AQUATIC RESOURCES ASSESSMENT REPORT
LYNC CONSTRUCTION STAGECOACH SITE
SEPTEMBER 3, 2021

Prepared for:

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TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

Corps:	United States Army Corps of Engineers
KE:	Kagel Environmental, LLC
Manual:	1987 Corps of Engineers Wetlands Delineation Manual
MU:	Soil Map Unit
NWI:	National Wetlands Inventory
P.W.S.:	Professional Wetland Scientist
SS:	Stagecoach Site
Supplement:	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0, September 2008.
USGS:	United States Geological Survey

EXECUTIVE SUMMARY

This report describes vegetative, edaphic, and hydrologic parameters pursuant to current federal wetlands regulations associated with an approximately 40-acre study area, referred to as the Stagecoach Site (SS). The focus of this report is the identification and delineation of waters of the U.S., including wetlands that are *potentially* located within the site as indicated by National Wetland Inventory (NWI) mapping.

The purpose of this aquatic resources study is to provide the owner with enough information to determine if a full wetland delineation is economically warranted and there is potential land usability for development.

The following wetland assessment report, including figures, photos and suggestions, have been submitted to the client for review. The following paragraphs describe KE's methods, findings, and conclusions.

KE performed the wetland [Aquatic Resources] assessment in accordance with the 1987 "Corps of Engineers Wetland Delineation Manual" and in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). KE's field visit, field data collection and assessment were conducted during seasonally hot, sunny weather conditions on August 3 and 4, 2021. Based upon all data available to KE, there are wetlands that are potentially jurisdictional in the very northwestern corner of the site. Those wetlands are associated with the Walker Slough. The attached Wetland Assessment Map shows what is KE's best professional judgement where most of the jurisdictional wetlands are located.

KE recommends that a detailed wetland delineation be performed, the wetland/upland boundaries flagged, and those boundaries surveyed by a licensed surveyor. KE will then compile all the collected data into the appropriate figures, data forms, and narrative for submission of a completed wetland delineation report to the Corps of Engineers for official/federal approval. Upon approval, the client will be able to know with certainty where work may and may not be conducted without risk of violating the Clean Water Act. Additionally, if it is necessary to disturb (fill) an area of wetland, a delineation will be required to submit a PCN (pre-construction notification for a nationwide permit) or apply for an individual permit.

INTRODUCTION AND PURPOSE

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The wetland investigative field survey for this report was requested by Mr. Joshua Wiscombe on behalf of Lync Construction. Mr. Wiscombe was KE's main point-of-contact during the study. The purpose of the wetland assessment study was to provide the landowner with reliable information regarding the approximate location(s) and size(s) of any areas that might contain regulated waters of the U.S., including wetlands, so that such areas would be avoided where practicable, and for determining whether a full wetland delineation was warranted for determining land usability. KE was asked to identify potential federally regulated waters and wetlands throughout the formerly irrigated livestock pasture/grazing land that has been historically in agricultural use. Since the site includes a few areas previously mapped as *potential* wetlands, i.e., the National Wetland Inventory (NWI), KE made specific effort to focus our wetland assessment on those areas (Figure 1).

This brief report contains KE's methods, findings, and conclusions pertaining to the limits of regulated waters and wetlands within the subject Stagecoach Site (SS).

LOCATION

The SS is located near the town of West Haven, Weber County, Utah at approximately 4,200 feet above sea level, and it lies within Section 21, Township 6 North, Range 2 West, Salt Lake Meridian. More precisely, the approximate center of the project is located at 41.23644310°, -112.07109757° in decimal degrees. (Figure 2).

METHODS

The methodology used for identifying and delineating wetlands on the subject site was the three parameter [factor] approach promulgated and approved by the U.S. Army Corps of Engineers and described in the official *1987 Corps of Engineers Wetlands Delineation Manual* (*Manual*), including the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* – September 2008 (*Supplement*). To meet the Corps' definition of a wetland, under normal circumstances all three of the following factors: wetland vegetation, hydric [wetland] soils, and wetland hydrology must be satisfied (re: *Manual* & *Supplement*).

Field work was conducted in the mid-summer growing season on August 3 and 4, 2021, and KE collected field data from a total of thirteen (13) soil sampling sites. All soil sampling points involved excavating soil pits utilizing a small backhoe mounted on a 4-wheel drive tractor. The backhoe bucket was 20-inches wide, and this mechanical excavation of sampling pits enables KE to describe soils more accurately due to the benefit of being able to physically stand within a soil pit with access to clearly view and describe soil horizons from three [clean] vertical walls. Soil sampling test pits were an average depth of 36-inches.

Sampling locations were specifically selected to include the lowest elevation sites occurring within the NWI mapped areas of *potential* wetlands. Additionally, KE conducted sampling within any area of the site that might have had the "appearance" as *potential* wetland.

STUDY CONDITIONS

The SS site is a 40-acre parcel of historically flood irrigated livestock pastureland that is crossed by Walker Slough in the northwest corner. There was no evidence of irrigation water flowing to the site during KE's site visit, and it is KE's belief that artificial irrigation water was likely not applied to the site during either the previous [2020] or current growing season. KE would expect that the absence of artificial irrigation for two consecutive growing seasons should help to allow soil hydrology to be returning to *natural* conditions.

Topographically, the site presents as basically flat, e.g., 0-1% slope (Figure 3). It is covered by herbaceous vegetation, and a few scattered trees were found mostly along the Slough. KE describes the study site and overall adjacent landscape as exhibiting an extremely gentle, almost imperceptible downward slope of less than 1% towards the southeast.

The National Wetland Inventory (NWI) mapped about 1.5 acre of the site as being *potential* Palustrine Emergent Persistent Unconsolidated Shore Temporary Flooded (PEM1C, Figure 1). Another approximate 0.28 acre (Walker Slough) and 0.39 acre of irrigation ditch is mapped as riverine wetlands.

Conditions on the day of KE's field study were dry, sunny, and hot, ideal for accurately matching and identifying moist soil colors with the appropriate color chip in the Munsell Color Book. However, as stated on the attached Wetland Determination Data Forms – Arid West Region (Summary of Findings), the antecedent precipitation was less, i.e., *drier*, than normal (Figure 4).

VEGETATION

Scattered Russian Olive (*Elaeagnus angustifolia*-FAC) trees and shrubs were present near the Walker Slough. Although this species is technically considered a wetland plant, it is not strongly so and is found almost equally in wetlands and uplands. The most common herbaceous wetland vegetative species included Saltgrass (*Distichlis spicata*-FAC), and Tall Wheatgrass (*Elymus lanceolatus*-UPL), and Bulbous Bluegrass (*Poa bulbosa*-FACU). Saltgrass is also found frequently in both uplands and wetlands, while Tall Wheatgrass and Bulbous Bluegrass are predominantly upland plants.

