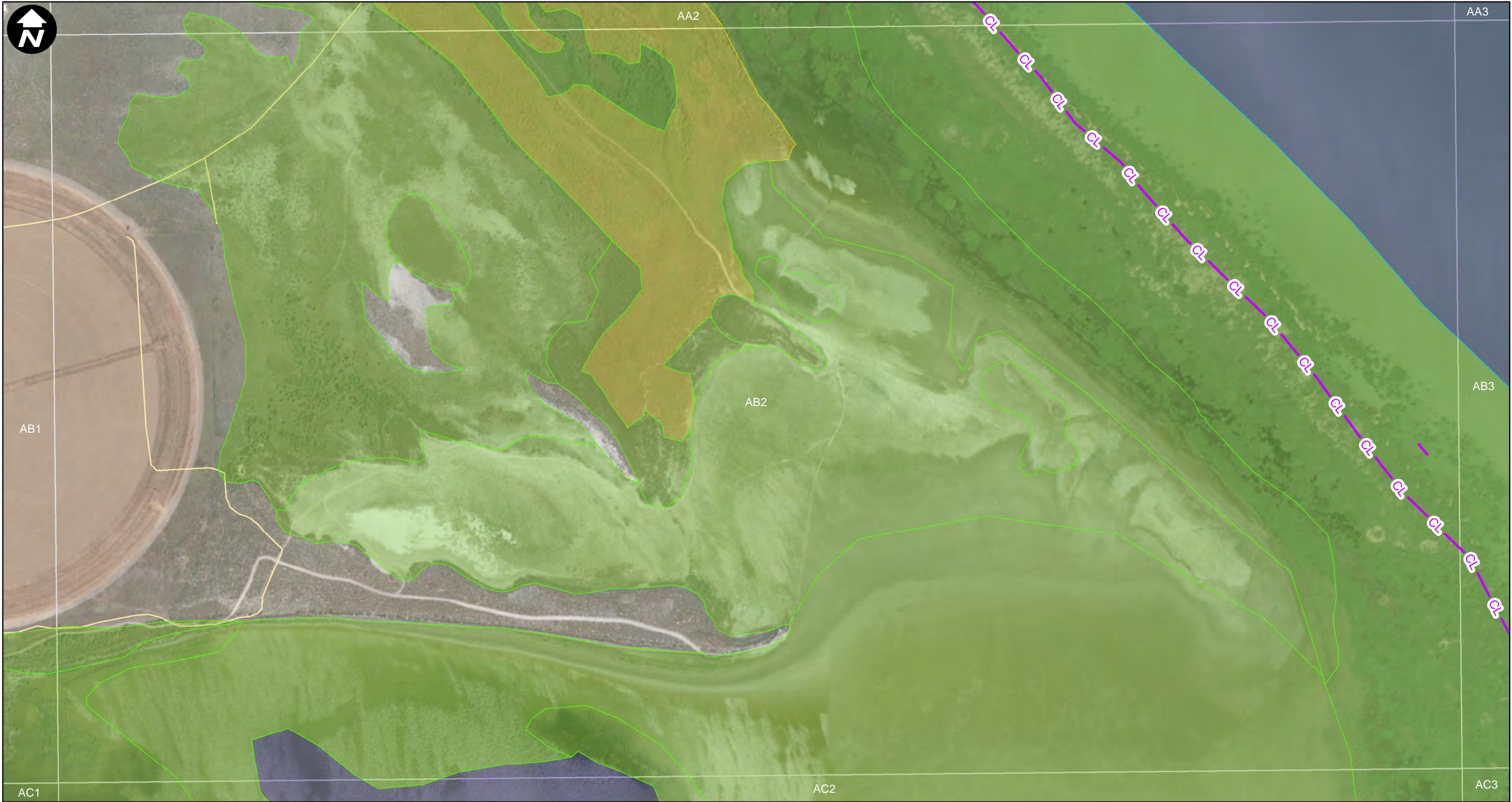
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Grid Map

AB1

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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-Imagery feature service accessed on 11/17/2021

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Grid Map

AB2

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AB3

American Fork

Pleasant Grove

Provo

Spanish Fork

Paragon

Salem

Santaquin

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map

AB3

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AB4

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Santaquin

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map

AB4

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

06751,350

Feet

Utah Lake Restoration Project
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Utah County, Utah

Wetlands Desktop Assessment

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Grid Map
AC1

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Wetland Type

Freshwater Emergent Wetland

Lake

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map

AC2

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Lake
	Compromise Line Boundary		
	Streets		

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Grid Map	
AC3	
DE0475	November 2021



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AD1

American Fork

Pleasant Grove

Provo

French Fork

Salem

Spanish Fork

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

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consultants

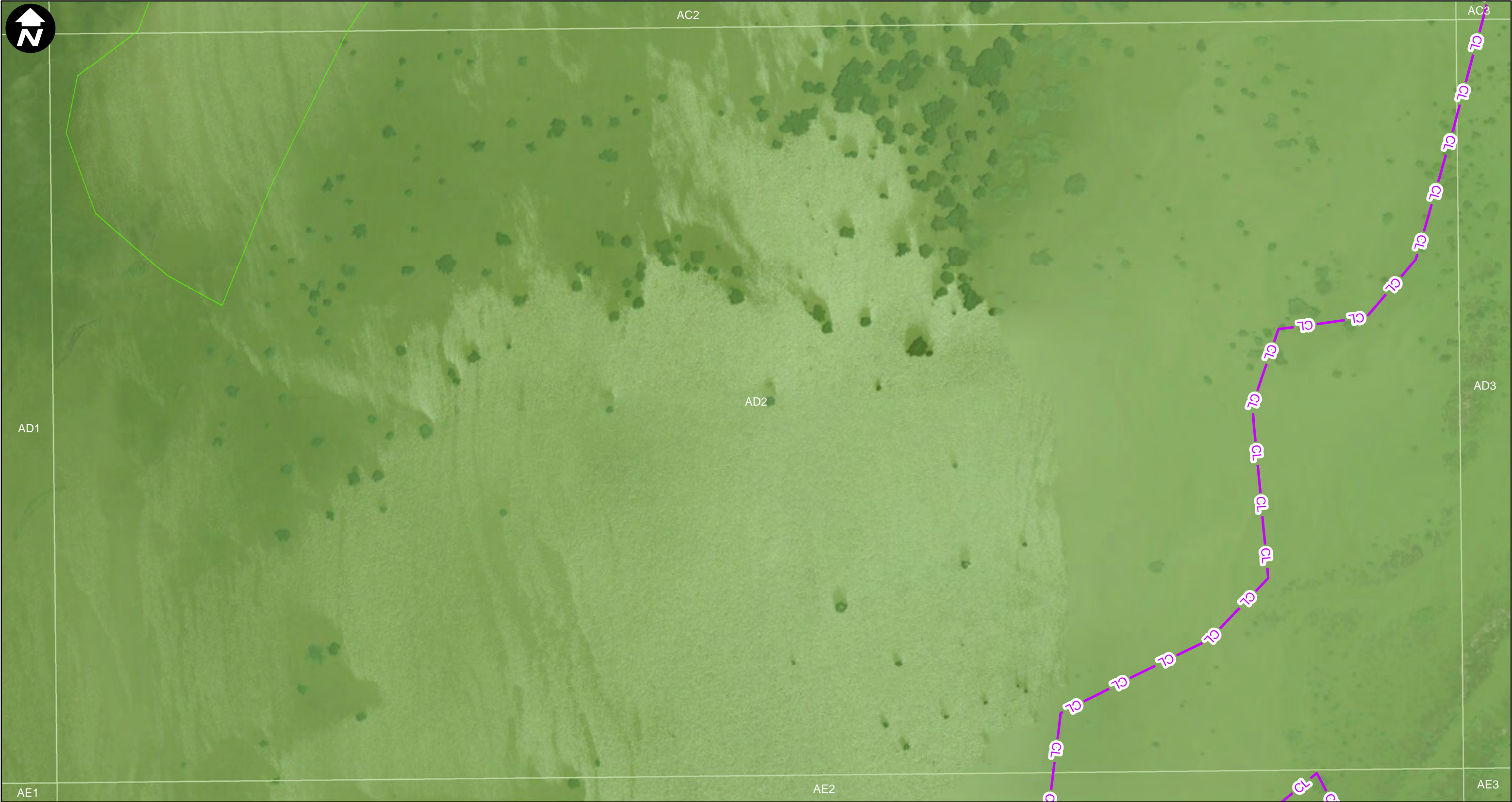
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Grid Map

AD1

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Wetland Type

Freshwater Emergent Wetland

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
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Utah County, Utah

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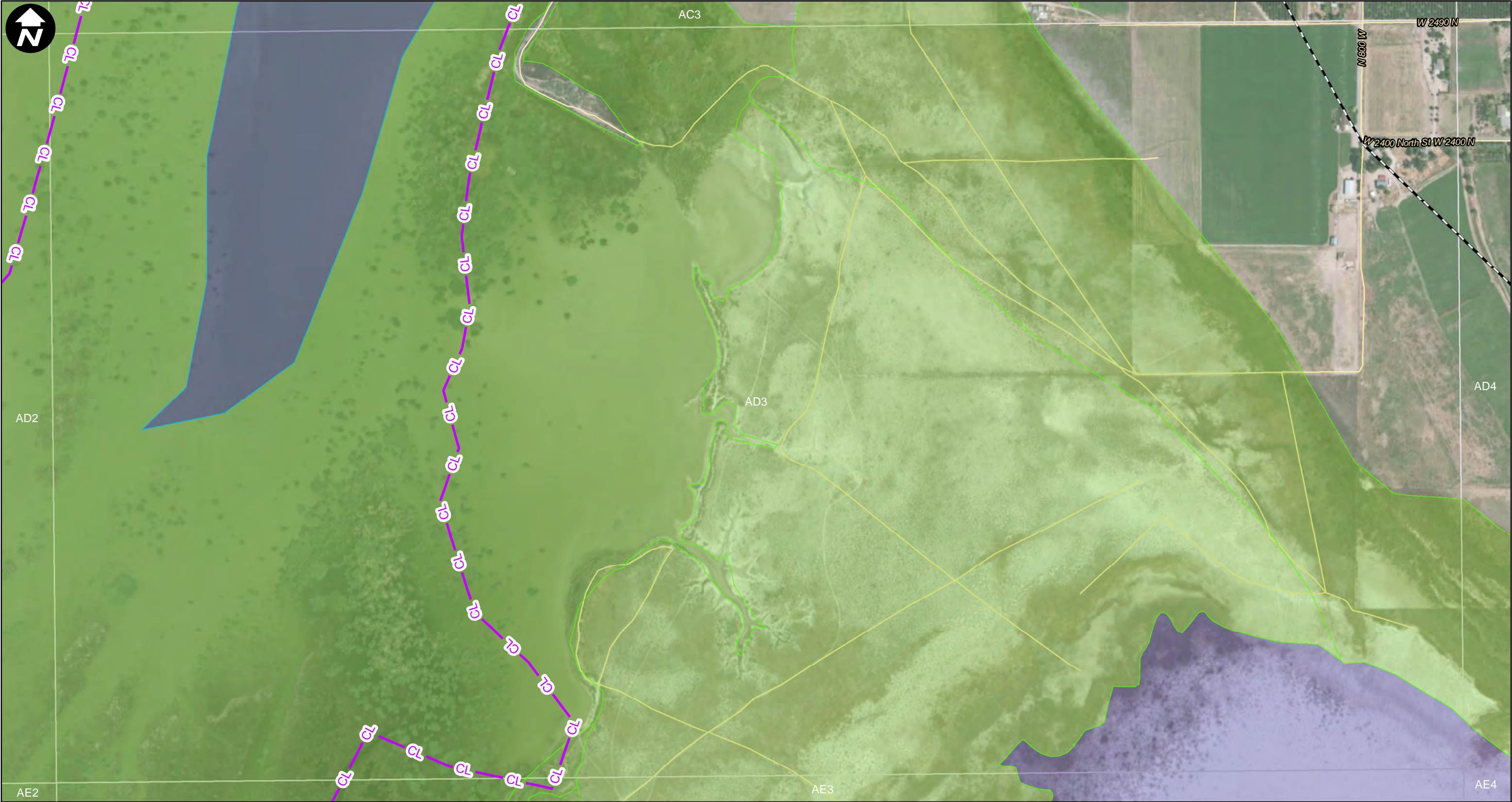
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Grid Map

AD2

November 2021

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Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

06751,350

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah		
Wetlands Desktop Assessment		
Geosyntec consultants		Grid Map AD3
DE0475	November 2021	

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Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AD4

American Fork

Pleasant Grove

Provo

Spanish Fork

Salem

Santaquin

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Grid Map

AD4

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Legend	
Grid Map	Freshwater Pond
Wetlands Desktop Assessment Boundary	Riverine
Streets	
Wetland Type	
Freshwater Emergent Wetland	

Inset map showing the location of the assessment area (AE1) within a larger region. The map includes labels for various areas: C2, E2, Q2, S2, Y2, AB2, AE2, AG2, AK2, AM2, American Fork, Pleasant Grove, Provo, Payson, Salem, and Ogden. The area AE1 is highlighted in black.

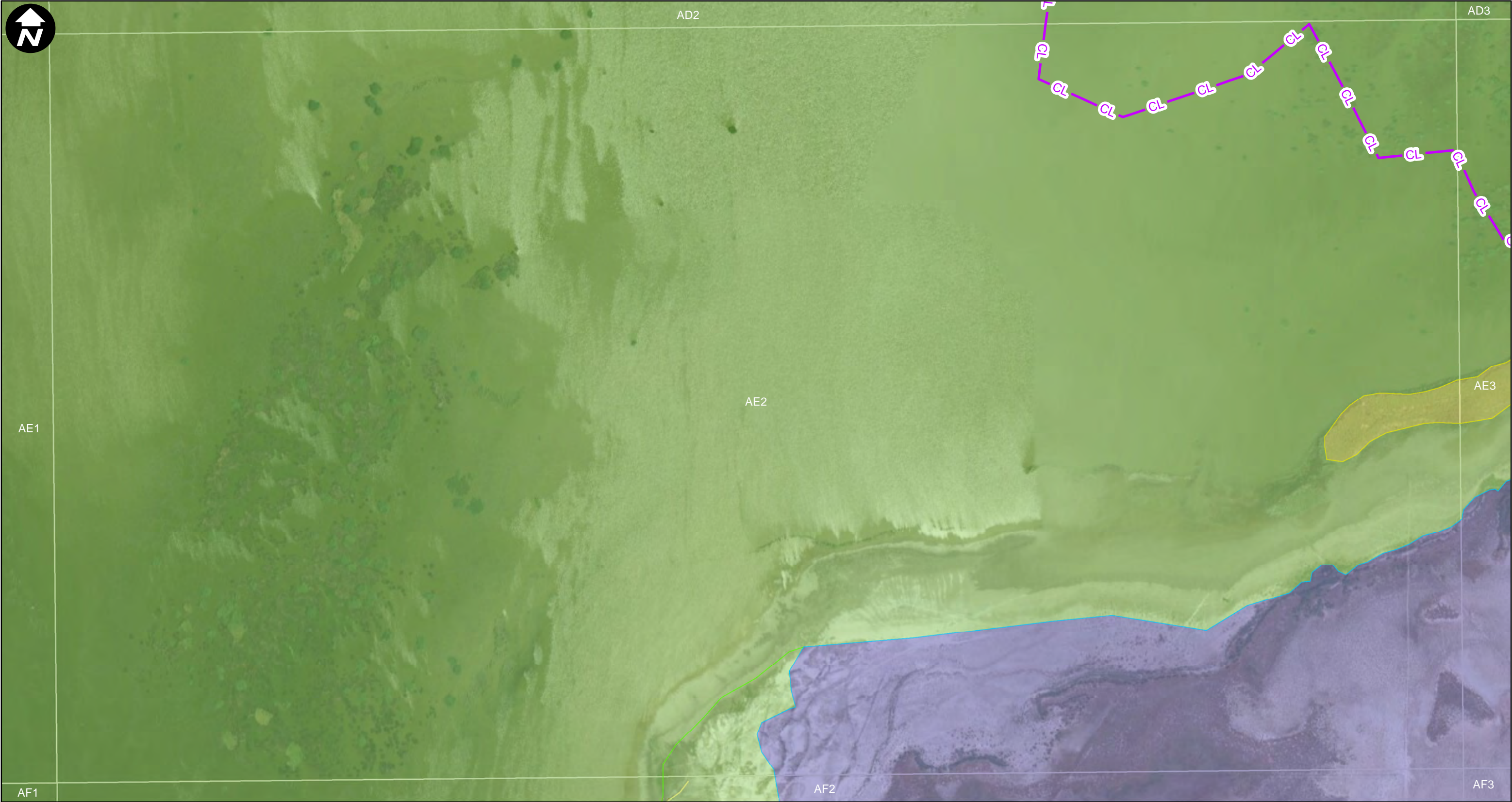
0 675 1,350

Feet

Datasource:
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and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021