SOILS

According to the Web Soil Survey, there are five mapped soil series underlying the site: Kidman fine sandy loam, (KaA), Warm Springs fine sandy loam (WaA and WgA), Leland silt loam, (Le), and Airport silt loam (Ac). These soils range from pH 7.3 (neutral) to nearly pH 10 (extremely alkaline). Alkaline soils are sometimes considered "problem" soils by the Corps of Engineers. Overly alkaline soils (≥ pH 8.3-8.4) can have the formation of hydric features suppressed by high pH, thus making the identification of a soils hydric properties much more difficult. The Corps will sometimes argue that these high-pH soils can be considered hydric even in the absence of any evidence that they are consistent with being in a wetland. Thus, although KE only found a hydric soil at a single sample point (#02), the Corps could disagree and claim much more widespread presence of soils with characteristics consistent with wetlands.

HYDROLOGY/WATER RESOURCES

The hydrology of the site, like all other properties throughout the Greater Salt Lake area, has been affected to an unknown degree by the severe drought of the last two years. Thus, any hydrological data must be evaluated considering the unusual circumstances. There are numerous wetlands in the area that will not exhibit their normal hydrological regime at this time, and the lack of hydrological indicators this year cannot be considered proof that an area is not a wetland. Vegetative and edaphic (soil) characteristics will generally carry more weight in a wetland determination in a drought. However, KE believes that none of the sample points had wetland hydrology, despite some points (#06, #08, #09, and #13) having technically wetland vegetation and another sample point (#02) having hydric soils. It is possible that the Corps will not agree with KE's assessment without hydrological analysis during a normal precipitation period.

The study site's most obvious hydrological features are Walker Slough which crosses the northwest corner of the site and an active irrigation ditch along the southern property border. There is a leak in the southern irrigation ditch that appears to increase seasonal hydrology to the area around sample point #08, although KE did not find actual wetland hydrology. The property is otherwise absent of any other surface hydrologic features such as rivers, streams, creeks, springs, intermittent or ephemeral tributaries, or any open water areas such as lakes or ponds. Therefore,

the only other definitive source(s) of wetland hydrology would be seasonal precipitation, occasional slough flooding and/or artificial irrigation, i.e., an endosauration regime.

The source of hydrology that is suggested by historic Google Earth images has obviously been former artificial flood irrigation and lateral sub-surface water movement from the Walker Slough. It appears that artificial flood irrigation has been withdrawn [turned off] from this site, as well as from surrounding/adjacent areas that have been subdivided for single family home construction and commercial development.

All of KE's upland soil sampling pits were at least 30-inches below the ground surface to ensure that our excavated pits reached deeper than a "dry-season" water table (24-inches depth). Although some soil pits were intentionally excavated within identified NWI *potential* wetland areas, KE did not encounter any wetland hydrology, free water, nor any saturated soils, within the dry season water table at any of our sampling sites.

WETLANDS ON THE SS

The Wetland Assessment Map is attached as Figure 5. Although some sample points (#06, #08, #09, and #13) have technically hydrophytic vegetation and sample point #02 clearly has hydric soils, no sample points met more than a single wetland parameter. KE does not believe that any of the sample points have wetland hydrology even considering the ongoing drought. It should be noted that there are wetlands associated with the Walker Slough, although KE did not actually place any sample points in the slough itself. The ***estimated*** area of the aquatic resources (wetlands) on the approximately 40-acre site is likely between 0.25 and 0.40 acre, and are appear to be significantly associated with the Walker Slough.

CONCLUSION

Mr. Joshua Wiscombe, has requested this assessment on behalf of Lync Construction. Their goal is to understand where potential wetlands may be located as well as determine if a full comprehensive type wetland delineation is warranted.

KE collected field data at thirteen (13) separate sampling sites on August 3, 2021. The ***estimated*** area of the aquatic resources (wetlands) on the approximately 40-acre site as being between 0.25 and 0.40 acre. The exact amount and location of jurisdictional wetlands on the site will require a more intensive study as well as the determination and establishment of the precise wetland/ upland boundaries.

This study was conducted in accordance with the guidance provided in the 1987 Corps Wetland Delineation Manual and Arid West Supplement (Version 2.0). However, KE emphasizes that **this is not a wetland delineation that is approved by the Corps of Engineers**. It is *possible* that the Corps could determine considerably more of the site is wetland, particularly if they do not have the opportunity to review a wetland study prior to any work commencing on the property. If the Corps determines fill is placed within an area that *could* have been wetland, it is likely that the property owner and any contractors would be charged with a violation of the Clean Water Act. Such violations are subject to fines up to $53,000 per each day the violation is in existence.

Respectfully submitted,

-Ray Kagel, Jr., M.S., P.W.S. #2234

-Susan Kagel, M.S., Ph.D.

-Todd Housley, M.S.

REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers wetlands delineation manual.* Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Official Soil Series Descriptions.*

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United States Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States, Version 8.2.* L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

FIGURES

FIGURE 1. POTENTIAL WETLANDS MAPPED BY THE NWI ON THE SS.

Potential wetlands on the SS as mapped by the National Wetland Inventory are shown above. The potential wetlands mapped in green are mapped as PEM1C, or Palustrine Emergent Persistent Seasonally Flooded. The Walker Slough (northwest corner) and irrigation ditches are mapped in blue.

Extent of Study
Freshwater Emergent Wetland
Riverine Waters/Wetlands

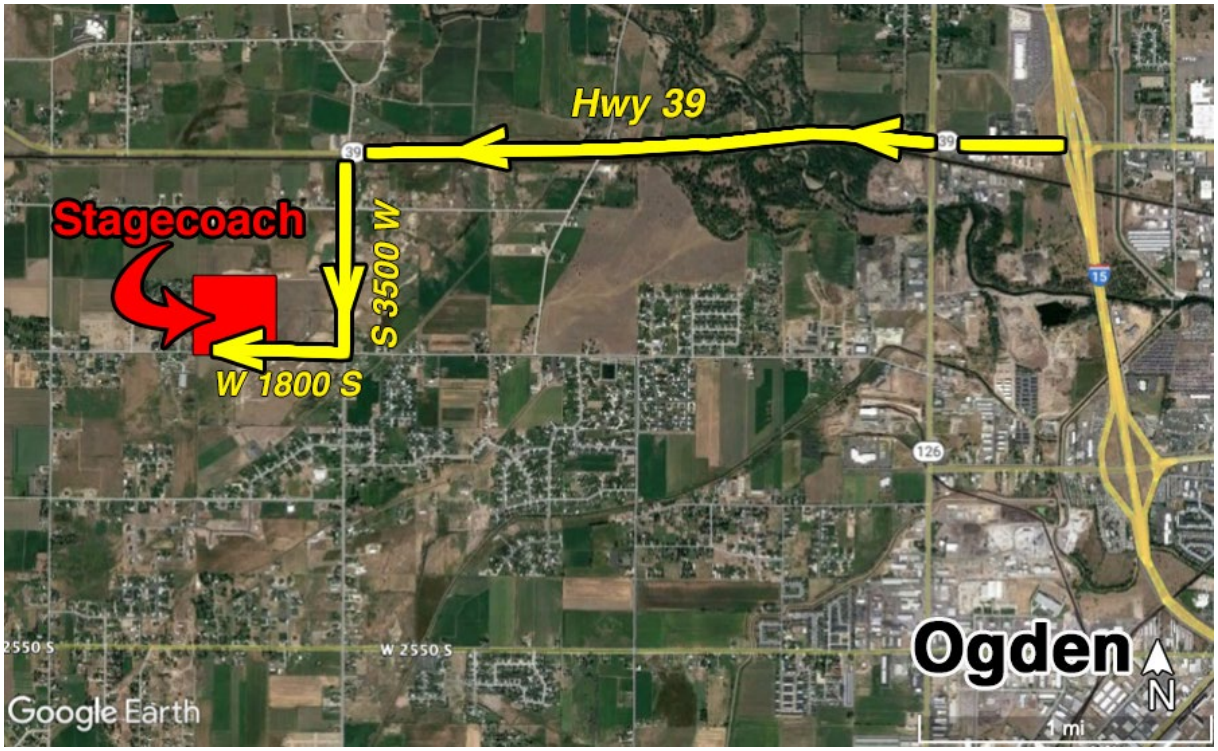


FIGURE 2. LOCATION OF THE STAGECOACH SITE (SS).

The SS is located northwest of Ogden, Weber County, Utah within Section 21, Township 6 North, Range 2 West, Salt Lake Meridian. More precisely, the approximate center of the project is located at 41.23644310°, -112.07109757° in decimal degrees. To reach the site, from I-15, take Exit 344 for Highway 145, State Highway 39. Turn west on Highway 39 and drive approximately 2.5 miles, and turn south (left) on S 3500 W. Go approximately 2/3 mile to W 1800 S and turn right on W 1800 S. The entrance will be 0.5 mile on the right (north). A photograph of the entrance is shown on the right.

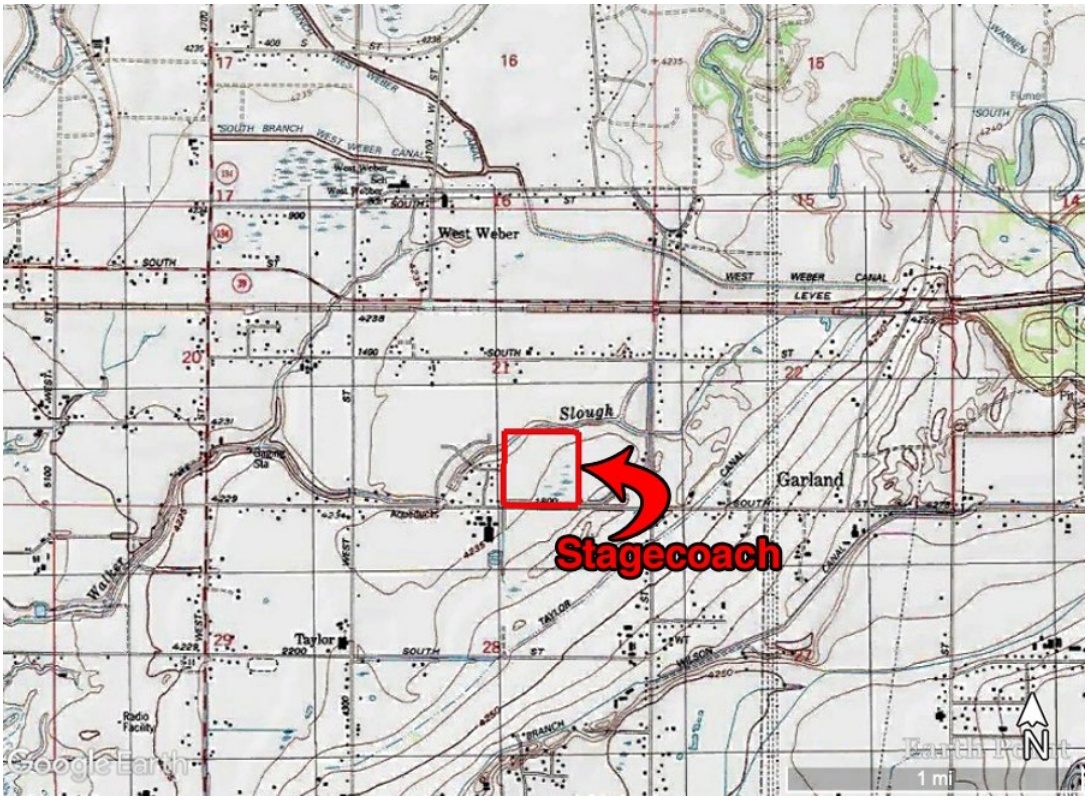
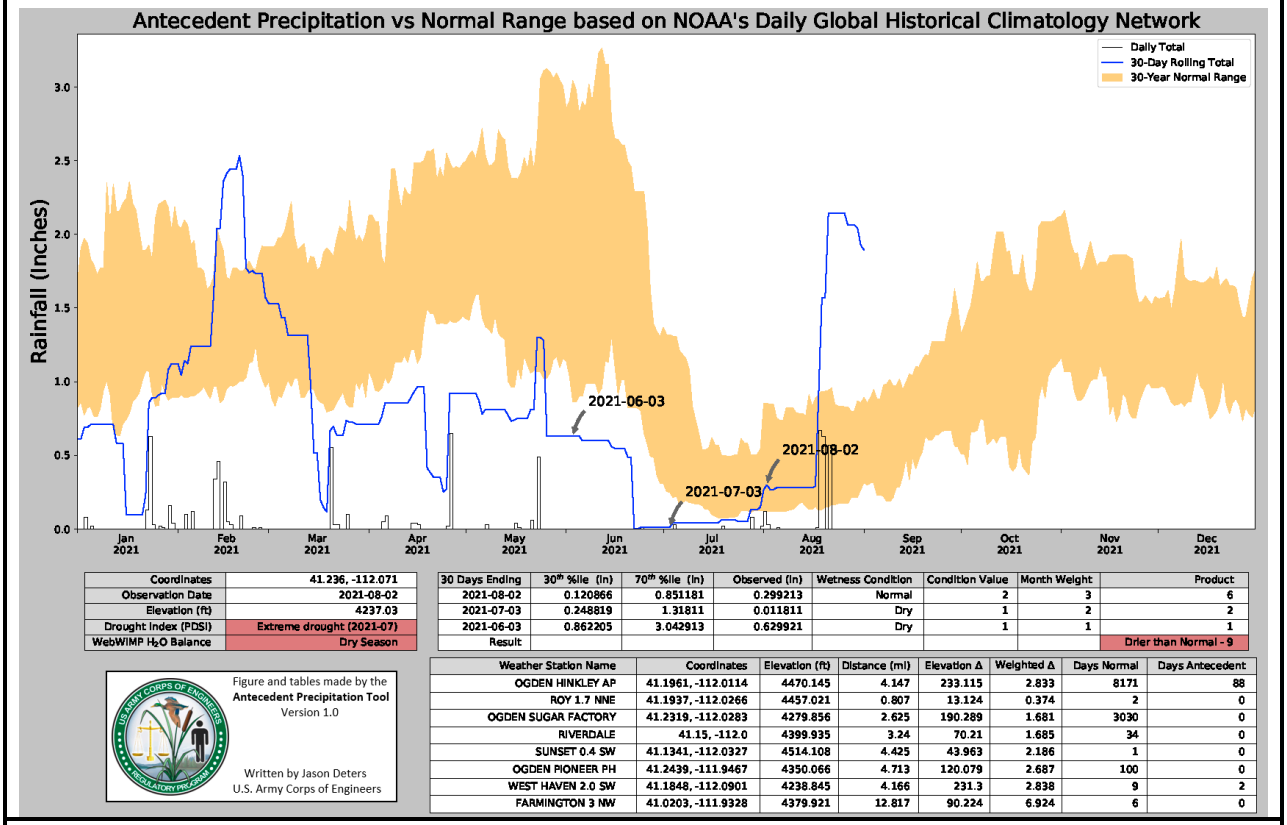


FIGURE 3. TOPOGRAPHY OF THE STAGECOACH SITE (SS).