Grid Map
AE1



Legend

Grid Map

Wetlands Desktop Assessment Boundary

CL

Compromise Line Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
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Utah County, Utah

Wetlands Desktop Assessment

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consultants

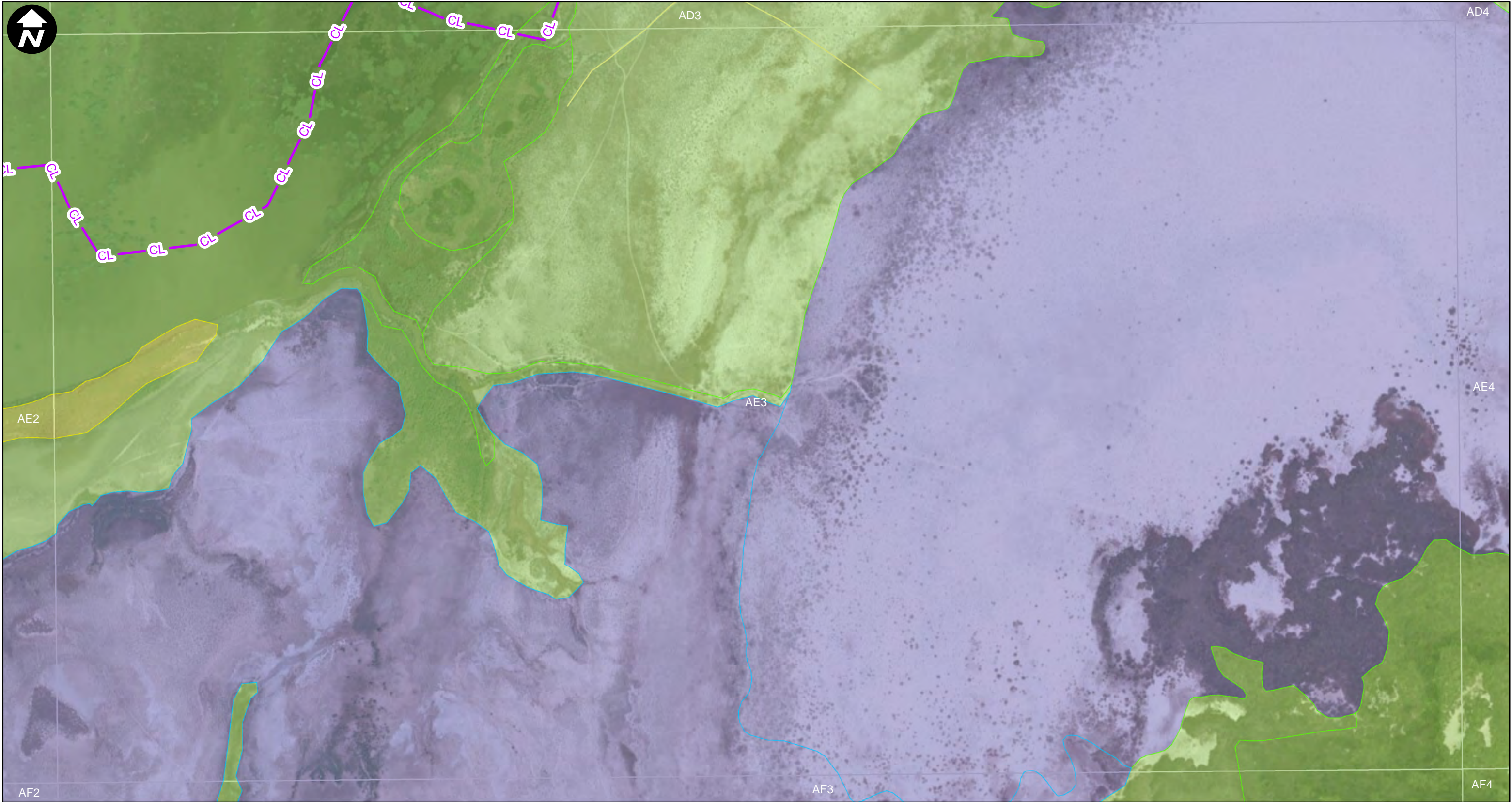
Grid Map

AE2

DE0475

November 2021

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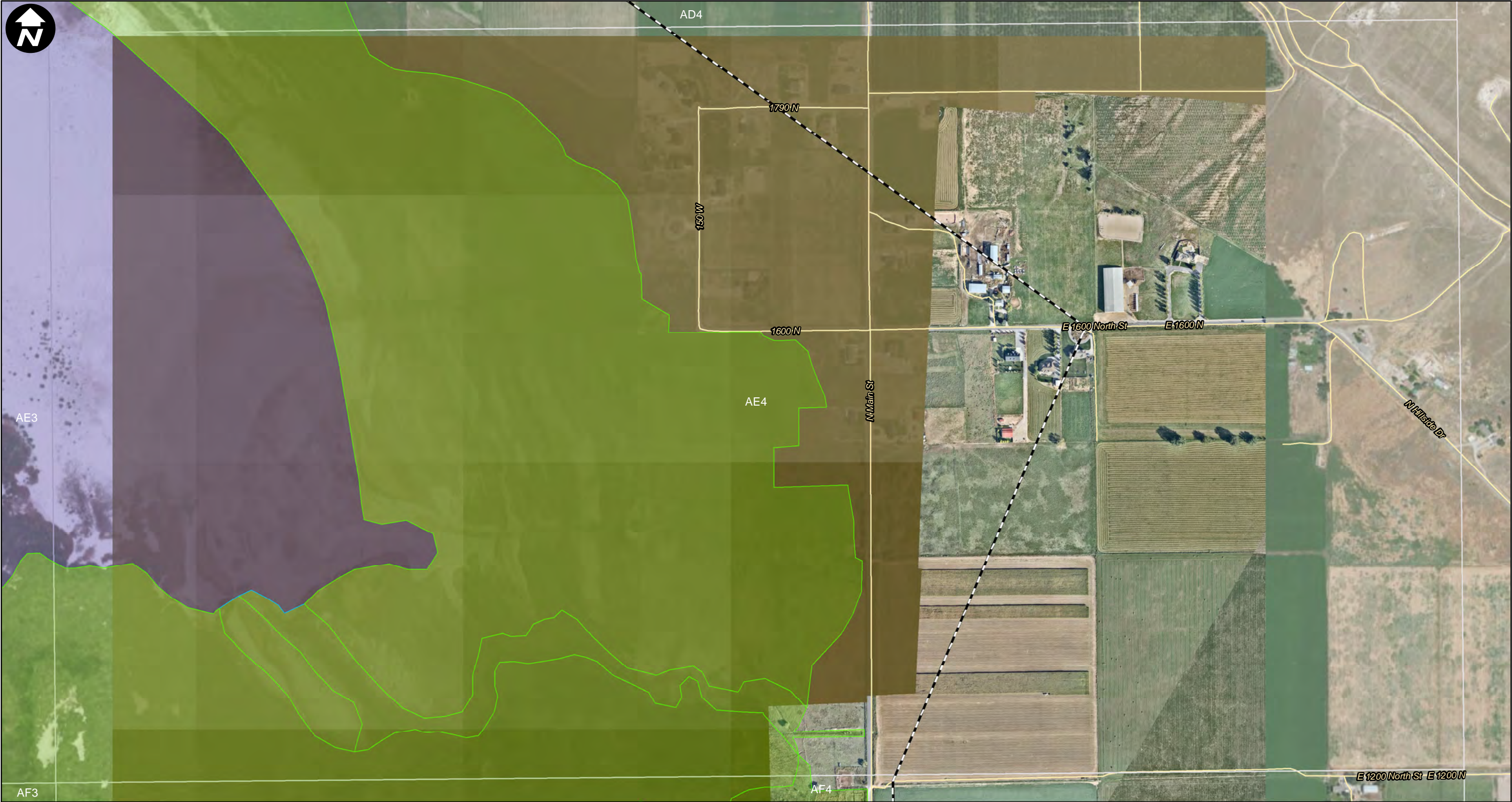


Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Shrub Wetland
	Compromise Line Boundary		Lake
	Streets		

0 675 1,350
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

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Geosyntec consultants	
Grid Map	
AE3	
DE0475	November 2021



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AE4

American Fork

Pleasant Grove

Provo

Spanish Fork

Salem

Santaquin

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
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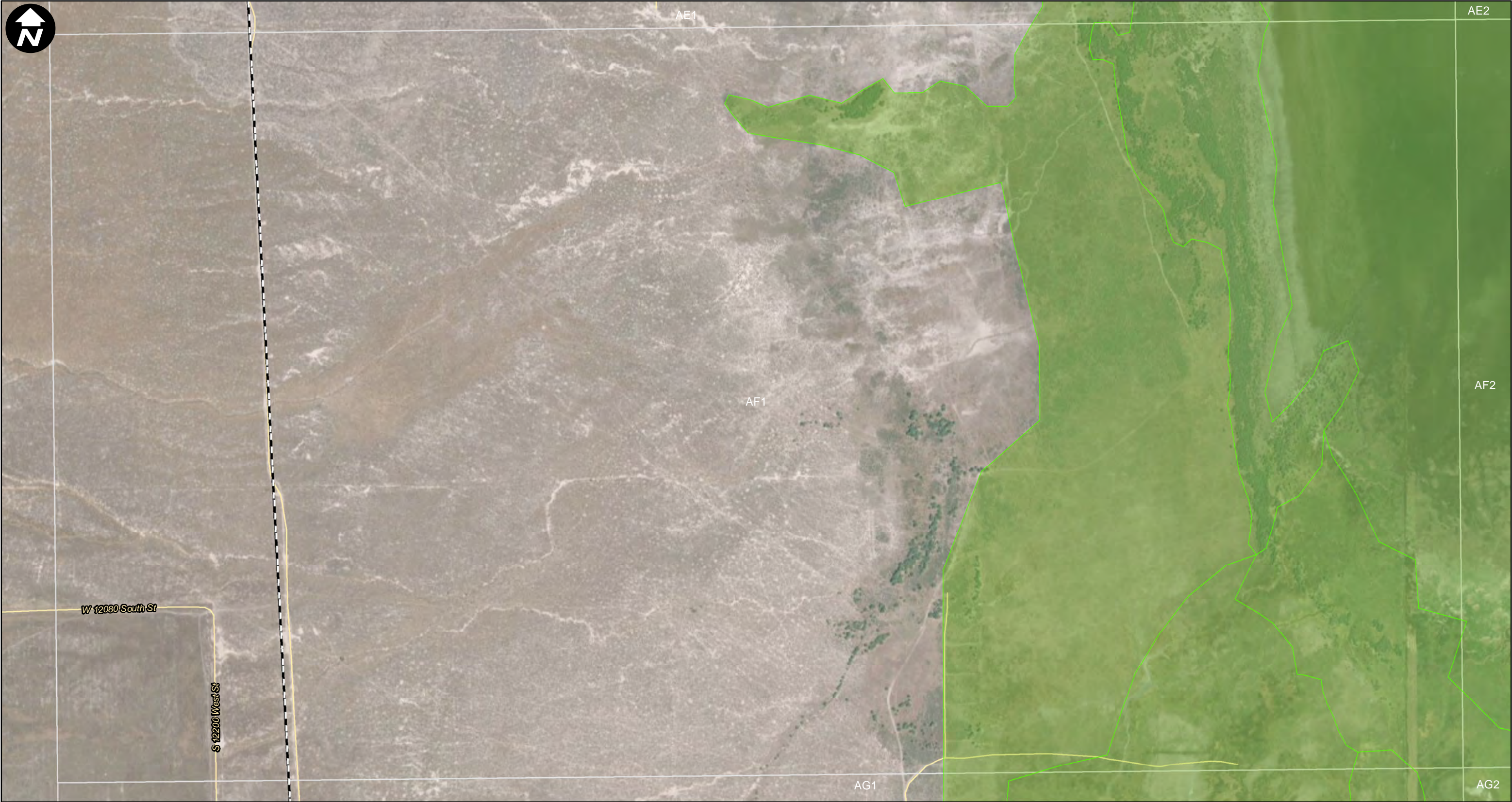
DE0475