The map is derived from the 7.5-minute 1999 Roy, UT USGS quadrangles. The property is outlined in red.



Coordinates	41.236, -112.071
Observation Date	2021-08-02
Elevation (ft)	4237.03
Drought Index (PDSI)	Extreme drought (2021-07)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-02	0.120866	0.851181	0.299213	Normal	2	3	6
2021-07-03	0.248819	1.31811	0.011811	Dry	1	2	2
2021-06-03	0.862205	3.042913	0.629921	Dry	1	1	1
Result							Drier than Normal - 9

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
OGDEN HINKLEY AP	41.1961, -112.0114	4470.145	4.147	233.115	2.833	8171	88
ROY 1.7 NNE	41.1937, -112.0266	4457.021	0.807	13.124	0.374	2	0
OGDEN SUGAR FACTORY	41.2319, -112.0283	4279.856	2.625	190.289	1.681	3030	0
RIVERDALE	41.15, -112.0	4399.935	3.24	70.21	1.685	34	0
SUNSET 0.4 SW	41.1341, -112.0327	4514.108	4.425	43.963	2.186	1	0
OGDEN PIONEER PH	41.2439, -111.9467	4350.066	4.713	120.079	2.687	100	0
WEST HAVEN 2.0 SW	41.1848, -112.0901	4238.845	4.166	231.3	2.838	9	2
FARMINGTON 3 NW	41.0203, -111.9328	4379.921	12.817	90.224	6.924	6	0

FIGURE 4. ANTECEDENT PRECIPITATION FOR THE SS AT THE TIME OF KE'S SITE VISIT.

The figure is derived using the Antecedent Precipitation Tool developed by Jason Deters of the Corps.

FIGURE 5. WETLAND ASSESSMENT MAP.

LYNC CONSTRUCTION
For Joshua Wiscombe
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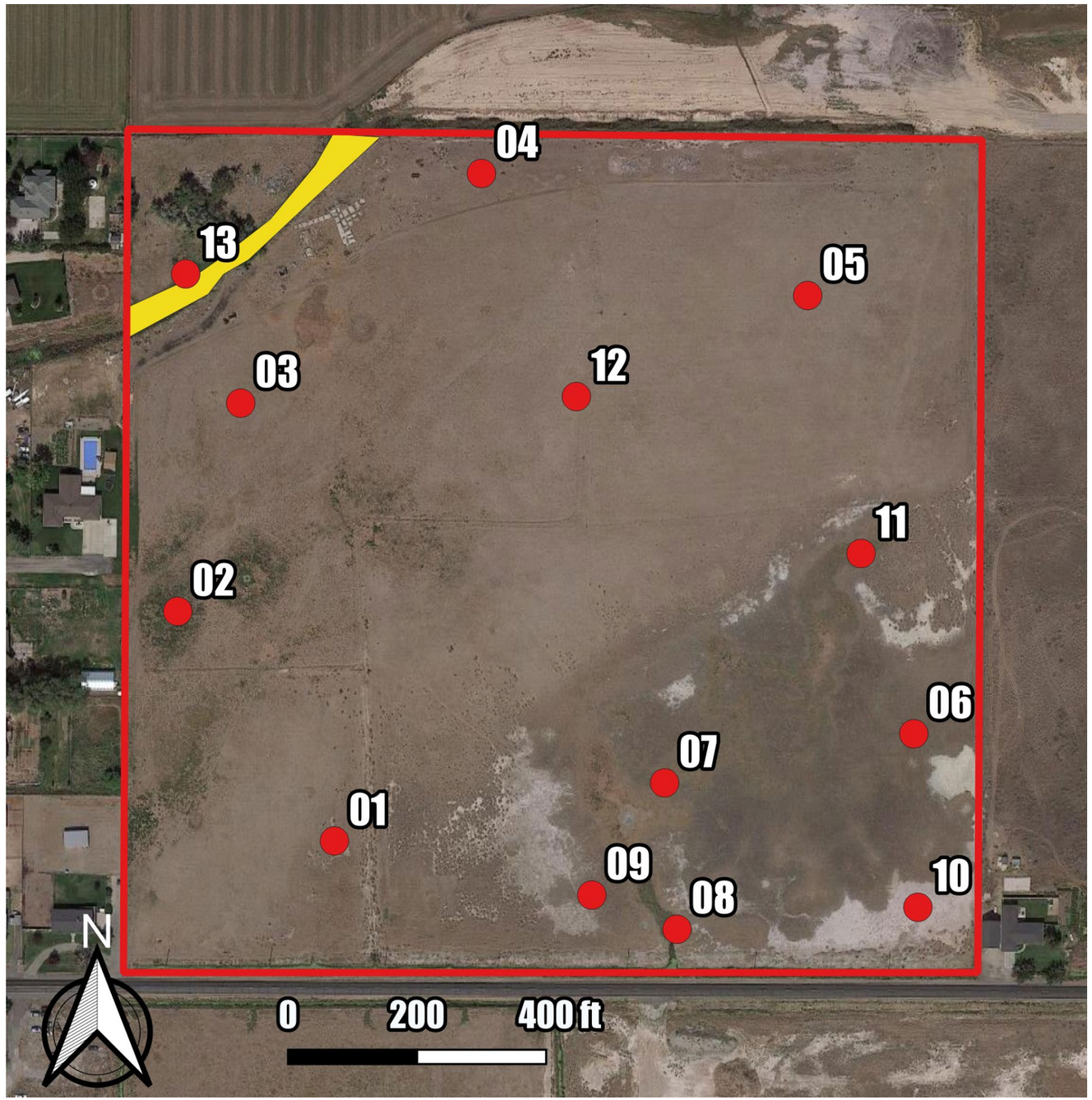
The approximate center of the project is located at 41.23644310°, -112.07109757° in decimal degrees. The project is in Weber County, Utah, S21, T6N, R2W, Salt Lake Meridian.