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Grid Map

AE4

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

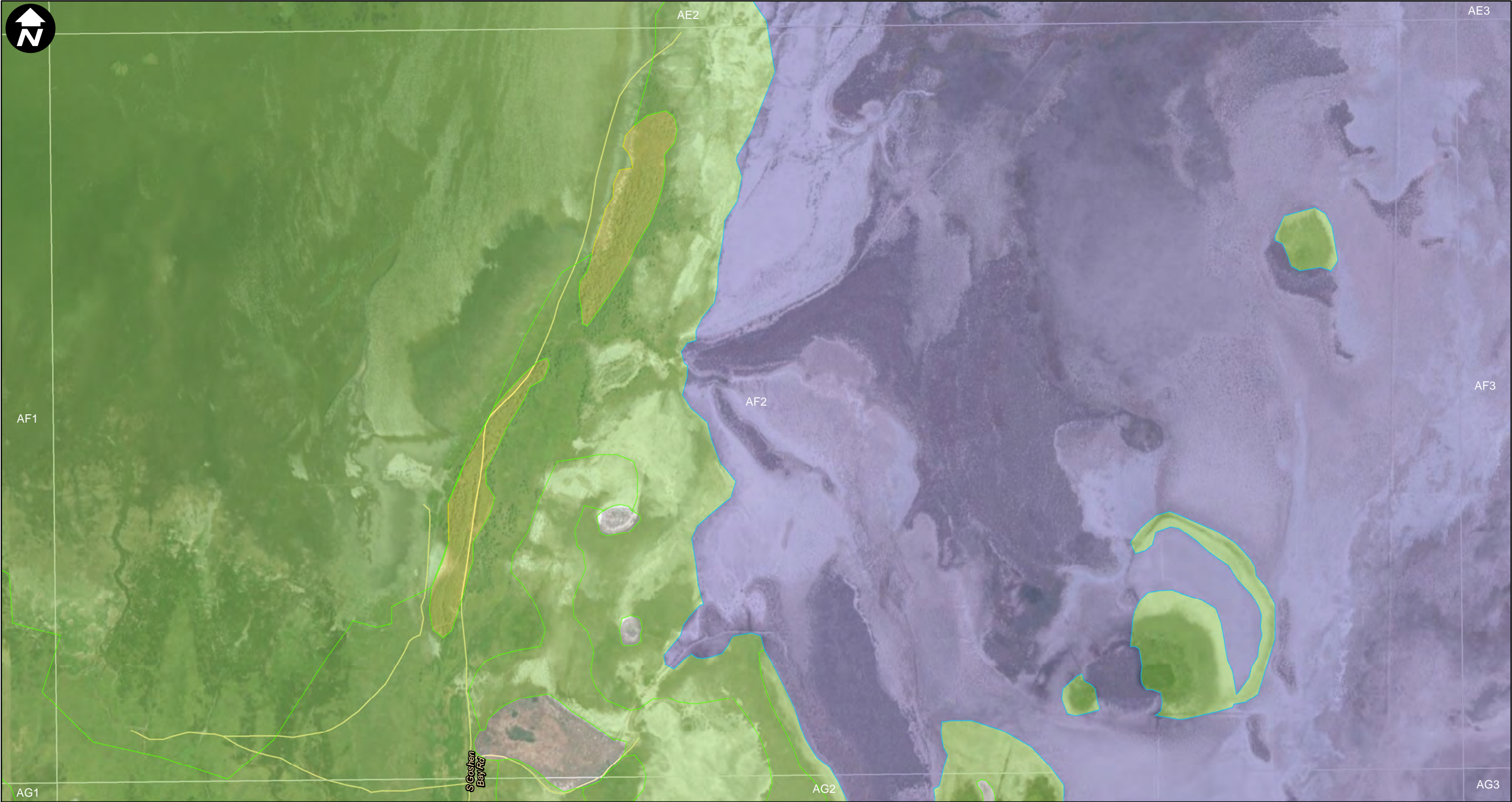
Freshwater Emergent Wetland

0 675 1,350

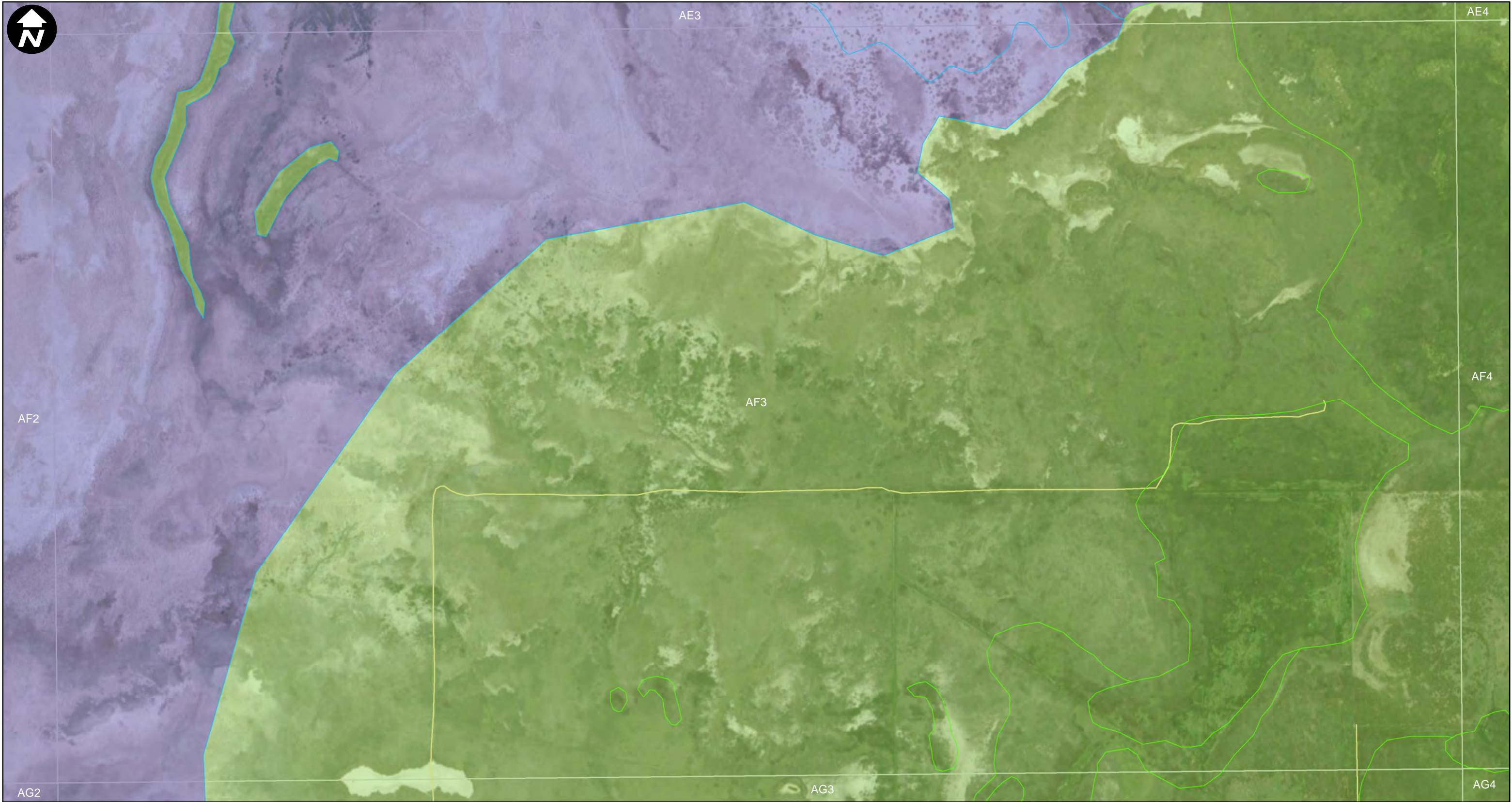
Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
 consultants	Grid Map AF1
DE0475	November 2021



Legend <div><div></div> Grid Map</div> <div><div></div> Wetlands Desktop Assessment Boundary</div> <div><div></div> Streets</div> <div>Wetland Type <div><div></div> Freshwater Emergent Wetland</div><div><div></div> Freshwater Shrub Wetland</div><div><div></div> Lake</div></div>			<div>06751,350 Feet</div> <p><i>Datasource:</i> -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>	<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
			<div>Geosyntec consultants</div>	Grid Map AF2	
			DE0475	November 2021	



Legend <div><div></div> Grid Map</div> <div><div></div> Wetlands Desktop Assessment Boundary</div> <div><div></div> Streets</div> Wetland Type <div><div></div> Freshwater Emergent Wetland</div> <div><div></div> Lake</div>			<div>0 670 1,340 Feet</div> <p><small>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</small></p>	<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
			<div>Geosyntec consultants</div>	Grid Map AF3	
		DE0475	November 2021		



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Riverine

06701,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

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Utah County, Utah

Wetlands Desktop Assessment

consultants

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November 2021

Grid Map

AF4



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AG1

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Wagon

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

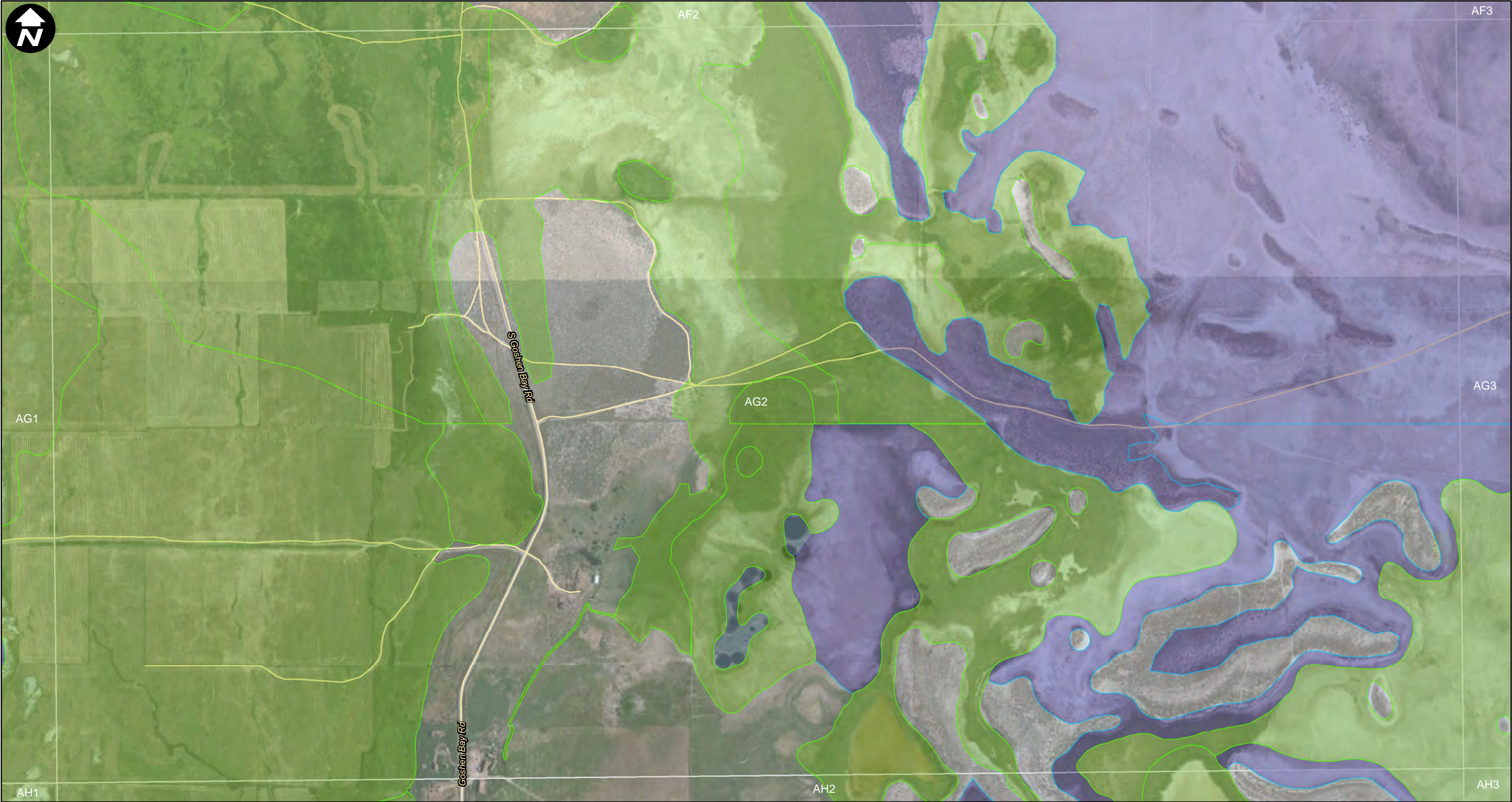
DE0475

November 2021


Grid Map

AG1


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Legend


 Grid Map

 Wetlands Desktop Assessment Boundary

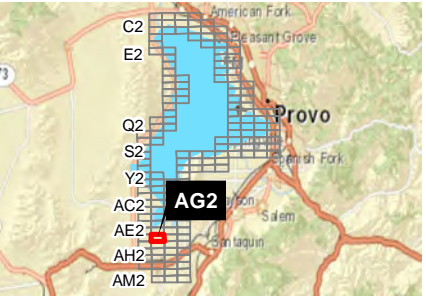
 Streets

Wetland Type

 Freshwater Emergent Wetland

 Freshwater Pond

 Lake



0 675 1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

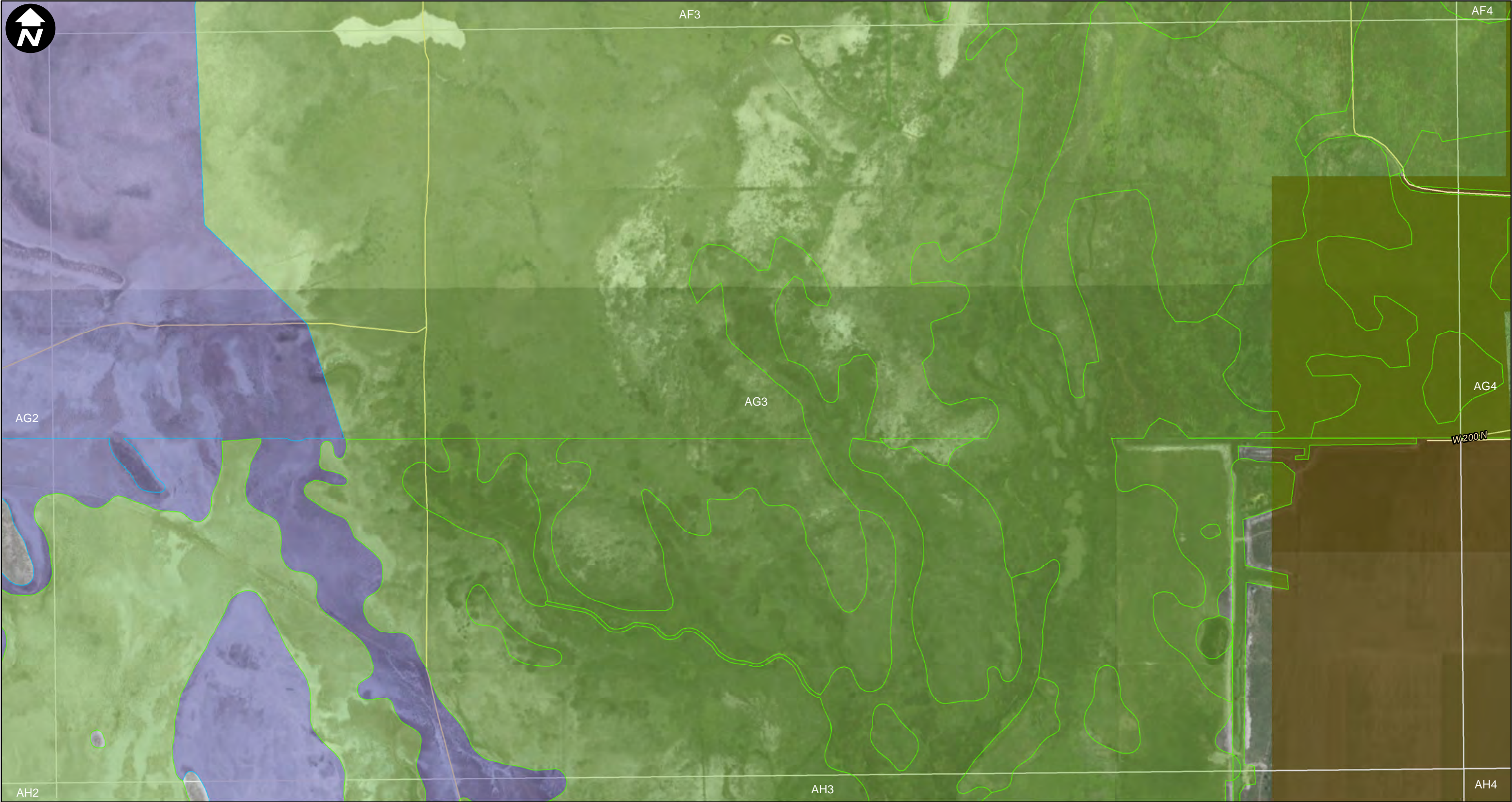


Grid Map

AG2

DE0475

November 2021



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Lake

06701,340

Feet

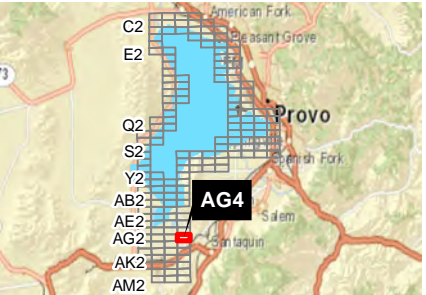
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- Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
- Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	Grid Map
DE0475	AG3
November 2021	

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Legend <div><div></div> Grid Map</div> <div><div></div> Wetlands Desktop Assessment Boundary</div> <div><div></div> Streets</div> Wetland Type <div><div></div> Freshwater Emergent Wetland</div> <div><div></div> Riverine</div>			<div><div>06701,340</div><div>Feet</div></div> <p>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>	<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>		<div>Geosyntec consultants</div>	Grid Map AG4
				DE0475	November 2021		