Extent of Study

Upland Sample Points

Estimated Potential Wetlands



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FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **01**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **none** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.235094** Long: **-112.072385** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. ***Sarcobatus vermiculatus***	10	X	FACU
2.			
3.			
4.			
5.			
50% = 5 20% = 2	10	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Distichlis spicata***	60	X	FAC
2. ***Elymus lanceolatus***	3		UPL
3. ***Bassia scoparia***	2		FAC
4. ***Poa bulbosa***	1		FACU
5. ***Symphyotrichum ascendens***	1		FAC
6.			
7.			
8.			
50% = 33.5 20% = 13.4	67	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species 63	x 3 = 189
FACU species 11	x 4 = 44
UPL species 3	x 5 = 15
Column Totals: 77 (A)	248 (B)

Prevalence Index = B/A = 3.22

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: **01**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR4/2	100	NA				Silt Loam	
9-17	10YR2/2	99	7.5YR4/3	1	C	M	Silt Loam	
17-27	7.5YR 4/3	99	10YR6/8	1	C	M	Silt Clay Loam	
27-39	7.5YR4/3	92	7.5YR6/1	8	D	M	Silt Clay Loam	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

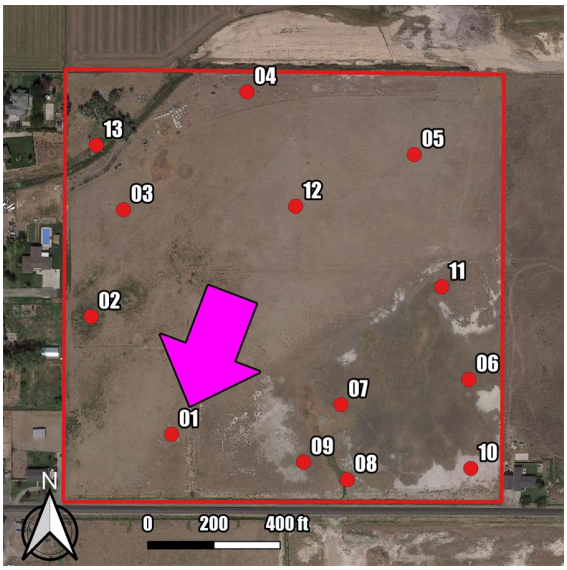
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

39" Excavated pit.

Remarks:



PHOTOGRAPHS OF SAMPLE SITE #01.
Upper left: Southern view of sample point #01, an upland. Upper right: Label flag for the pit. Lower left: Northern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **02**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **none** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.236067** Long: **-112.073268** Datum: **WGS84**

Soil Map Unit Name: **WaA: Warm Springs fine sandy loam, 0 to 1 percent slopes (481674)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	**0**	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	**0**	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Medicago sativa***	**30**	X	**UPL**
2. ***Cichorium intybus***	**20**	X	**FACU**
3. ***Trifolium fragiferum***	**20**	X	**FAC**
4. ***Daucus carota***	**10**		**UPL**
5. ***Elymus lanceolatus***	**10**		**UPL**
6.			
7.			
8.			
50% = 45 20% = 18	**90**	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	**0**	= Total Cover	

% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust ____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	**0**
FACW species ____	x 2 =	**0**
FAC species **20**	x 3 =	**60**
FACU species **20**	x 4 =	**80**
UPL species **50**	x 5 =	**250**
Column Totals: **90** (A)		**390** (B)

Prevalence Index = B/A = **4.33**

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: **02**

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR2/2**	**100**					**Sandy Loam**	
2-11	**10YR4/2**	**95**	**10YR6/8**	**5**	**C**	**M**	**Sandy Loam**	
11-19	**10YR5/3**	**60**	**10YR3/2**	**5**	**C**	**M**	**Silt Loam**	
	10YR 3/2	**35**						
19-28	**10YR 5/4**	**95**	**10YR 6/8**	**5**	**C**	**M**	**Silt Loam**	
28-35	**10YR6/3**	**50**	**10YR 5/4**	**10**	**C**	**M**	**Silg Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X **No** _____

Remarks:

Relict hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

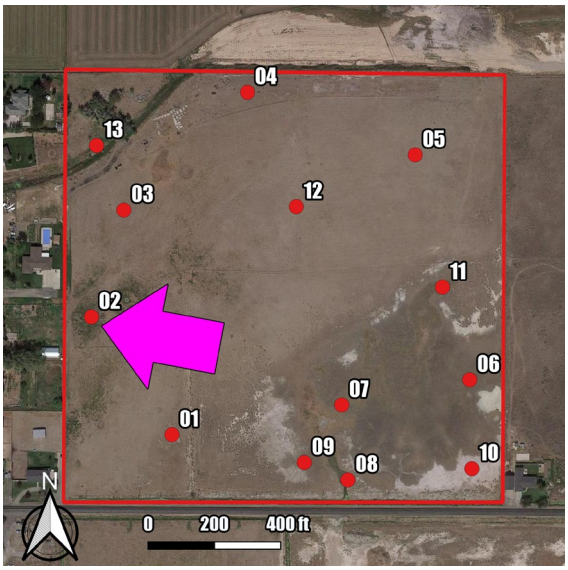
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

35" Excavated pit.

Remarks:



Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #02.
Upper left: Western view of sample point #02, an upland. Upper right: Label flag for the pit. Lower left: Eastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. A relict hydric soil was present, but no other wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **03**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.236949** Long: **-112.072913** Datum: **WGS84**

Soil Map Unit Name: **WaA: Warm Springs fine sandy loam, 0 to 1 percent slopes (481674)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Distichlis spicata***	25	X	FAC
2. ***Elymus lanceolatus***	10	X	UPL
3. ***Poa bulbosa***	10	X	FACU
4. ***Grindelia squarrosa***	6		FACU
5.			
6.			
7.			
8.			
50% = 25.5 20% = 10.2	51	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum 49 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species 25	x 3 =	75
FACU species 16	x 4 =	64
UPL species 10	x 5 =	50
Column Totals: 51 (A)		189 (B)

Prevalence Index = B/A = 3.71

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: **03**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR2/2**	**100**	**NA**				**Silt Loam**	
2-11	**7.5YR2.5/2**	**100**	**NA**				**Silt Loam**	
11-30	**7.5YR4/3**	**100**	**NA**				**Silt Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

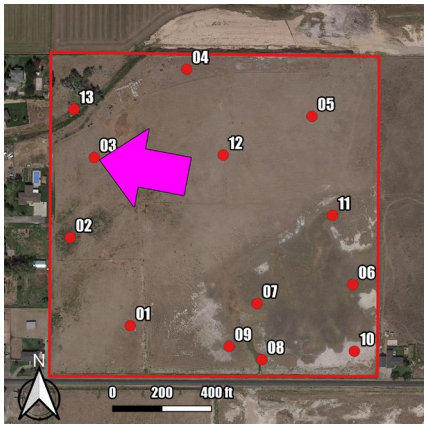
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

30" Excavated pit.

Remarks:



Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #03.

Upper left: Western view of sample point #03, an upland. Upper right: Label flag for the pit. Lower left: Eastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **04**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.237922** Long: **-112.071557** Datum: **WGS84**

Soil Map Unit Name: **Le: Leland silt loam, 0 to 1 percent slopes (481612)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	**0**	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	**0**	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Distichlis spicata***	**40**	X	**FAC**
2. ***Bassia hyssopifolia***	**30**	X	**FACU**
3. ***Hordeum murinum***	**10**		**FACU**
4. ***Poa bulbosa***	**8**		**FACU**
5. ***Lepidium perfoliatum***	**3**		**FACU**
6.			
7.			
8.			
50% = 45.5 20% = 18.2	**91**	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	**0**	= Total Cover	

% Bare Ground in Herb Stratum **9** % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = **0**
FACW species _____	x 2 = **0**
FAC species **40**	x 3 = **120**
FACU species **51**	x 4 = **204**
UPL species _____	x 5 = **0**
Column Totals: **91** (A)	**324** (B)

Prevalence Index = B/A = **3.56**

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: **04**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-32	**7.5YR4/3**	**100**	**NA**				**Silt Clay**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

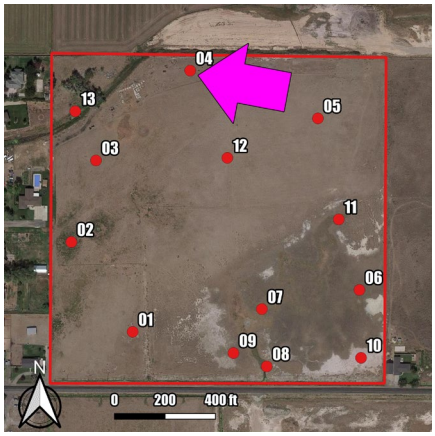
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

32" Excavated pit.

Remarks:



Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #04.

Upper left: Western view of sample point #04. Upper right: Label flag for the pit. Lower left: Eastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **05**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.237405** Long: **-112.069719** Datum: **WGS84**

Soil Map Unit Name: **Le: Leland silt loam, 0 to 1 percent slopes (481612)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. ***Sarcobatus vermiculatus***	5	X	FACU
2.			
3.			
4.			
5.			
50% = 2.5 20% = 1	5	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Poa bulbosa***	60	X	FACU
2. ***Distichlis spicata***	30	X	FAC
3.			
4.			
5.			
6.			
7.			
8.			
50% = 45 20% = 18	90	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species 30	x 3 =	90
FACU species 65	x 4 =	260
UPL species	x 5 =	0
Column Totals: 95 (A)		350 (B)

Prevalence Index = B/A = **3.68**

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: **05**

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	**7.5YR3/2**	**100**	**NA**				**Silt Loam**	
11-15	**10YR3/2**	**50**	**NA**				**Natrix, clay/silt loam**	
	10YR4/2	**50**						
15-36	**7.5YR4/3**	**100**	**NA**				**Silt Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

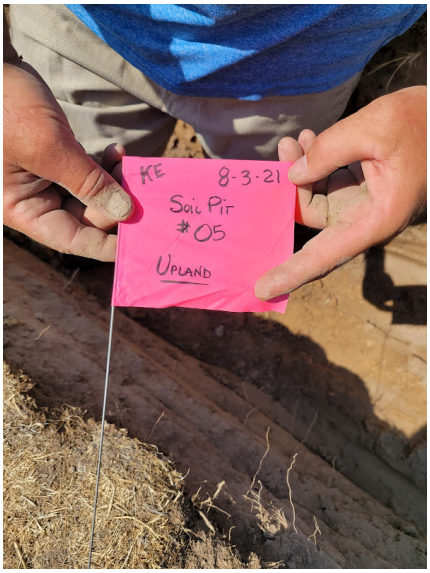
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

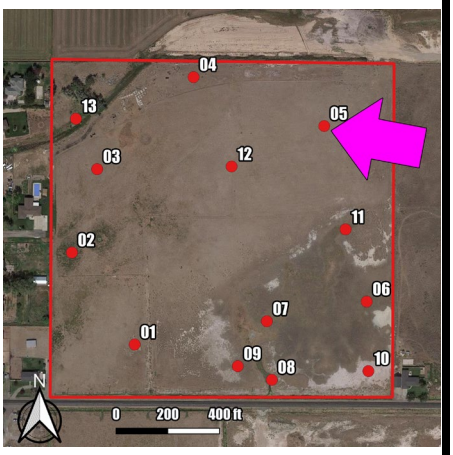
Wetland Hydrology Present? Yes _____ **No** X

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

36" Excavated pit.

Remarks:





Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #05.

Upper left: Northern view of sample point #05, an upland. Upper right: Label flag for the pit. Lower left: Southern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **06**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.235548** Long: **-112.069121** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. *Atriplex micrantha*	25	X	UPL
2. *Juncus balticus*	20	X	FACW
3. *Polygonum ramosissimum*	20	X	FAC
4. *Hordeum murinum*	10		FACU
5. *Rumex crispus*	6		FAC
6. *Distichlis spicata*	5		FAC
7. *Polygonum ramosissimum*	5		FAC
8. *Hordeum jubatum*	3		FAC
50% = 47 20% = 18.8	94	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum **2%** % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	20	x 2 =	40
FAC species	40	x 3 =	120
FACU species	13	x 4 =	52
UPL species	25	x 5 =	125
Column Totals:	98 (A)		337 (B)

Prevalence Index = B/A = **3.44**

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
No indicator for Atriplex micrantha = UPL
Additional Herb: Lactuca serriola 3% FACU, Bassia scoparia 1% FAC
Total: 98%
50% = 49, 20% = 19.6
Technically hydrophytic by the Dominance Test, but the Prevalence Index shows this is NOT actually a wetland plant community.

SOIL

Sampling Point: **06**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	**10YR2/1**	**100**	**NA**				**Silt Clay Loam**	
15-30	**10YR2/1**	**100**	**NA**				**Silt Loam**	
30-34	**10YR4/2**	**100**	**NA**				**Silt Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

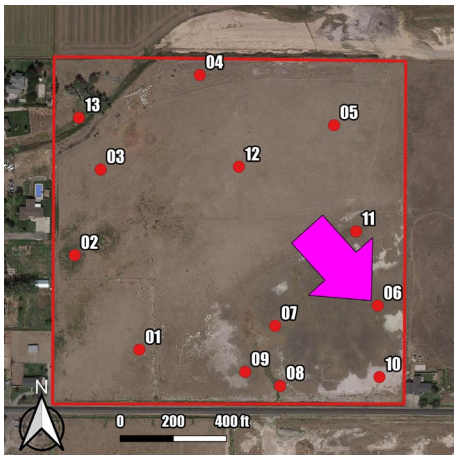
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

34" Excavated pit.