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Riverine

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

AH1

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Freshwater Pond

Lake

Riverine

Wetland Type

Freshwater Emergent Wetland

06751,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

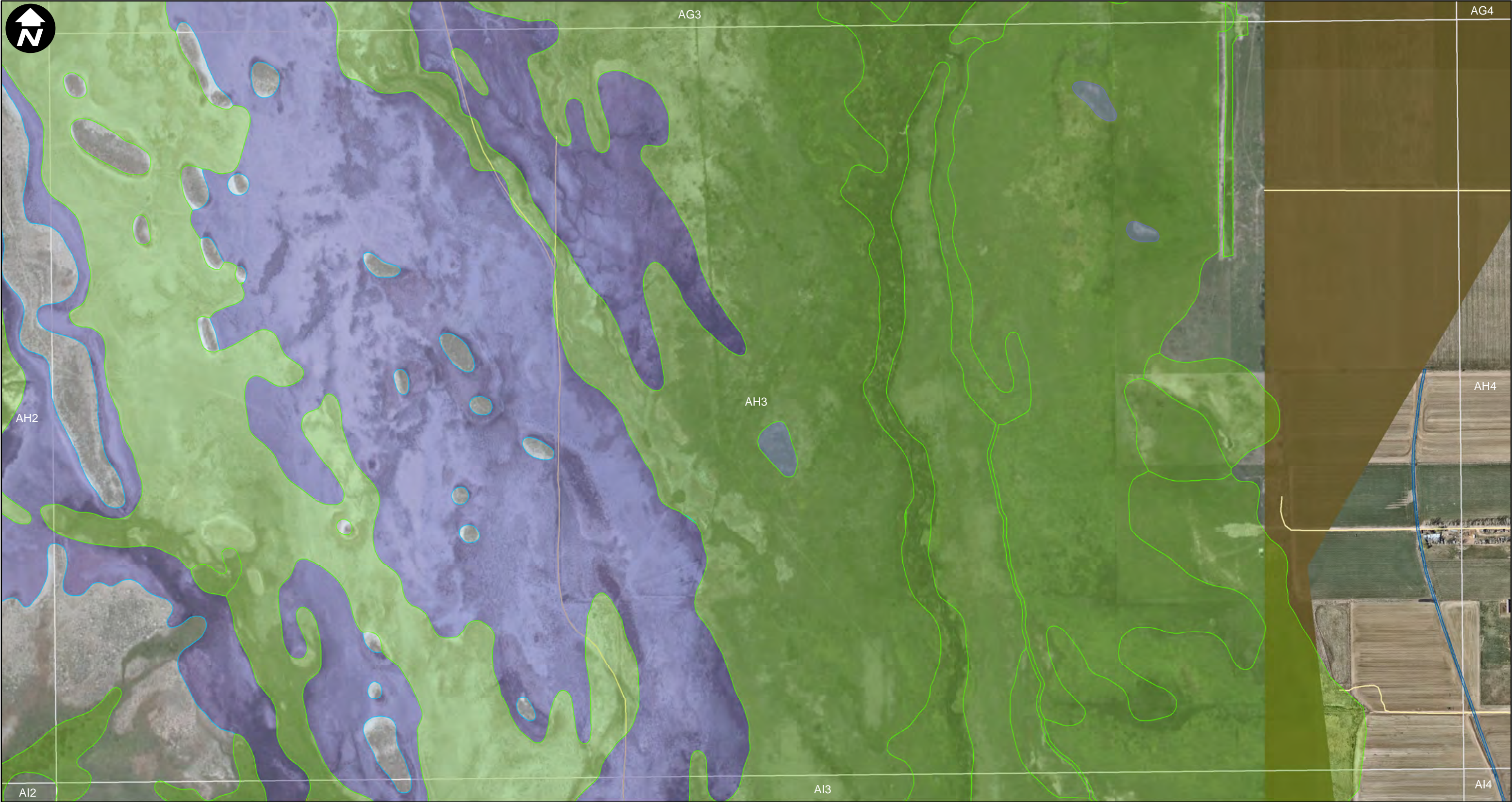
DE0475

November 2021

Grid Map

AH2

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Lake

Riverine

06701,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

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Utah County, Utah

Wetlands Desktop Assessment

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consultants

Grid Map

AH3

DE0475

November 2021

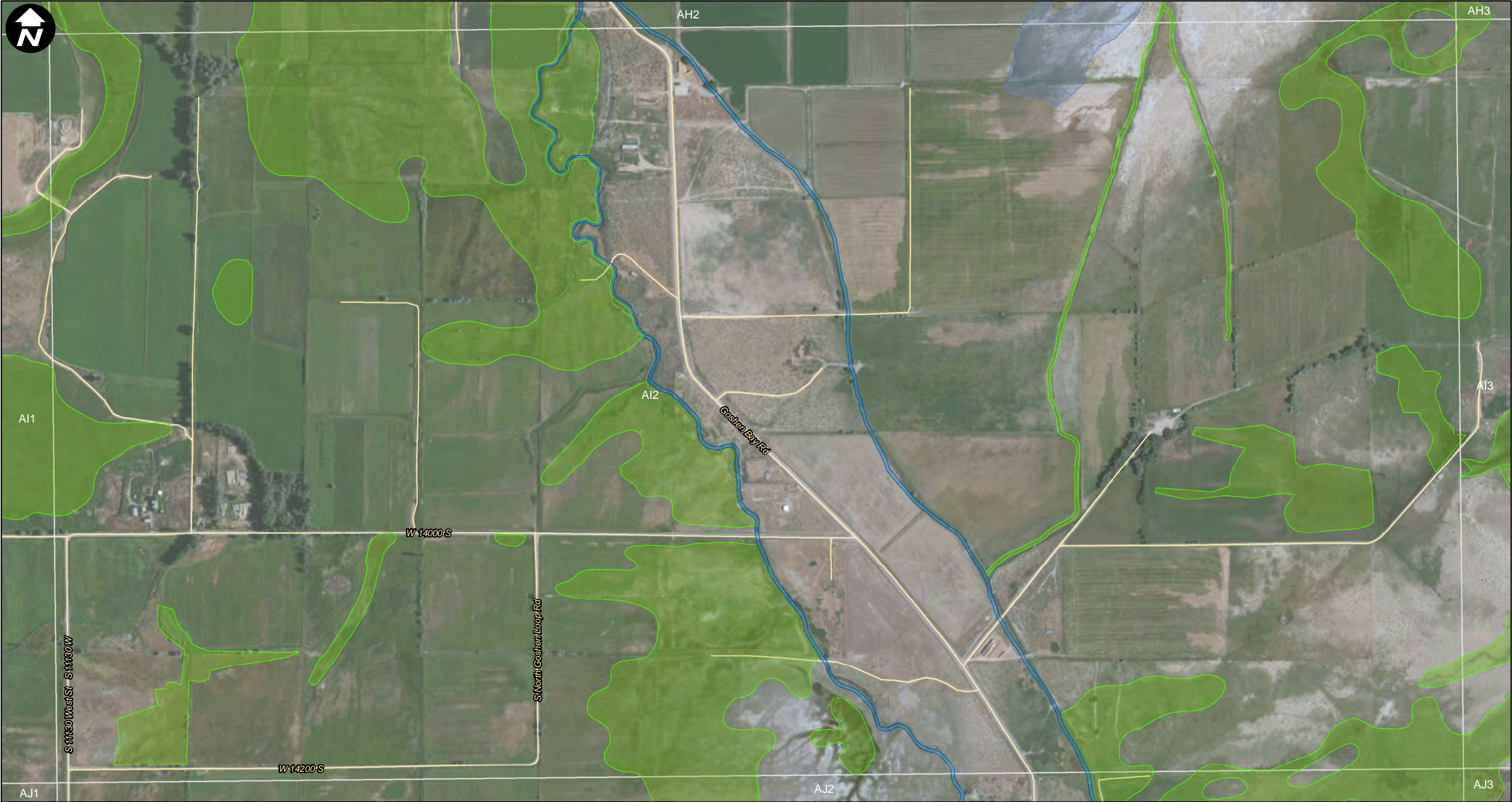
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Legend <div><div>Grid Map</div><div>Rails</div><div>Wetlands Desktop Assessment Boundary</div><div>Streets</div></div> <div>Wetland Type <div>Riverine</div></div>		<p>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p> <div><div>0</div><div>670</div><div>1,340</div><div>Feet</div></div>	Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment			Grid Map AH4	
<div><div>Geosyntec</div><div>consultants</div></div> <div><div>DE0475</div><div>November 2021</div></div>				



Legend <div><div>Grid Map</div><div>Wetlands Desktop Assessment Boundary</div><div>Streets</div><div>Wetland Type Freshwater Emergent Wetland</div></div> <div><div>Freshwater Pond</div><div>Riverine</div></div>		<p>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>	Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment			Grid Map AI1	
<div><div>Geosyntec consultants</div><div>DE0475November 2021</div></div>				



Legend	
Grid Map	Freshwater Pond
Wetlands Desktop Assessment Boundary	Riverine
Streets	
Wetland Type	
Freshwater Emergent Wetland	

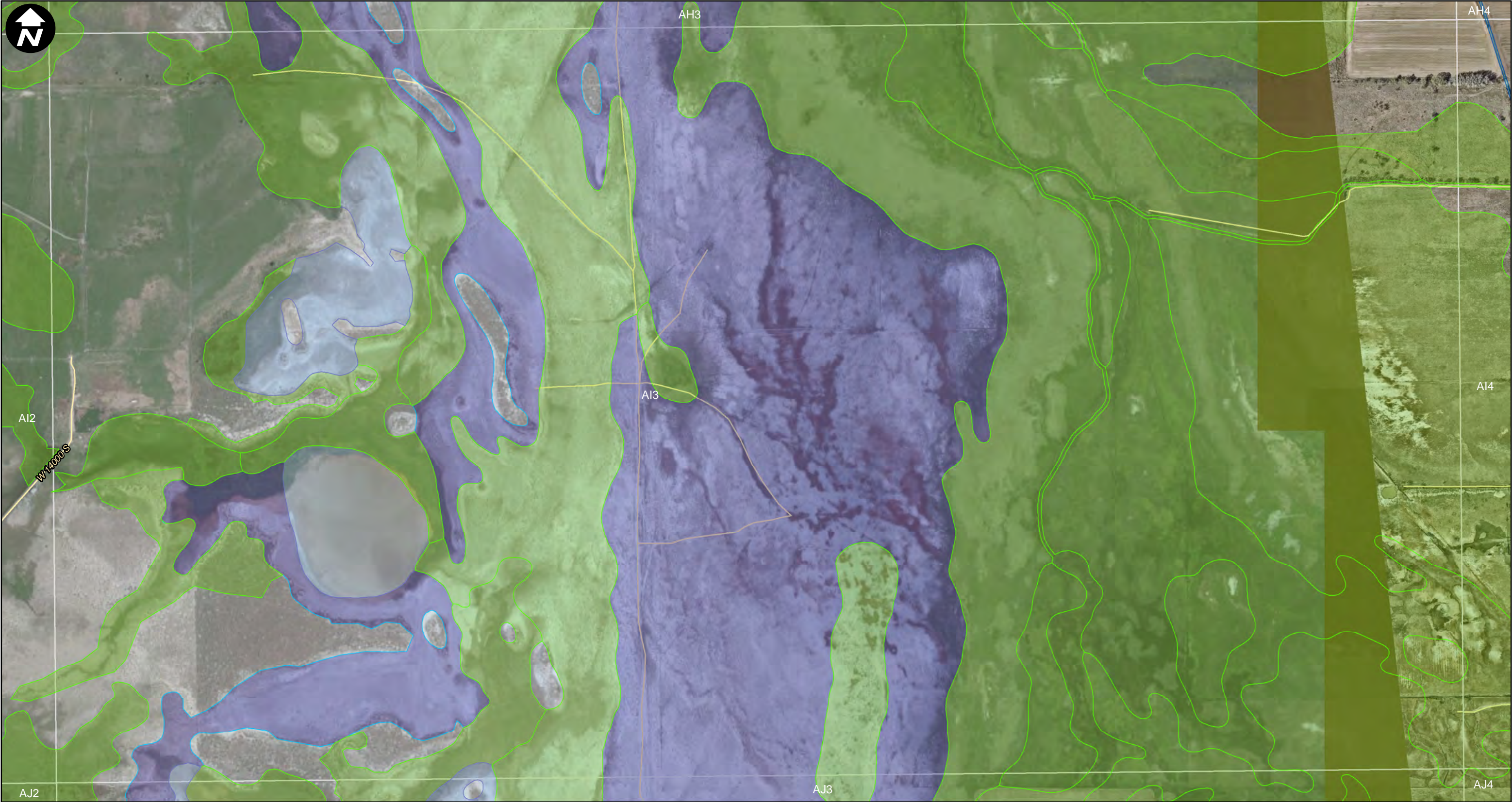
0 670 1,340

Feet

Datasource:
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and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021

Grid Map
AI2



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

A13

American Fork

Pleasant Grove

Provo

Spanish Fork

Salem

San Juan

0

670

1,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

Grid Map

A13

DE0475

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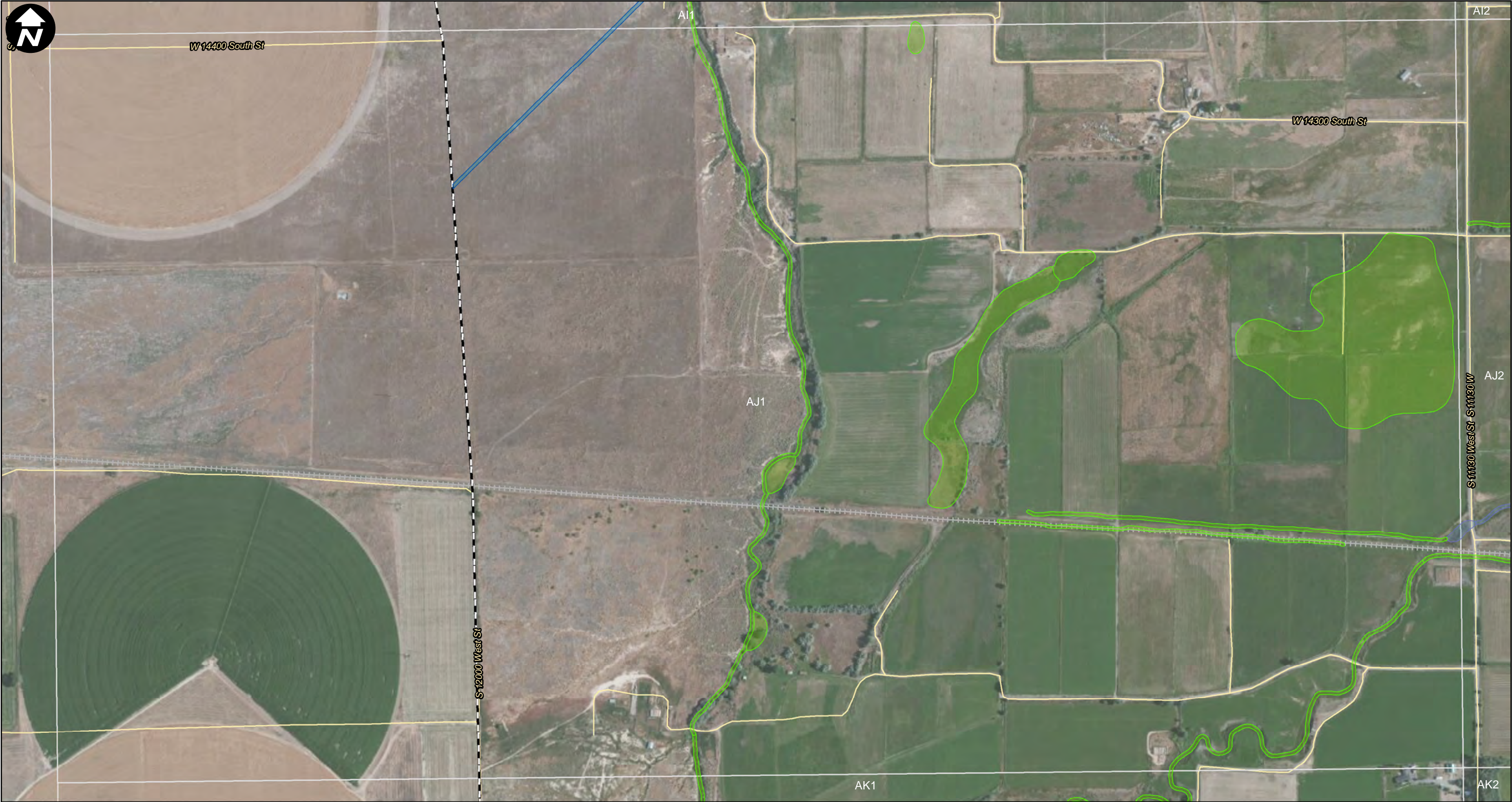
Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Rails		Riverine
	Wetlands Desktop Assessment Boundary		
	Streets		

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
AI4	
DE0475	November 2021



Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AJ1

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Albuquerque

0

675

1,350

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
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Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

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November 2021

Grid Map

AJ1

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Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Rails		Freshwater Pond
	Wetlands Desktop Assessment Boundary		Lake
	Streets		Riverine

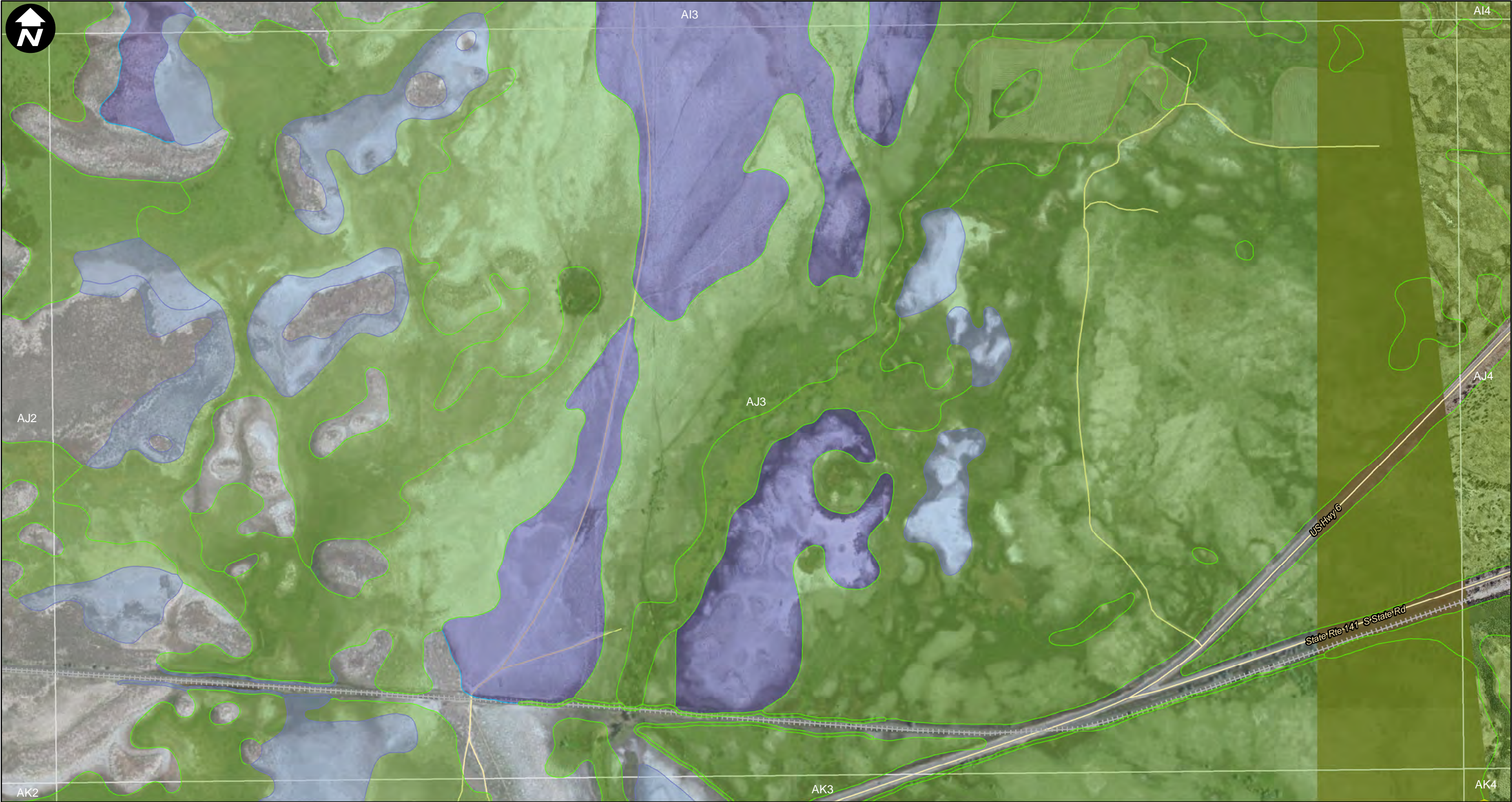
0 670 1,340

Feet

Datasource:
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and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
DE0475	November 2021

Grid Map
AJ2



Legend

Grid Map

Rails

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Pond

Lake

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
Grid Map	
AJ3	
DE0475	November 2021



Legend		Wetland Type	
	Grid Map		Freshwater Emergent Wetland
	Rails		Freshwater Shrub Wetland
	Wetlands Desktop Assessment Boundary		Freshwater Forested Wetland
	Streets		Freshwater Pond

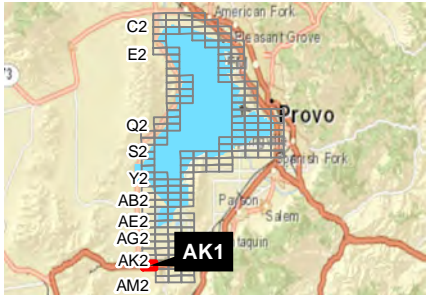
0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map AJ4	



Legend <div><div><div></div> Grid Map</div><div><div></div> Wetlands Desktop Assessment Boundary</div><div><div></div> Streets</div></div> <div><div><div></div> Freshwater Emergent Wetland</div></div> <div><div><div></div> Freshwater Pond</div><div><div></div> Riverine</div></div>				<div>0 675 1,350 Feet</div> <p>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</p>		<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
				<div>Geosyntec consultants</div>		Grid Map	
				DE0475		November 2021	AK1



Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Pond

Lake

Riverine

0

670

1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

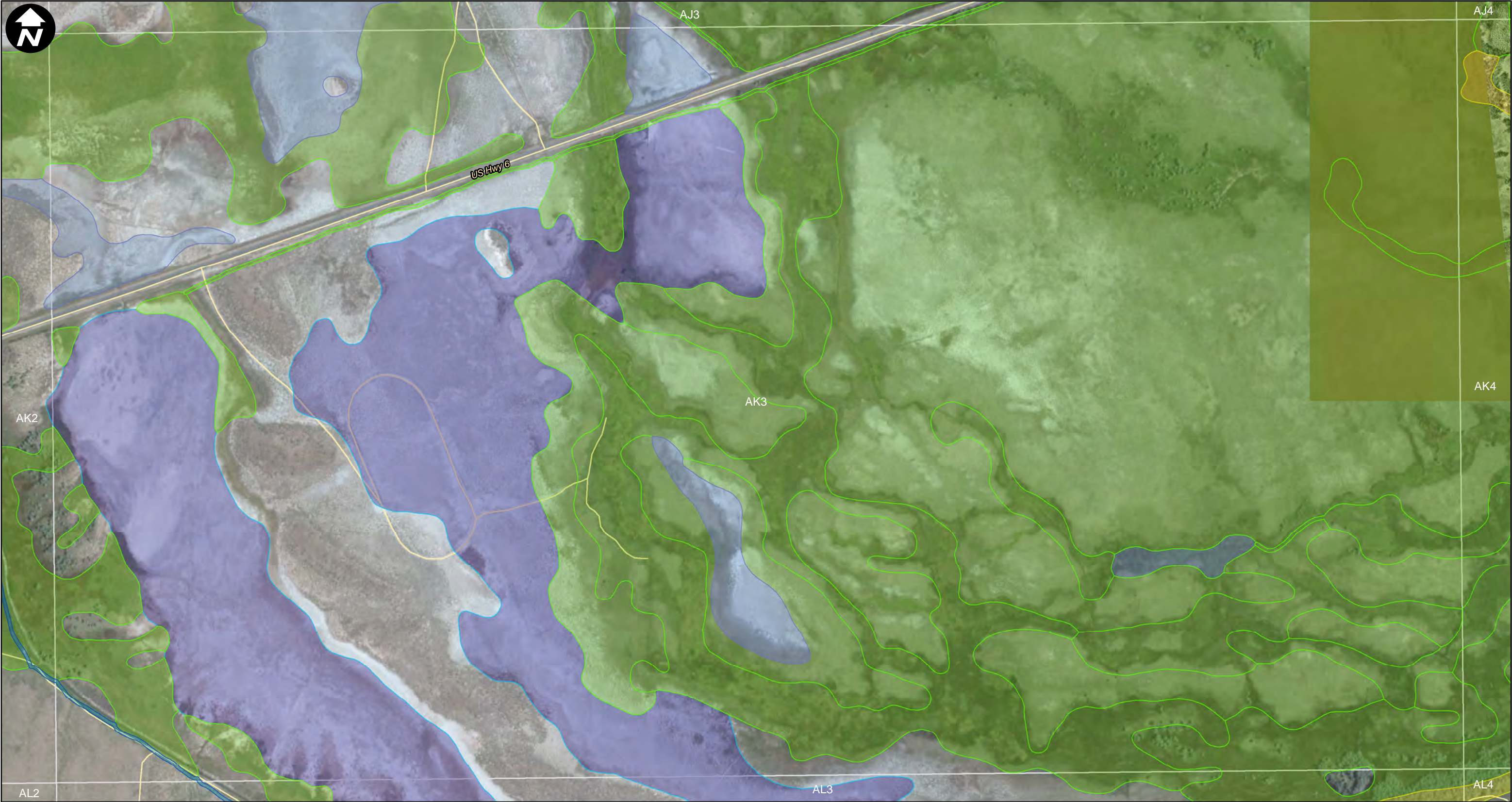
DE0475

November 2021

Grid Map

AK2

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Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Freshwater Pond

Lake

Riverine

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Grid Map
AK3

DE0475

November 2021



Legend	
Grid Map	Freshwater Shrub Wetland
Wetlands Desktop Assessment Boundary	Freshwater Pond
Streets	Riverine
Wetland Type	
Freshwater Emergent Wetland	
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<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
	Grid Map
DE0475	AK4
November 2021	



Legend

Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Pond

Riverine

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

DE0475

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Grid Map
AL2

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Grid Map

Wetlands Desktop Assessment Boundary

Streets

Wetland Type

Freshwater Emergent Wetland

Freshwater Shrub Wetland

Lake

Riverine

C2

E2

Q2

S2

Y2

AB2

AE2

AG2

AK2

AM2

AL3

American Fork

Pleasant Grove

Provo

Spanish Fork

Payson

Salem

Albany

0

670

1,340

Feet

Datasource:

-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)

-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project

Lake Restoration Solutions, Inc.

Utah County, Utah

Wetlands Desktop Assessment

Geosyntec

consultants

DE0475

November 2021

Grid Map

AL3

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Legend <div><div>Grid Map</div><div>Wetlands Desktop Assessment Boundary</div><div>Streets</div><div>Wetland Type<div>Freshwater Emergent Wetland</div><div>Freshwater Shrub Wetland</div><div>Riverine</div></div></div>			<div>06701,340 Feet</div> <div><small>Datasource: -Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021) -Imagery feature service accessed on 11/17/2021</small></div>	<div>Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah</div> <div>Wetlands Desktop Assessment</div>	
			<div>Geosyntec consultants</div>	Grid Map AL4	
			DE0475	November 2021	



Legend

- Grid Map
- Wetlands Desktop Assessment Boundary
- Streets

0 670 1,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	
DE0475	November 2021
Grid Map AM2	



Grid Map

Wetlands Desktop Assessment Boundary

Streets

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service
and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project Lake Restoration Solutions, Inc. Utah County, Utah	
Wetlands Desktop Assessment	
Geosyntec consultants	Grid Map AM3
DE0475	November 2021

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Grid Map

Wetlands Desktop Assessment Boundary

Streets

06701,340

Feet

Datasource:
-Imagery provided by ESRI World Imagery (Clarity) feature service and Nearmaps (date of imagery capture: 3/12/2021)
-Imagery feature service accessed on 11/17/2021

Utah Lake Restoration Project
Lake Restoration Solutions, Inc.
Utah County, Utah

Wetlands Desktop Assessment

Geosyntec
consultants

DE0475November 2021

Grid Map

AM4

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APPENDIX B
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP01</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.245353</u>	Long.	<u>-111.735239</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____ OBL species <u>95</u> x <u>1</u> = <u>95</u> FACW species <u>5</u> x <u>2</u> = <u>10</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>105</u> (B) Prevalence Index: <u>1.1</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. <u>Schoenoplectus acutus</u>		<u>95</u>	<u>Y</u>	<u>OBL</u>		
2. <u>Phragmites australis</u>		<u>5</u>	<u>N</u>	<u>FACW</u>		
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>100</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP01

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP03</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.257397</u>	Long.	<u>-111.731749</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>100</u> (A) <u>160</u> (B) Prevalence Index: <u>1.6</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Rumex fueginus</u>		<u>50</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u>Schoenoplectus acutus</u>		<u>40</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Phragmites australis</u>		<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
100 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks: (if observed, list morphological adaptations below).					

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP03

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP04</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.266289</u>	Long.	<u>-111.746204</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____	
2. _____					OBL species <u>100</u> x <u>1</u> = <u>100</u>	
3. _____					FACW species <u>0</u> x <u>2</u> = <u>0</u>	
4. _____					FAC species <u>0</u> x <u>3</u> = <u>0</u>	
5. _____					FACU species <u>0</u> x <u>4</u> = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x <u>5</u> = <u>0</u>	
					Column Total <u>100</u> (A) <u>100</u> (B)	
					Prevalence Index: <u>1.0</u> (B/A)	
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators:	
1. <u>Schoenoplectus acutus</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> 1 - Rapid Test for Hydrophytic Vegetation	
2. _____					<u>X</u> 2 - Dominance Test is >50%	
3. _____					<u>X</u> 3 - Prevalence Index is ≤3.0*	
4. _____					Problematic Hydrophytic Vegetation* (Explain)	
5. _____					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
6. _____						
7. _____						
8. _____						
		<u>100</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP04

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal val

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP05</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.291307</u>	Long.	<u>-111.762310</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Schoenoplectus acutus</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>100</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP05

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP06</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.306264</u>	Long.	<u>-111.764633</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Schoenoplectus acutus</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>100</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP06

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP07</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>				
	Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.318561</u>	Long.	<u>-111.766987</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Schoenoplectus acutus</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
100 = Total Cover					
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP07

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP08</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.347384</u>	Long.	<u>-111.811051</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. <u>Schoenoplectus acutus</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>		
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>100</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP08

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP09</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.350265</u>	Long.	<u>-111.817188</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: Multiply by: OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>100</u> x <u>2</u> = <u>200</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>200</u> (B) Prevalence Index: <u>2.0</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. <u>Phragmites australis</u>		<u>100</u>	<u>Y</u>	<u>FACW</u>		
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>100</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP09

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP10</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.341908</u>	Long.	<u>-111.906837</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____ OBL species <u>35</u> x <u>1</u> = <u>35</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>35</u> (A) <u>35</u> (B) Prevalence Index: <u>1.0</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. <u>Schoenoplectus acutus</u>		<u>35</u>	<u>Y</u>	<u>OBL</u>		
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>35</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				
Remarks: (if observed, list morphological adaptations below).						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP10

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP11</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.299748</u>	Long.	<u>-111.876916</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PEM1F</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: Multiply by: OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>15</u> x <u>2</u> = <u>30</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>15</u> (A) <u>30</u> (B) Prevalence Index: <u>2.0</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. <u>Phragmites australis</u>		<u>15</u>	<u>Y</u>	<u>FACW</u>		
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>15</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				
Remarks: (if observed, list morphological adaptations below).						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP11

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>			State:	<u>Utah</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>	Section, Township, Range:	<u>0</u>	Sampling Point:	<u>A-DP12</u>
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.285412</u>	Long.	<u>-111.866036</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes <u> </u> No <u> X </u> (If no, explain in the Remarks)					
Are Vegetation <u> X </u> , Soil <u> </u> , or Hydrology <u> </u> significantly disturbed?					
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> naturally problematic?					
Are Normal Circumstances Present? Yes <u> X </u> No <u> </u> (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 <u> X </u> No <u> </u>		Is the Sampled Area within a Wetland?			
Hydric Soil Present? Yes <u> X </u> No <u> </u>		Yes <u> </u> No <u> X </u>			
Wetland Hydrology Present? Yes <u> X </u> No <u> </u>					
Remarks:					
Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

2024-2025 Use Column Numbers of Plots					Dominance Test Worksheet	
Tree Stratum	Plot size: $r=30'$	Absolute % Cover	Dominant Species?	Indicator Status		
1.					Number of dominant species that are OBL, FACW, or FAC: <u>2</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>100%</u> (A/B)	
4.						
		0	= Total Cover			
Sapling/Shrub Stratum	Plot size: $r=30'$				Prevalence Index Worksheet	
1.					Total % cover of: Multiply by:	
2.					OBL species	<u>15</u> x <u>1</u> = <u>15</u>
3.					FACW species	<u>20</u> x <u>2</u> = <u>40</u>
4.					FAC species	<u>5</u> x <u>3</u> = <u>15</u>
5.					FACU species	<u>0</u> x <u>4</u> = <u>0</u>
		0	= Total Cover		UPL species	<u>0</u> x <u>5</u> = <u>0</u>
					Column Total	<u>40</u> (A) <u>70</u> (B)
					Prevalence Index: <u>1.8</u> (B/A)	
Herb Stratum	Plot size: $r=5'$				Hydrophytic Vegetation Indicators:	
1.	<i>Phragmites australis</i>	20	Y	FACW	X 1 - Rapid Test for Hydrophytic Vegetation	
2.	<i>Schoenoplectus acutus</i>	15	Y	OBL	X 2 - Dominance Test is $>50\%$	
3.	<i>Tamarix chinensis</i>	5	N	FAC	X 3 - Prevalence Index is $\leq 3.0^*$	
4.					Problematic Hydrophytic Vegetation* (Explain)	
5.					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
6.						
7.						
8.						
		40	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No <u> </u>	
Woody Vine Stratum	Plot size: $r=30'$					
1.						
2.						
		0	= Total Cover			
% Bare Ground in Herb Stratum <u> </u>		% Cover of Biotic Crust <u> </u>				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP12

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP13</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.268974</u>	Long.	<u>-111.854603</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>80</u> x <u>1</u> = <u>80</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>80</u> (A) <u>80</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Schoenoplectus acutus</u>		<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>80</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP13

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal val

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP14</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.142167</u>	Long.	<u>-111.781204</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>60</u> (A) <u>120</u> (B) Prevalence Index: <u>2.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Phragmites australis</u>		<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
60 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).
 Phrag has mostly been killed on the shoreline, new veg reestablishing site

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP14

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP15</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.152736</u>	Long.	<u>-111.750984</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary, near small stream inlet to lake Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>90</u> x <u>1</u> = <u>90</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>90</u> (A) <u>90</u> (B) Prevalence Index: <u>1.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Schoenoplectus acutus</u>		<u>90</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
90 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP15

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP16</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.175422</u>	Long.	<u>-111.738711</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary, near small stream inlet to lake Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>90</u> x <u>1</u> = <u>90</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>90</u> (A) <u>90</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Schoenoplectus acutus</u>		<u>90</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>90</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP16