Remarks:



PHOTOGRAPHS OF SAMPLE SITE #06.
Upper left: Northwestern view of sample point #06, an upland. Upper right: Label flag for the pit. Lower left: Southeastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. Vegetation was technically hydrophytic by the Dominance Test, but the Prevalence Index showed that this is not a wetland plant community. No other wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **07**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.23534** Long: **-112.070525** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **PEM1C**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Helianthus annuus***	10	X	FACU
2. ***Lactuca serriola***	10	X	FACU
3. ***Polygonum aviculare***	5	X	FAC
4. ***Rumex crispus***	5	X	FAC
5. ***Atriplex micrantha***	3		UPL
6. ***Distichlis spicata***	3		FAC
7. ***Polygonum ramosissimum***	3		FAC
8. ***Bassia hyssopifolia***	1		FACU
50% = 20 20% = 8	40	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum **59** % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species 17	x 3 = 51
FACU species 21	x 4 = 84
UPL species 3	x 5 = 15
Column Totals: 41 (A)	150 (B)

Prevalence Index = B/A = **3.66**

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:
No indicator for Atriplex micrantha = UPL

Additional Herb: Hordeum jubatum 1% FAC
Total Cover: 41%
50% = 20.5, 20% = 8.2

SOIL

Sampling Point: **07**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-17	**10YR2/1**	**100**	**NA**				**Silt Clay Loam**	
17-44	**10YR2/1**	**100**	**NA**				**Silty Clay**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

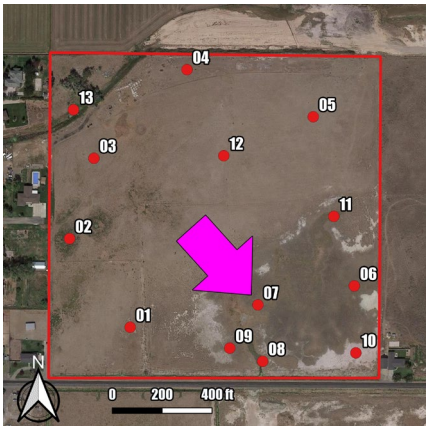
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

44" Excavated pit.

Remarks:



Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #07.

Upper left: Eastern view of sample point #07, an upland. Upper right: Label flag for the pit. Lower left: Western view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

Kagel Environmental, LLC

Wetlands, Wildlife and Permitting Specialists

SAMPLE POINT #07

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **08**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.23472** Long: **-112.070455** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. *Distichlis spicata*	50	X	FAC
2. *Hordeum jubatum*	20	X	FAC
3. *Elymus lanceolatus*	15		UPL
4. *Polygonum aviculare*	10		FAC
5. *Atriplex micrantha*	5		UPL
6. *Elymus repens*	3		FAC
7. *Ambrosia artemisiifolia*	2		FACU
8. *Hordeum murinum*	2		FACU
50% = 53.5 20% = 21.4	107	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	83	x 3 =	249
FACU species	6	x 4 =	24
UPL species	20	x 5 =	100
Column Totals:	109 (A)		373 (B)

Prevalence Index = B/A = 3.42

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
No indicator for Atriplex micrantha = UPL. Additional Herb: Lepidium perfoliatum 2% FACU.
Total Cover: 109%
50% = 54.5, 20% = 21.8

Technically hydrophytic by the Dominance Test, but the Prevalence Index shows this is not a wetland plant community.

SOIL

Sampling Point: **08**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-36	**7.5YR3/1**	**100**	**NA**				**Silt Clay**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

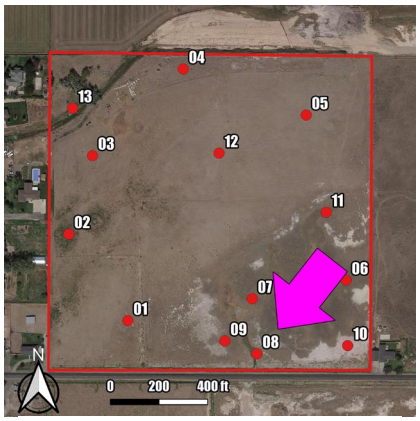
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

36" Excavated pit.

Remarks:



PHOTOGRAPHS OF SAMPLE SITE #08.
Upper left: Northwestern view of sample point #08. Upper right: Label flag for the pit. Lower left: Southeastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. Vegetation was technically hydrophytic by the Dominance Test, but the Prevalence Index showed this is not a wetland plant community. No other wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **09**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.234865** Long: **-112.070935** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **PEM1C**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	**0**	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	**0**	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Suaeda calceoliformis***	**60**	X	**FACW**
2. ***Distichlis spicata***	**30**	X	**FAC**
3.			
4.			
5.			
6.			
7.			
8.			
50% = 45 20% = 18	**90**	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	**0**	= Total Cover	

% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = **0**
FACW species _____	x 2 = **0**
FAC species _____	x 3 = **0**
FACU species _____	x 4 = **0**
UPL species _____	x 5 = **0**
Column Totals: **0** (A)	**0** (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: **09**

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	**10YR3/1**	**100**	**NA**				**Silty Clay Loam**	
11-20	**2.5YR5/2**	**50**	**NA**				**Natrix, clay/silt loam**	
	10YR2/1	**50**						
20-36	**10YR5/3**	**100**	**NA**				**Silt Clay Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

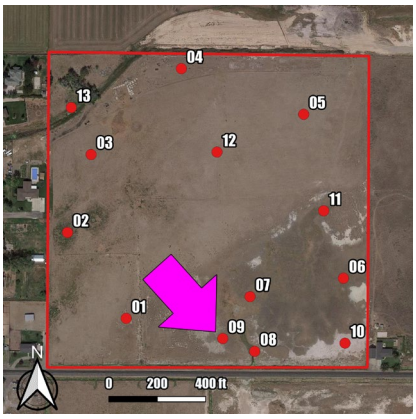
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

36" Excavated pit.

Remarks:



Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #09.
Upper left: Southwestern view of sample point #09, a questionable upland. Upper right: Label flag for the pit. Lower left: Southeastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. Vegetation was hydrophytic, but no other wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **10**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.234813** Long: **112.069098** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **N/A**

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

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

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

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

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

Remarks:

Drier than normal. Although vegetation was <5% cover, this is not a closed basin and thus in KE's opinion it is not a playa. Playas can be regulated waters of the US.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	**0**	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	**0**	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Suaeda calceoliformis***	**3**		**FACW**
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% = 1.5 20% = 0.6	**3**	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	**0**	= Total Cover	

% Bare Ground in Herb Stratum **97%** % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	**0**
FACW species _____	x 2 =	**0**
FAC species _____	x 3 =	**0**
FACU species _____	x 4 =	**0**
UPL species _____	x 5 =	**0**
Column Totals: **0** (A)		**0** (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Vegetation too sparse to actually qualify as a relevant parameter.

SOIL

Sampling Point: **10**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	**10YR2/1**	**100**	**NA**				**Silt Loam**	
16-25	**10YR5/2**	**90**	**NA**				**Sandy Loam**	
	10YR2/1	**10**					**Sandy Loam**	
25-35	**2.5YR5/2**	**100**	**10YR5/8**	**<1**	**C**	**M**	**Sandy Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

Soil Cracks, Playa

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

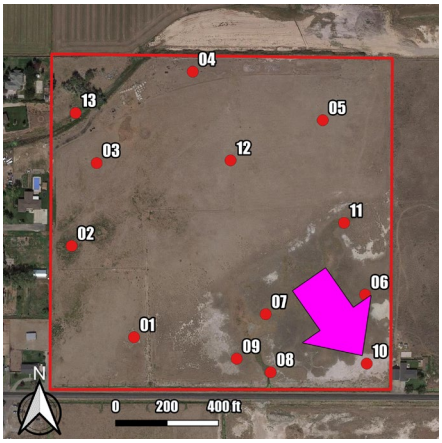
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

35" Excavated pit.