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 5

Water Table Present? Yes ☒ No ☐ Depth (inches): 0

Saturation Present? Yes ☒ No ☐ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes ☒ No ☐

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP17</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.176167</u>	Long.	<u>-111.722743</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Mixed alluvial land</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions Some management of invasives has occurred					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>40</u> (A) <u>50</u> (B) Prevalence Index: <u>1.3</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% X 3 - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Schoenoplectus acutus</u>		30	Y	OBL	
2. <u>Phragmites australis</u>		10	Y	FACW	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
40 = Total Cover					
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP17

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 5

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP18</u>
Investigator(s):	<u>A. Mathes T. Taylor S. Fuller</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.172004</u>	Long.	<u>-111.718637</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Mixed alluvial land</u>		NWI Classification:	<u>L2ABF</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located along PEM L2 boundary Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>70</u> x <u>1</u> = <u>70</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>70</u> (A) <u>70</u> (B) Prevalence Index: <u>1.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Typha latifolia</u>		<u>70</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
70 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP18

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assumed hydric, inundated soils to at least 8"

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 5

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP19</u>
Investigator(s):	<u>T. Taylor, S. Fuller,</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.130966</u>	Long.	<u>-111.840662</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: See Trimble point for offset Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators:	
1. <u>Schoenoplectus acutus</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>	X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>100</u>	= Total Cover		Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP19

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 4

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

Saturation Present? Yes _____ No _____ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP20</u>
Investigator(s):	<u>T. Taylor, S. Fuller, D. Harnsberger</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.131017</u>	Long.	<u>-111.840927</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: See Trimble point for offset Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>75</u> x <u>1</u> = <u>75</u> FACW species <u>15</u> x <u>2</u> = <u>30</u> FAC species <u>5</u> x <u>3</u> = <u>15</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>95</u> (A) <u>120</u> (B) Prevalence Index: <u>1.3</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Schoenoplectus acutus</u>		<u>75</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u>Phragmites australis</u>		<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Tamarix chinensis</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
95 = Total Cover					Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP20

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒ X

No _____

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes ☒ X No _____ Depth (inches): 4

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

Saturation Present? Yes _____ No _____ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes ☒ X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>A-DP21</u>
Investigator(s):	<u>T. Taylor, S. Fuller,</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.033835</u>	Long.	<u>-111.889212</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: See Trimble point for offset Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>100</u> (A) <u>200</u> (B) Prevalence Index: <u>2.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Phragmites australis</u>		<u>100</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
100 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

Some phrag may be dead via invasive treatments in this area

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: A-DP21

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)				Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 4

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

Saturation Present? Yes ☐ No ☐ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes ☒ No ☐

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B01-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.236392</u>	Long.	<u>-111.742178</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Sunny, 93°F, drought conditions, water level is likely lower than usual. Data point was collected at the mouth of Provo River within well defined a PEM wetland. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>75</u> x <u>1</u> = <u>75</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>75</u> (A) <u>75</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Scirpus nevadensis</u>		<u>75</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>75</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

Bulrush is likely Scirpus acutus (hardstem bulrush).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B01-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 24

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal val

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B02-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.223751</u>	Long.	<u>-111.732092</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes <u> </u> No <u> X </u> (If no, explain in the Remarks)					
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> significantly disturbed?					
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> naturally problematic?					
Are Normal Circumstances Present? Yes <u> X </u> No <u> </u> (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 <u> X </u> No <u> </u>		Is the Sampled Area within a Wetland?			
Hydric Soil Present? Yes <u> X </u> No <u> </u>		Yes <u> </u> <u> X </u> No <u> </u>			
Wetland Hydrology Present? Yes <u> X </u> No <u> </u>					
Remarks:					
Data point located on edge of PEM/LAC wetland boundary. Vegetation still dominated by bulrush species however cattails represent about 10-15 percent total cover of the wetland. Wetland starting to have large areas of open, nonvegetated areas. Drought conditions					

VEGETATION - Use scientific names of plants

2024-2025 Use Column(s) Number(s) of plants									
Tree Stratum	Plot size: r= 30'	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet				
1.					Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)				
2.									
3.									
4.									
		0	= Total Cover						
Sapling/Shrub Stratum	Plot size: r= 30'				Prevalence Index Worksheet				
1.					Total % cover of: Multiply by:				
2.					OBL species	<u>60</u>	x	<u>1</u>	<u>60</u>
3.					FACW species	<u>0</u>	x	<u>2</u>	<u>0</u>
4.					FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>
5.					FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>
		0	= Total Cover		UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>
					Column Total	<u>60</u>	(A)		<u>60</u> (B)
					Prevalence Index: <u>1.0</u> (B/A)				
Herb Stratum	Plot size: r= 5'				Hydrophytic Vegetation Indicators:				
1.	<u>Scirpus nevadensis</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> 1 - Rapid Test for Hydrophytic Vegetation				
2.	<u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	<u>X</u> 2 - Dominance Test is >50%				
3.					<u>X</u> 3 - Prevalence Index is ≤3.0*				
4.					Problematic Hydrophytic Vegetation* (Explain)				
5.					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
6.									
7.									
8.									
		60	= Total Cover		Hydrophytic Vegetation Present?				
					Yes <u>X</u> No _____				
Woody Vine Stratum	Plot size: r= 30'								
1.									
2.									
		0	= Total Cover						
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____							

Remarks: (if observed, list morphological adaptations below).

Bright green herbaceous veg potential a panicum species. Bulrush is same species in other parts of the wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B02-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 10

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Hydrology associated with shoreline flooding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B03-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.216164</u>	Long.	<u>-111.729743</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located on edge of PEM wetland boundary. Vegetation still dominated by bulrush species however starting to observe some Panicum and dying saltcedar. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>67%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum Plot size: <u>r= 5'</u>					Prevalence Index Worksheet	
1. <u>Tamarix aphylla</u>		<u>10</u>	<u>Y</u>	<u>FAC</u>	Total % cover of: _____ Multiply by: _____ OBL species <u>30</u> x <u>1</u> = <u>30</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>10</u> x <u>3</u> = <u>30</u> FACU species <u>15</u> x <u>4</u> = <u>60</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>55</u> (A) <u>120</u> (B) Prevalence Index: <u>2.2</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>10</u>	= Total Cover			
Herb Stratum Plot size: <u>r= 5'</u>					Hydrophytic Vegetation Indicators:	
1. <u>Scirpus nevadensis</u>		<u>30</u>	<u>Y</u>	<u>OBL</u>	<u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
2. <u>Panicum capillare</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>		
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>45</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum Plot size: <u>r= 30'</u>						
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

Panicum is unknown species. Tamarix species is likely the invasive tamarix ramosissima.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B03-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Ignore b10 and c2 for secondary indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Utah Lake		City/County:	Utah Co.		Sampling Date:	7/6/2021	
Applicant/Owner:	LRS		State:	Utah		Sampling Point:	B04-DP	
Investigator(s):	C.Nguyen, N.Jones		Section, Township, Range:	0				
Landform: (hillslope, terrace, etc.):	Other		Local relief (concave, convex, none):	Concave		Slope (%):	0-2%	
Subregion (LRR):	MLRA 28A; LRR D		Lat.	40.194752		Long.	-111.730017 Datum: WGS84	
Soil Map Unit Name:			Water			NWI Classification:	PEM1F	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)								
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?								
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?								
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____			Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____			Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____								
Remarks:								
Data point located on edge of PEM/LAC wetland boundary within a delta landform. Vegetation now dominated by phragmites. however bulrush still represent about 20-30 percent of the wetland. Wetland starting to have large areas of open nonvegetated areas. Drought conditions								

VEGETATION - Use scientific names of plants

Tree Stratum		Plot size: r= 30'	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet				
1.						Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)				
2.										
3.										
4.										
			0	= Total Cover						
Sapling/Shrub Stratum		Plot size: r= 30'				Prevalence Index Worksheet				
1.						Total % cover of:		Multiply by:		
2.						OBL species	<u>30</u>	x	<u>1</u>	<u>30</u>
3.						FACW species	<u>50</u>	x	<u>2</u>	<u>100</u>
4.						FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>
5.						FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>
			0	= Total Cover		UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>
						Column Total	<u>80</u>	(A)	<u>130</u>	(B)
						Prevalence Index:		<u>1.6</u>	(B/A)	
Herb Stratum		Plot size: r= 5'				Hydrophytic Vegetation Indicators:				
1.	<i>Phragmites australis</i>		50	Y	FACW	X <u>1</u> - Rapid Test for Hydrophytic Vegetation				
2.	<i>Scirpus nevadensis</i>		30	Y	OBL	X <u>2</u> - Dominance Test is >50%				
3.						X <u>3</u> - Prevalence Index is ≤3.0*				
4.						Problematic Hydrophytic Vegetation* (Explain)				
5.						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
6.										
7.										
8.										
			80	= Total Cover		Hydrophytic Vegetation Present?				
						Yes <u>X</u>		No <u> </u>		
Woody Vine Stratum		Plot size: r= 30'								
1.										
2.										
			0	= Total Cover						
% Bare Ground in Herb Stratum <u> </u>						% Cover of Biotic Crust <u> </u>				

Remarks: (if observed, list morphological adaptations below).

Dominated by phragmites and bulrush. Wetland is starting to have isolated masses with areas of no vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B04-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 2

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Delta formation with isolated wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B05-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.183137</u>	Long.	<u>-111.709755</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Provo Bay silty clay loam</u>			NWI Classification:	<u>L2USC</u>
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located on edge of PEM wetland boundary within a delta landform. Vegetation now dominated by phragmites. Wetland starting to have large areas of open non-vegetated areas. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>75</u> x 2 = <u>150</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>75</u> (A) <u>150</u> (B) Prevalence Index: <u>2.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Phragmites australis</u>		<u>75</u>	<u>Y</u>	<u>FACW</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
75 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).
 Dominated by phragmites. Wetland is starting to have isolated masses with areas of no vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B05-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 18

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Delta formation with isolated wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B-06 DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.189773</u>	Long.	<u>-111.715599</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Provo Bay silty clay loam</u>	NWI Classification:	<u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located on edge of PEM/LAC wetland boundary within a delta landform. Vegetation now dominated by phragmites with 20 % cattails and 10% bulrush. Large areas of dead Phragmites sp. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____	
2. _____					OBL species <u>35</u> x <u>1</u> = <u>35</u>	
3. _____					FACW species <u>70</u> x <u>2</u> = <u>140</u>	
4. _____					FAC species <u>0</u> x <u>3</u> = <u>0</u>	
5. _____					FACU species <u>0</u> x <u>4</u> = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x <u>5</u> = <u>0</u>	
					Column Total <u>105</u> (A) <u>175</u> (B)	
					Prevalence Index: <u>1.7</u> (B/A)	
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators:	
1. <u>Phragmites australis</u>		<u>70</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Typha angustifolia</u>		<u>25</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> 2 - Dominance Test is >50%	
3. <u>Scirpus nevadensis</u>		<u>10</u>	<u>N</u>	<u>OBL</u>	<u>X</u> 3 - Prevalence Index is ≤3.0*	
4. _____					Problematic Hydrophytic Vegetation* (Explain)	
5. _____					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
6. _____						
7. _____						
8. _____						
		<u>105</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).
 Dominated by phragmites. Wetland is starting to have isolated masses with areas of no vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B-06 DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 2

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Delta formation with isolated wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B07-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.196613</u>	Long.	<u>-111.715420</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Provo Bay silty clay loam</u>			NWI Classification:	<u>L2ABF</u>
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located on edge of PEM/LAC wetland boundary within a delta landform. Vegetation now dominated by cattail species however phragmites still represent about 20-30 percent of the wetland. Wetland starting to have large areas of open non-vegetated areas. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Typha angustifolia</u>		<u>70</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Scirpus nevadensis</u>		<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>100</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

Dominated by cattail and phragmite. Wetland is starting to have isolated masses with areas of no vegetation. Replace bulrush with phragmites.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B07-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 12

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Delta formation with isolated wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B08-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.180769</u>	Long.	<u>-111.680230</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located on edge of PEM/LAC wetland boundary within a delta landform. Vegetation dominated by cattails. There is evidence of phragmites which has been treated. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>120</u> x <u>1</u> = <u>120</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>120</u> (A) <u>120</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1.					
2.					
3.					
4.					
5.					
		<u>0</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1.	<u>Typha angustifolia</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2.	<u>Scirpus nevadensis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3.					
4.					
5.					
6.					
7.					
8.					
		<u>120</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1.					
2.					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

Dominated by phragmites and bulrush. Wetland is starting to have isolated masses with areas of no vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B08-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 2

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Delta formation with isolated wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B09-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.180203</u>	Long.	<u>-111.691625</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Data point located on edge of PEM/LAC wetland boundary within a delta landform. Data point on the edge of a small island Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>110</u> x <u>1</u> = <u>110</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>110</u> (A) <u>110</u> (B) Prevalence Index: <u>1.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Typha angustifolia</u>		<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Scirpus nevadensis</u>		<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
110 = Total Cover					
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks: (if observed, list morphological adaptations below).					
Vegetation is 80% cattails.					

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B09-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 2

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Delta formation with isolated wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B10-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones, A.Mathes</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.267579</u>	Long.	<u>-111.849058</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located on edge of PEM and LAC boundary. Area is dominated by phragmites, which extends from shoreline to 1-2ft of water. Further back into the shoreline salt cedar emerges. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>30</u> x <u>1</u> = <u>30</u> FACW species <u>100</u> x <u>2</u> = <u>200</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>130</u> (A) <u>230</u> (B) Prevalence Index: <u>1.8</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Phragmites australis</u>		<u>100</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Scirpus nevadensis</u>		<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
130 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks: (if observed, list morphological adaptations below). Wetland is dominated by phragmites 100%.					

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B10-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 24

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal val

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B11-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones, A.Mathes</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.263160</u>	Long.	<u>-111.853818</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: PEM wetland on the edge of PEM and LAC boundary. Wetland begins on the shoreline and extends into 1-2 feet of water. Wetland continues along the shoreline with areas dominated by phragmites and salt cedar along the shoreline. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>100</u> x <u>1</u> = <u>100</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>100</u> (A) <u>100</u> (B) Prevalence Index: <u>1.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Scirpus nevadensis</u>		<u>100</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
100 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below). Vegetation is dominated by bullrush. Outside of data point boundary salt cedar is visible on shoreline

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B11-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 24

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B12-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones, A.Mathes</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.247812</u>	Long.	<u>-111.860160</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Roshe Springs silt loam</u>			NWI Classification:	<u>PEM1F</u>
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located on edge of PUS/PSS and LAC boundary. Wetland extends north and south along the shoreline and dominated by salt cedar with little to no herbaceous vegetation. Wetland does not extend into a waterline in this location. However other portions of the wetland do extend into the waterline. See data point 10. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. <u>Tamarix aphylla</u>		<u>80</u>	<u>Y</u>	<u>FAC</u>	Total % cover of: Multiply by: OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>105</u> x <u>3</u> = <u>315</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>105</u> (A) <u>315</u> (B) Prevalence Index: <u>3.0</u> (B/A)	
2. <u>Elaeagnus angustifolia</u>		<u>25</u>	<u>Y</u>	<u>FAC</u>		
3. _____						
4. _____						
5. _____						
		<u>105</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0* _____ Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. _____						
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>0</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B12-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 4

Water Table Present? Yes No Depth (inches):

Saturation Present? Yes No Depth (inches):

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Saturation and highwater could no be observed from the boat. Due to the proximity of the wetland and the lake it is likely saturation and a water table are present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B13-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones, A.Mathes</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.238723</u>	Long.	<u>-111.863528</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Data point located on edge of PEM and LAC boundary. Wetland extends north and south along the shoreline and dominated by phrag. Wetland does extend into a waterline in this location. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)		
2. _____							
3. _____							
4. _____							
		<u>0</u> = Total Cover					
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>							
1. <u>Elaeagnus angustifolia</u>		<u>25</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>90</u> x <u>2</u> = <u>180</u> FAC species <u>25</u> x <u>3</u> = <u>75</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>115</u> (A) <u>255</u> (B) Prevalence Index: <u>2.2</u> (B/A)		
2. _____							
3. _____							
4. _____							
5. _____							
		<u>25</u> = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>							
1. <u>Phragmites australis</u>		<u>90</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____		
2. _____							
3. _____							
4. _____							
5. _____							
6. _____							
7. _____							
8. _____							
		<u>90</u> = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>							
1. _____							
2. _____							
		<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B13-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒ X

No _____

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes ☒ X No _____ Depth (inches): 4

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

Saturation Present? Yes _____ No _____ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

Yes ☒ X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Saturation and highwater could not be observed from the boat. Due to the proximity of the wetland and the lake it is likely saturation and a water table are present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>B14-DP</u>
Investigator(s):	<u>C.Nguyen, N.Jones, A.Mathes</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>Other</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.191669</u>	Long.	<u>-111.890302</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: PFO wetland located on the boundary of the LAC. Wetland is dominated by willow sp with few salt cedar Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>3</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Salix lasiolepis</u>		<u>50</u>	<u>Y</u>	<u>FACW</u>	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
<u>50</u> = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>50</u> x <u>2</u> = <u>100</u> FAC species <u>15</u> x <u>3</u> = <u>45</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>65</u> (A) <u>145</u> (B) Prevalence Index: <u>2.2</u> (B/A)
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
<u>0</u> = Total Cover					
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Xanthium strumarium</u>		<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Rumex crispus</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
6. _____		_____	_____	_____	
7. _____		_____	_____	_____	
8. _____		_____	_____	_____	
<u>15</u> = Total Cover					
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: B14-DP

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-								

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Assume hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes X No Depth (inches): 4

Water Table Present? Yes No Depth (inches):

Saturation Present? Yes No Depth (inches):

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Saturation and water table are assumed due to the wetland proximity to the lake.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>Ground01</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>2-10%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.240762</u>	Long.	<u>-111.738602</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Confirming PEM1F wetland. Large stands of PHAU not in data point location. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>90</u> (A) <u>250</u> (B) Prevalence Index: <u>2.8</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Rumex crispus</u>		<u>60</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u>Potentilla supina</u>		<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Hordeum jubatum</u>		<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Polypogon monspeliensis</u>		<u>5</u>	<u>N</u>	<u>FACW</u>	
5. _____					
6. _____					
7. _____					
8. _____					
90 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: Ground01

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-17	2.5Y 4/1	90	10Yr 5/6	10	C	Both	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/6/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>Ground02</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>2-10%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.141803</u>	Long.	<u>-111.801029</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>	NWI Classification:	<u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Redraw PEM wetland here. Originally L2 Drought conditions Some management of invasives has occurred. Native plants and PHAU returning to site.					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>1</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>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>35</u> x <u>1</u> = <u>35</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>5</u> x <u>3</u> = <u>15</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>40</u> (A) <u>50</u> (B) Prevalence Index: <u>1.3</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
0 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					
1. <u>Typha latifolia</u>		<u>30</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u>Schoenoplectus maritimus</u>		<u>5</u>	<u>N</u>	<u>OBL</u>	
3. <u>Rumex crispus</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
40 = Total Cover					Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below). Area treated during phrag treatment. Cattails returning. Some areas of phrag returning.
--

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: Ground02

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-4	2.5Y 4/3	90	7.5YR 5/6	10	RM	M	Loam / Clay	
4-6	5y 5/1	100					Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Wetland)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____ yes

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Bottom layer likely extends below. Assumed depleted matrix present. Cobble below 4 inches

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 1

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Ground table likely present below cobbles of restrictive layer.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>Ground 03</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>2-10%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.330713</u>	Long.	<u>-111.764511</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions Some management of invasives has occurred.					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>3</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					Prevalence Index Worksheet	
1. <u>Tamarix chinensis</u>		<u>40</u>	<u>Y</u>	<u>FAC</u>	Total % cover of: Multiply by:	
2. _____					OBL species <u>5</u> x <u>1</u> = <u>5</u>	
3. _____					FACW species <u>45</u> x <u>2</u> = <u>90</u>	
4. _____					FAC species <u>85</u> x <u>3</u> = <u>255</u>	
5. _____					FACU species <u>10</u> x <u>4</u> = <u>40</u>	
		<u>40</u>	= Total Cover		UPL species <u>0</u> x <u>5</u> = <u>0</u>	
					Column Total <u>145</u> (A) <u>390</u> (B)	
					Prevalence Index: <u>2.7</u> (B/A)	
Herb Stratum Plot size: <u>r= 5'</u>					Hydrophytic Vegetation Indicators:	
1. <u>Rumex fuginus</u>		<u>30</u>	<u>Y</u>	<u>FACW</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Bassia scoparia</u>		<u>30</u>	<u>Y</u>	<u>FAC</u>	<u>X</u> 2 - Dominance Test is >50%	
3. <u>Polypogon monspeliensis</u>		<u>15</u>	<u>N</u>	<u>FACW</u>	<u>X</u> 3 - Prevalence Index is ≤3.0*	
4. <u>Hordeum jubatum</u>		<u>10</u>	<u>N</u>	<u>FAC</u>	Problematic Hydrophytic Vegetation* (Explain)	
5. <u>Lythrum salicaria</u>		<u>5</u>	<u>N</u>	<u>OBL</u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
6. <u>Lepidium latifolium</u>		<u>5</u>	<u>N</u>	<u>FAC</u>		
7. <u>Lactuca serriola</u>		<u>5</u>	<u>N</u>	<u>FACU</u>		
8. <u>Xanthium spinosum</u>		<u>5</u>	<u>N</u>	<u>FACU</u>		
		<u>105</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum Plot size: <u>r= 30'</u>						
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				
Remarks: (if observed, list morphological adaptations below).						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: Ground 03

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-6	2.5y 4/2	90	7.5yr 5/6	10	RM	Both	Loam / Clay	
6-16	3.5y 5/2	90	7.5yr 5/6	10	RM	Both	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)		
Thick Dark Surface (A12)		Redox Depressions (F8)		
Sandy Mucky Mineral (S1)		Vernal Pools (F9)		*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Sand present in soil

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>Ground05</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>2-10%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.343762</u>	Long.	<u>-111.802493</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>PFOA</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Sampled within PFO wetland. Wetland transisitions from PEM to PFO at high water mark. Wetland likely recieves hydrology during highwater years. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>4</u> (A) Total number of dominant species across all strata: <u>4</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Populus angustifolia</u>		<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Populus deltoides</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
3. _____					
4. _____					
		<u>65</u>	<u>= Total Cover</u>		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>80</u> x <u>2</u> = <u>160</u> FAC species <u>10</u> x <u>3</u> = <u>30</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>90</u> (A) <u>190</u> (B) Prevalence Index: <u>2.1</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	<u>= Total Cover</u>		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Phalaris arundinacea</u>		<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Phragmites australis</u>		<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Solanum dulcamara</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>25</u>	<u>= Total Cover</u>		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	<u>= Total Cover</u>		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: Ground05

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-9	10yr 4/2	98	7.5yr 5/6	2	C	M	Loam / Clay	
9-16	2.5Y 4/2	98	7.5YR 5/6	2	MS	M	Sandy	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	X	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matirx (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
Thick Dark Surface (A12)		Redox Depressions (F8)	
Sandy Mucky Mineral (S1)		Vernal Pools (F9)	
Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is require; check all that apply)			Secondary Indicators (2 or more required)	
	Surface Water (A1)			Water Marks (B1) (Riverine)
	High Water Table (A2)			Sediment Deposits (B2) (Riverine)
	Saturation (A3)			Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)			Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)			Dry-Season Water Table (C2)
X	Drift Deposits (B3) (Nonriverine)			Crayfish Burrows (C8)
	Surface Soil Cracks (B6)			Saturation Visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
	Water Stained Leaves (B9)		X	FAC-Neutral Test (D5)
				Other (Explain in Remarks)

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Lots of sticks and logs. Likely drift debris from high water years.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>Ground 08</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u> Slope (%): <u>0-2%</u>		
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.360773</u>	Long.	<u>-111.865912</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 5'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____	
2. _____					OBL species <u>55</u> x <u>1</u> = <u>55</u>	
3. _____					FACW species <u>45</u> x <u>2</u> = <u>90</u>	
4. _____					FAC species <u>0</u> x <u>3</u> = <u>0</u>	
5. _____					FACU species <u>0</u> x <u>4</u> = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x <u>5</u> = <u>0</u>	
					Column Total <u>100</u> (A) <u>145</u> (B)	
					Prevalence Index: <u>1.5</u> (B/A)	
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators:	
1. <u>Schoenoplectus pungens</u>		<u>40</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Polypogon monspeliensis</u>		<u>20</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> 2 - Dominance Test is >50%	
3. <u>Typha latifolia</u>		<u>15</u>	<u>N</u>	<u>OBL</u>	<u>X</u> 3 - Prevalence Index is ≤3.0*	
4. <u>Rumex fueginus</u>		<u>10</u>	<u>N</u>	<u>FACW</u>	Problematic Hydrophytic Vegetation* (Explain)	
5. <u>Juncus torreyi</u>		<u>5</u>	<u>N</u>	<u>FACW</u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
6. <u>Juncus acutus</u>		<u>5</u>	<u>N</u>	<u>FACW</u>		
7. <u>Phragmites australis</u>		<u>5</u>	<u>N</u>	<u>FACW</u>		
8. _____						
		<u>100</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				
Remarks: (if observed, list morphological adaptations below).						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: Ground 08

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-4	2.5y 2.5/1	100					Mucky Loam / Clay	
4-12	Gley1 3/10y	100					Sandy	
12-18	Gley1 5/10y	99	7.5yr 5/6	1	RM	PI	Sandy	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology and Wetland Indicators (Applicable to all sites)			Wetland Surface Indicators		Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)	
	Black Histic (A3)	X	Loamy Mucky Mineral (F1)		Reduced Vertic (F18)	
X	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)	
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)	
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)			
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)			
	Thick Dark Surface (A12)		Redox Depressions (F8)			
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)			
X	Sandy Gleyed Matrix (S4)					

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

Water Table Present? Yes X No Depth (inches): 9

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/7/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>Ground 10</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.361046</u>	Long.	<u>-111.864072</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Chipman-McBeth complex</u>			NWI Classification:	<u>PSSC</u>
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes _____ No <u>X</u> Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Mapped as PSS. This area is a PFO wetland. Adjacent to PEM and PAB wetlands. Seep observed in wetland. Technically did not meet wetland soil indicators. Wetland is borderline. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. <u>Populus angustifolia</u>		<u>50</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Populus deltoides</u>		<u>10</u>	<u>N</u>	<u>FAC</u>	
3. _____					
4. _____					
		<u>60</u>	<u>= Total Cover</u>		
Sapling/Shrub Stratum	Plot size: <u>r= 5'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>58</u> x <u>2</u> = <u>116</u> FAC species <u>15</u> x <u>3</u> = <u>45</u> FACU species <u>15</u> x <u>4</u> = <u>60</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>88</u> (A) <u>221</u> (B) Prevalence Index: <u>2.5</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
		<u>0</u>	<u>= Total Cover</u>		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Sonchus arvensis</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Phalaris arundinacea</u>		<u>8</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Solanum dulcamara</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>28</u>	<u>= Total Cover</u>		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____					
2. _____					
		<u>0</u>	<u>= Total Cover</u>		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: Ground 10

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-1	10yr 3/3	100					Loam / Clay	
1-16	5y 3/1	100					Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arctic Wetland) (Indicate otherwise noted)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Redox not observed does not meet 56 indicator. However wetland vegetation and seep observed next to data point likely wetland feature.

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Saturation observed at small seep. Seep not present in data form.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0708ground01</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u> Slope (%): <u>0-2%</u>		
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.167664</u>	Long.	<u>-111.747957</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Water</u>		NWI Classification: <u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____					
3. _____					
4. _____					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet
1. <u>Tamarix chinensis</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	Total % cover of: Multiply by: OBL species <u>25</u> x <u>1</u> = <u>25</u> FACW species <u>65</u> x <u>2</u> = <u>130</u> FAC species <u>15</u> x <u>3</u> = <u>45</u> FACU species <u>5</u> x <u>4</u> = <u>20</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>110</u> (A) <u>220</u> (B) Prevalence Index: <u>2.0</u> (B/A)
2. _____					
3. _____					
4. _____					
5. _____					
		<u>5</u>	= Total Cover		
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Rumex fuginus</u>		<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Eleocharis palustris</u>		<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Schoenoplectus acutus</u>		<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>Elymus elymoides</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Schoenoplectus maritimus</u>		<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Phragmites australis</u>		<u>5</u>	<u>N</u>	<u>FACW</u>	
7. <u>Chenopodium glaucum</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
8. <u>Hordeum jubatum</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
		<u>105</u>	= Total Cover		
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____					
2. _____					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			
Remarks: (if observed, list morphological adaptations below). Tamerask is very small more like 1% cover					

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0708ground01

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-5	10YR 4/2	95	7.5YR 5/6	5	RM	M	Sandy	
5-11	10YR 3/2	100					Mucky Loam / Clay	
11-15	10YR 4/2	90	7.5 YR 5/6	10	RM	M	Sandy	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data (Indicators of an Arid/ Semi-Arid Environment)			Indicators of a Wetland/ Marshy Area	
	Histosol (A1)	X	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matirx (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Middle layer was organic but dry; assumed to be old muck

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is require; check all that apply)			Secondary Indicators (2 or more required)	
	Surface Water (A1)			Water Marks (B1) (Riverine)
	High Water Table (A2)			Sediment Deposits (B2) (Riverine)
	Saturation (A3)			Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)			Drainage Patterns (B10)
X	Sediment Deposits (B2) (Nonriverine)			Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)			Crayfish Burrows (C8)
	Surface Soil Cracks (B6)		X	Saturation Visible on Aerial Imagery (C9)
X	Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
	Water Stained Leaves (B9)		X	FAC-Neutral Test (D5)
				Other (Explain in Remarks)

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0708ground02</u>
Investigator(s):	<u>E.Casper, L.Wilder</u>		Section, Township, Range:	<u>0</u>	
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>10-25%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.355143</u>	Long.	<u>-111.898518</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Water</u>		NWI Classification:	<u>PSSC</u>	
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 5'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: Multiply by: OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>45</u> x <u>2</u> = <u>90</u> FAC species <u>45</u> x <u>3</u> = <u>135</u> FACU species <u>15</u> x <u>4</u> = <u>60</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>105</u> (A) <u>285</u> (B) Prevalence Index: <u>2.7</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. <u>Dipsacus fullonum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>			
2. <u>Phragmites australis</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>			
3. <u>Nepeta cataria</u>	<u>5</u>	<u>N</u>	<u>FACU</u>			
4. <u>Lepidium latifolium</u>	<u>5</u>	<u>N</u>	<u>FAC</u>			
5. <u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>			
6. <u>Sisyrinchium bellum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>			
7. <u>Lactuca serriola</u>	<u>5</u>	<u>N</u>	<u>FACU</u>			
8. _____						
		<u>105</u>	= Total Cover			
Woody Vine Stratum	Plot size: <u>r= 5'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				
Remarks: (if observed, list morphological adaptations below).						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0708ground02

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-16	10YR 4/2	95	7.5YR 5/6	5	RM	Both	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
Thick Dark Surface (A12)		Redox Depressions (F8)	
Sandy Mucky Mineral (S1)		Vernal Pools (F9)	
Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0708ground03</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u> Slope (%): <u>2-10%</u>		
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.198083</u>	Long.	<u>-111.887297</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Mellor silt loam</u>		NWI Classification: <u>L2ABF</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes <u>X</u> No _____ (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					Prevalence Index Worksheet	
1. <u>Tamarix chinensis</u>		<u>10</u>	<u>Y</u>	<u>FAC</u>	Total % cover of: _____ Multiply by: _____ OBL species <u>5</u> x <u>1</u> = <u>5</u> FACW species <u>90</u> x <u>2</u> = <u>180</u> FAC species <u>15</u> x <u>3</u> = <u>45</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>110</u> (A) <u>230</u> (B) Prevalence Index: <u>2.1</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>10</u>	= Total Cover			
Herb Stratum Plot size: <u>r= 5'</u>					Hydrophytic Vegetation Indicators:	
1. <u>Phragmites australis</u>		<u>90</u>	<u>Y</u>	<u>FACW</u>	<u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain)	
2. <u>Chenopodium glaucum</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
3. <u>Eleocharis palustris</u>		<u>5</u>	<u>N</u>	<u>OBL</u>		
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
		<u>100</u>	= Total Cover		Hydrophytic Vegetation Present?	
Woody Vine Stratum Plot size: <u>r= 30'</u>					Yes <u>X</u> No _____	
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____						
Remarks: (if observed, list morphological adaptations below).						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0708ground03

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-4	5Y 4/2	98	7.5YR 5/6	2	RM	M	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
Thick Dark Surface (A12)		Redox Depressions (F8)	
Sandy Mucky Mineral (S1)		Vernal Pools (F9)	
Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____ yes

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is require; check all that apply)			Secondary Indicators (2 or more required)	
	Surface Water (A1)			Water Marks (B1) (Riverine)
	High Water Table (A2)			Sediment Deposits (B2) (Riverine)
X	Saturation (A3)			Drift Deposits (B3) (Riverine)
X	Water Marks (B1) (Nonriverine)			Drainage Patterns (B10)
X	Sediment Deposits (B2) (Nonriverine)			Dry-Season Water Table (C2)
X	Drift Deposits (B3) (Nonriverine)			Crayfish Burrows (C8)
	Surface Soil Cracks (B6)			Saturation Visible on Aerial Imagery (C9)
X	Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
	Water Stained Leaves (B9)			FAC-Neutral Test (D5)
				Other (Explain in Remarks)

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0708ground05</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u> Slope (%): <u>2-10%</u>		
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.134442</u>	Long.	<u>-111.938552</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification: <u>PSSC</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____ Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
0 = Total Cover					Prevalence Index Worksheet Total % cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>115</u> x 3 = <u>345</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total <u>120</u> (A) <u>355</u> (B) Prevalence Index: <u>3.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. <u>Tamarix chinensis</u>		<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. _____					
3. _____					
4. _____					
5. _____					
40 = Total Cover					
Herb Stratum Plot size: <u>r= 5'</u>					Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Distichlis spicata</u>		<u>70</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Juncus balticus</u>		<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>Lepidium latifolium</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
80 = Total Cover					
Woody Vine Stratum Plot size: <u>r= 30'</u>					
1. _____					
2. _____					
0 = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks: (if observed, list morphological adaptations below).					

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0708ground05

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-4	10YR 3/3	100					Loam / Clay	
4-16	5Y 5/2	95	5YR 5/6	5	RM	Both	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matirx (F2)		Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)		
Thick Dark Surface (A12)		Redox Depressions (F8)		
Sandy Mucky Mineral (S1)		Vernal Pools (F9)		*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Salt intrusions in soil profile

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal val

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/8/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0708ground06</u>
Investigator(s):	<u>E.Casper, L.Wilder</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.137609</u>	Long.	<u>-111.936653</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Beaches</u>	NWI Classification:	<u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation <u>X</u> , Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes <u>X</u> No _____					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks:					
Drought conditions Some management of invasives has occurred.					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</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) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____ OBL species <u>5</u> x <u>1</u> = <u>5</u> FACW species <u>90</u> x <u>2</u> = <u>180</u> FAC species <u>5</u> x <u>3</u> = <u>15</u> FACU species <u>5</u> x <u>4</u> = <u>20</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>105</u> (A) <u>220</u> (B) Prevalence Index: <u>2.1</u> (B/A)	
2. _____						
3. _____						
4. _____						
5. _____						
		<u>0</u>	= Total Cover			
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators:	
1. <u>Phragmites australis</u>		<u>90</u>	<u>Y</u>	<u>FACW</u>	X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
2. <u>Schoenoplectus acutus</u>		<u>5</u>	<u>N</u>	<u>OBL</u>		
3. <u>Chenopodium glaucum</u>		<u>5</u>	<u>N</u>	<u>FAC</u>		
4. <u>Chenopodium album</u>		<u>5</u>	<u>N</u>	<u>FACU</u>		
5. _____						
6. _____						
7. _____						
8. _____						
		<u>105</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				

Remarks: (if observed, list morphological adaptations below).

Within PHAU treatment. Bulrush and PHAU all dead

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0708ground06

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-9	5Y 6/2	95	7.5YY 7/6	5	RM	Both	Loam / Clay	
9-17	Gley1 6/5GY	85	7.5YR 7/6	15	RM	Both	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Hydrology Data Worksheet (Applicable to all sites)			Indicators of Hydrophytic Vegetation and Wetland Hydrology	
	Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)	
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
	Thick Dark Surface (A12)		Redox Depressions (F8)	
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
	Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Lots of organic matter and various concentrations of all black material

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

Saturation Present? Yes X No _____ Depth (inches): 10

(includes capillary fringe)

Wetland Hydrology Present?

Yes X No

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range. Ground water table not observed but likely deeper down

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0709ground03</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>floodplain</u>	Local relief (concave, convex, none):	<u>Concave</u>	Slope (%):	<u>0-2%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.166664</u>	Long.	<u>-111.745829</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Riverwash</u>		NWI Classification: <u>PSSA</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes _____ No <u>X</u> Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>					
Remarks: Cottonwood mature are dominate near the Spanish Fork river. Does not meet hydric soils or wetland hydrology but NWI mapped at PSS but Lewving mapped as wetland for desktop verification. Mapping as PFO due to mature cottonwoods. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>4</u> (A) Total number of dominant species across all strata: <u>5</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. <u>Populus angustifolia</u>		<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Acer negundo</u>		<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Populus deltoides</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____					
		<u>65</u>	<u>= Total Cover</u>		Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>60</u> x <u>2</u> = <u>120</u> FAC species <u>15</u> x <u>3</u> = <u>45</u> FACU species <u>65</u> x <u>4</u> = <u>260</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>140</u> (A) <u>425</u> (B) Prevalence Index: <u>3.0</u> (B/A)
Sapling/Shrub Stratum Plot size: <u>r= 30'</u>					
1. <u>Tamarix chinensis</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____					
3. _____					
4. _____					
5. _____					
		<u>5</u>	<u>= Total Cover</u>		
Herb Stratum Plot size: <u>r= 5'</u>					Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0* _____ Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Chenopodium album</u>		<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Cirsium arvense</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
		<u>65</u>	<u>= Total Cover</u>		
Woody Vine Stratum Plot size: <u>r= 5'</u>					
1. <u>Vitis girdiana</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____					
		<u>5</u>	<u>= Total Cover</u>		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0709ground03

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-7	10YR 3/2	100					Loam / Clay	
7-15	10YR 4/3	99	7.5 YR 5/6	1				

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____ X _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes _____ No _____ X _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0709ground06</u>
Investigator(s):	<u>E.Casper, L.Wilder</u> Section, Township, Range: <u>0</u>				
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u> Slope (%): <u>2-10%</u>		
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.173862</u>	Long.	<u>-111.721884</u> Datum: <u>WGS84</u>
Soil Map Unit Name:	<u>Beaches</u>		NWI Classification: <u>PEM1F</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____ Is the Sampled Area within a Wetland? Hydric Soil Present? Yes <u>X</u> No _____ Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>					
Remarks: Mapped as PEM changed to PFO. Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>3</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Populus angustifolia</u>		<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
<u>40</u> = Total Cover					
Sapling/Shrub Stratum	Plot size: <u>r= 5'</u>				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>85</u> x <u>2</u> = <u>170</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>0</u> x <u>4</u> = <u>0</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Total <u>85</u> (A) <u>170</u> (B) Prevalence Index: <u>2.0</u> (B/A)
1. <u>Populus angustifolia</u>		<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
<u>5</u> = Total Cover					
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators: X <u>1</u> - Rapid Test for Hydrophytic Vegetation X <u>2</u> - Dominance Test is >50% X <u>3</u> - Prevalence Index is ≤3.0* Problematic Hydrophytic Vegetation* (Explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Phragmites australis</u>		<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
6. _____		_____	_____	_____	
7. _____		_____	_____	_____	
<u>40</u> = Total Cover					
Woody Vine Stratum	Plot size: <u>r= 30'</u>				
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks: (if observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0709ground06

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-10	10YR2/2	95	7x.5YR 4/6	5	RM	Both	Loam / Clay	
10-17	2.5Y 5/2	90	7.5YR 5/8	10	RM	Both	Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	X	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)	
Thick Dark Surface (A12)		Redox Depressions (F8)	
Sandy Mucky Mineral (S1)		Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)			

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes No X

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	<u>Utah Lake</u>	City/County:	<u>Utah Co.</u>	Sampling Date:	<u>7/9/2021</u>
Applicant/Owner:	<u>LRS</u>	State:	<u>Utah</u>	Sampling Point:	<u>0709ground07</u>
Investigator(s):	<u>E.Casper, L.Wilder</u>	Section, Township, Range:	<u>0</u>		
Landform: (hillslope, terrace, etc.):	<u>fringe</u>	Local relief (concave, convex, none):	<u>None</u>	Slope (%):	<u>10-25%</u>
Subregion (LRR):	<u>MLRA 28A; LRR D</u>	Lat.	<u>40.275094</u>	Long.	<u>-111.742365</u>
		Datum:	<u>WGS84</u>		
Soil Map Unit Name:	<u>Peteetneet peat</u>	NWI Classification:	<u>PEM1C</u>		
Are climatic/hydrologic conditions on the site typical for time of year? Yes _____ No <u>X</u> (If no, explain in the Remarks)					
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed?					
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?					
Are Normal Circumstances Present? Yes _____ No <u>X</u> (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 <u>X</u> No _____					
Is the Sampled Area within a Wetland?					
Hydric Soil Present? Yes _____ No <u>X</u> Yes _____ No <u>X</u>					
Wetland Hydrology Present? Yes <u>X</u> No _____					
Remarks: Drought conditions					

VEGETATION - Use scientific names of plants

Tree Stratum	Plot size: <u>r= 30'</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1. _____					Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____						
3. _____						
4. _____						
		<u>0</u>	= Total Cover			
Sapling/Shrub Stratum	Plot size: <u>r= 30'</u>				Prevalence Index Worksheet	
1. _____					Total % cover of: _____ Multiply by: _____	
2. _____					OBL species <u>60</u> x <u>1</u> = <u>60</u>	
3. _____					FACW species <u>25</u> x <u>2</u> = <u>50</u>	
4. _____					FAC species <u>15</u> x <u>3</u> = <u>45</u>	
5. _____					FACU species <u>5</u> x <u>4</u> = <u>20</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x <u>5</u> = <u>0</u>	
					Column Total <u>105</u> (A) <u>175</u> (B)	
					Prevalence Index: <u>1.7</u> (B/A)	
Herb Stratum	Plot size: <u>r= 5'</u>				Hydrophytic Vegetation Indicators:	
1. <u>Typha angustifolia</u>		<u>40</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Schoenoplectus acutus</u>		<u>20</u>	<u>Y</u>	<u>OBL</u>	<u>X</u> 2 - Dominance Test is >50%	
3. <u>Polypogon monspeliensis</u>		<u>15</u>	<u>N</u>	<u>FACW</u>	<u>X</u> 3 - Prevalence Index is ≤3.0*	
4. <u>Urtica dioica</u>		<u>10</u>	<u>N</u>	<u>FAC</u>	Problematic Hydrophytic Vegetation* (Explain)	
5. <u>Mentha arvensis</u>		<u>10</u>	<u>N</u>	<u>FACW</u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
6. <u>Chenopodium album</u>		<u>5</u>	<u>N</u>	<u>FACU</u>		
7. <u>Lepidium latifolium</u>		<u>5</u>	<u>N</u>	<u>FAC</u>		
8. _____						
		<u>105</u>	= Total Cover		Hydrophytic Vegetation Present?	
					Yes <u>X</u> No _____	
Woody Vine Stratum	Plot size: <u>r= 30'</u>					
1. _____						
2. _____						
		<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____				
Remarks: (if observed, list morphological adaptations below). Large stands of PHAU present in wetland						

WETLAND DETERMINATION DATA FORM – Arid West Region

SOIL

Sampling Point: 0709ground07

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color	%	Color	%	Type*	Loc**		
0-20	2.5Y 3/2	100					Loam / Clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils ***

Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matirx (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	*** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4)		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____ X _____

Remarks:

Technically soils not present but wetland dominated by wetland plants

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

(includes capillary fringe)

Wetland Hydrology Present?

Yes X

No _____

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

--See Climatic Summary Below--

The field surveys were conducted during July 6-11, 2021 during a period in which the region had received significantly less than normal rainfall amounts with a June month-to-date (a 0.00" deficit from a 0.08" normal value). In fact, only a single 0.07" rainfall event (on 06/24/21) was recorded between 05/25 through the end of the survey date. The observed Year-to-Date amount was 6.64" which is a -3.36" deficient according to the National Weather Service PROVO BYU, UT climate station. Based on the Central Utah Water Conservancy District the lake elevation was 4,485.346 which is -3.6995' below the Compromise Line elevation. A review of regional drought conditions from the website droughtmonitor.gov indicated drought conditions existed for the survey area and the county was classified as D4 - Exceptional Drought. Furthermore, based on the results of the climate analysis using the Antecedent Precipitation Tool (Deter, USACE v.1.0.13) the calculated output for the project area was experiencing "Drier than Normal - 6" value with the graphic indicating the 30-day Rolling Total was located at the below the 30-Year Normal Range.

APPENDIX C

Photographic Log

GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 1

Date: 7/9/2021

Direction: Southeast

Comments:

Photo of the southern portion of Provo Bay within Utah Lake. Native cattails (*Typha latifolia*) dominate the wetland shoreline.



Photograph 2

Date: 7/9/2021

Direction: Northwest

Comments:

Photo of the northern shoreline of Utah Lake at the mouth of the Jordan River as it discharges from Utah Lake near the dam.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 3

Date: 7/9/2021

Direction: West

Comments:

Photo of the heavily developed north-western portion of Utah Lake near Saratoga Springs.



Photograph 4

Date: 7/8/2021

Direction: Southeast

Comments:

Photo of mouth of Spanish Fork as it discharges into Utah Lake.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 5

Date: 7/10/2021

Direction: Southeast

Comments:

Photo of upper Goshen Bay within Utah Lake that is little developed with the exception of agricultural orchard growers. Note, the highly invasive weed Phragmites (*Phragmites australis*) along the shoreline has been recently treated. The West Mountains can be seen in the background.



Photograph 6

Date: 7/11/2021

Direction: N/A

Comments:

Photo of treated Phragmites along the upper shoreline of the western portion of Goshen Bay.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 7

Date: 7/8/2021

Direction: West

Comments:

Photo of large areas of treated Phragmites within the shallows of Provo Bay.



Photograph 8

Date: 7/10/2021

Direction: N/A

Comments:

Photo of the rocky shoreline and narrow forested wetland habitat along the western shoreline of Utah Lake. Dominate trees include cottonwood (*Populus angustifolia*), saltcedar (*Tamarix* sp.), and Russian olive (*Elaeagnus angustifolia*).



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 9

Date: 7/8/2021

Direction: West

Comments:

Photo of the western shoreline of Utah Lake with narrow forested wetland habitat along the shoreline. Phragmites has been treated in this area and the native hard-stem club rush (*Schoenoplectus actus*) is becoming the dominant herbaceous species.



Photograph 10

Date: 7/8/2021

Direction: Northeast

Comments:

Photo of a shoreline that has been recently treated for Phragmites and the standing stems have been removed by chopping.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 11

Date: 7/8/2021

Direction: North

Comments:

Photo of fully re-established native stands of hard-stem club rush following past treatment of Phragmites.



Photograph 12

Date: 7/8/2021

Direction: South

Comments:

Photo of fully re-established native stands of cattail within Provo Bay following Phragmites treatment.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 13

Date: 7/7/2021

Direction: Northeast

Comments:

Photo of forested wetland habitat along a small unnamed tributary into Utah Lake with mature arroyo willow (*Salix lasiolepis*) as the dominant tree species.



Photograph 14

Date: 7/8/2021

Direction: East

Comments:

Photo of the mouth of Spring Creek as it discharges into Provo Bay with re-established cattail stands.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 15

Date: 7/7/2021

Direction: West

Comments:

Photo of an unnamed tributary into Utah Lake that discharges from a heavily urbanized area of Lindon.



Photograph 16

Date: 7/9/2021

Direction: Northwest

Comments:

Photo of the Jordan River as it flows into the dam for Utah Lake.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 17

Date: 7/7/2021

Direction: North

Comments:

Photo of the edge of an untreated forested wetland habitat that is adjacent to an herbaceous wetland that has been recently treated is absent of Phragmites.



Photograph 18

Date: 7/7/2021

Direction: Southeast

Comments:

Photo of mature cottonwood-dominated forested wetland along the north shore of Utah Lake.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 19

Date: 7/7/2021

Direction: Northeast

Comments:

Photo of small unnamed tributary and adjacent forested wetland habitat along the north shore of Utah Lake.



Photograph 20

Date: 7/8/2021

Direction: West

Comments:

Photo of shallow pond that is invaded by stands of Phragmites.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Lake Restoration Solutions, LLC

Project Number: DE0475

Site: Utah Lake Restoration Project – Wetland Delineation

Location: Utah County, UT

Photograph 21

Date: 7/9/2021

Direction: East

Comments:

Photo from the western shoreline of Utah Lake showing the saltcedar- and Russian olive-dominated forested wetland habitat along the shoreline.



Photograph 22

Date: 7/9/2021

Direction: Northeast

Comments:

Photo of a dry saltflat in the Goshen Valley that is typically of shallow habitats affected by the drought climatic conditions.