Remarks:



Extent of Project

Upland Sample Point

PHOTOGRAPHS OF SAMPLE SITE #10

Upper left: Western view of sample point #10, a questionable upland. Upper right: Label flag for the pit. Lower left: Eastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. Although vegetation was very sparse (<5%), KE does not believe this is a regulated playa as it does not appear to be a closed basin. Soils were not hydric and wetland hydrology was not present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **11**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.236312** Long: **-112.069418** Datum: **WGS84**

Soil Map Unit Name: **Ac: Airport silt loam, 0 to 2 percent slopes (481538)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = 0 20% = 0	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. *Distichlis spicata*	45	X	FAC
2. *Hordeum murinum*	25	X	FACU
3. *Atriplex micrantha*	15		UPL
4. *Hordeum jubatum*	10		FAC
5. *Lactuca serriola*	6		FACU
6. *Lepidium perfoliatum*	1		FACU
7. *Symphyotrichum ascendens*	1		FAC
8.			
50% = 51.5 20% = 20.6	103	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species 56	x 3 =	168
FACU species 32	x 4 =	128
UPL species 15	x 5 =	75
Column Totals: 103 (A)		371 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:
No indicator for Atriplex micrantha = UPL

SOIL

Sampling Point: **11**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-23	**10YR2/1**	**100**	**NA**				**Silt Clay Loam**	
23-36	**10YR4/1***	**100**	**NA**				**Silt Clay Loam (calcic horizon)**	
36-39	**10YR4/1**	**98**	**7.5YR5/2**	**2**			**Silt Clay Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

The 23-36" horizon is calcic, and thus must have at least 2% redox for 10YR 4/1 to qualify as a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

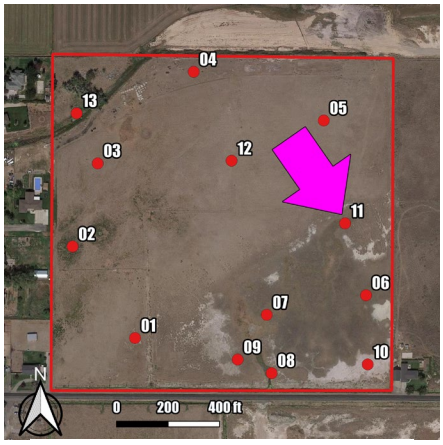
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

39" Excavated pit.

Remarks:



PHOTOGRAPHS OF SAMPLE SITE #11

Upper left: Southwestern view of sample point #11, an upland. Upper right: Label flag for the pit. Lower left: Eastern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **12**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.236977** Long: **-112.071022** Datum: **WGS84**

Soil Map Unit Name: **Le: Leland silt loam, 0 to 1 percent slopes (481612)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. ***Ulmus pumila***	20	X	UPL
2.			
3.			
4.			
50% = 10 20% = 4	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
50% = 0 20% = 0	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Elymus lanceolatus***	60	X	UPL
2. ***Poa bulbosa***	20	X	FACU
3. ***Distichlis spicata***	3		FAC
4.			
5.			
6.			
7.			
8.			
50% = 41.5 20% = 16.6	83	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum 17 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species 3	x 3 =	9
FACU species 20	x 4 =	80
UPL species 80	x 5 =	400
Column Totals: 103 (A)		489 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: **12**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	**7.5YR4/3**	**100**	**NA**				**Silt Loam**	
12-37	**7.5YR5/4**	**100**	**NA**				**Silt Loam**	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

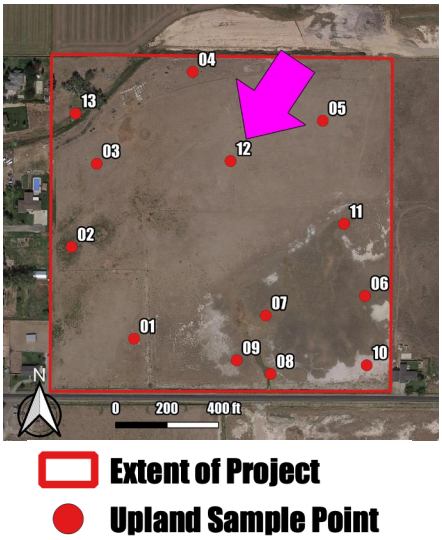
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

37" Excavated pit.

Remarks:



PHOTOGRAPHS OF SAMPLE SITE #12

Upper left: Northern view of sample point #12. Upper right: Label flag for the pit. Lower left: Southern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. No wetland parameters were met.

Kagel Environmental, LLC

Wetlands, Wildlife and Permitting Specialists

SAMPLE POINT #12

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: **Stagecoach** City/County: **Weber County, Ogden, UT** Sampling Date: **8/3/21**

Applicant/Owner: **Lync Development** State: **UT** Sampling Point: **13**

Investigator(s): **Kagel Environmental LLC** Section, Township, Range: **S21 T6N R2W**

Landform (hillslope, terrace, etc.): **Lake Terrace** Local relief (concave, convex, none): **Flat** Slope (%): **0-1**

Subregion (LRR): **LRR D (Interior deserts)** Lat: **41.237482** Long: **-112.073211** Datum: **WGS84**

Soil Map Unit Name: **WaA: Warm Springs fine sandy loam, 0 to 1 percent slopes (481674)** NWI classification: **N/A**

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

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

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

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

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

Remarks:
Drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. ***Elaeagnus angustifolia***	10	X	FAC
2.			
3.			
4.			
50% = 5 20% = 2	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. ***Elaeagnus angustifoia***	5	X	FAC
2.			
3.			
4.			
5.			
50% = 2.5 20% = 1	5	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. ***Trifolium fragiferum***	40	X	FAC
2. ***Elymus lanceolatus***	35	X	FACU
3. ***Colvolvulus arvensis***	10		UPL
4. ***Schoenoplectus acutus***	6		OBL
5. ***Symphyotrichum ascendens***	5		FAC
6. ***Daucus carota***	3		UPL
7. ***Phragmites australis***	3		FACW
8.			
50% = 51 20% = 20.4	102	= Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
50% = 0 20% = 0	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	3	x 2 =	6
FAC species	60	x 3 =	180
FACU species	35	x 4 =	140
UPL species	13	x 5 =	65
Column Totals:	117 (A)		397 (B)

Prevalence Index = B/A = 3.39

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
No indicator for Convolvulus arvensis = UPL.
Technically hydrophytic by the Dominance Test, but the Prevalence Index shows this is not a wetland plant community.

SOIL

Sampling Point: **13**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	**10YR3/2**	**97**	**10YR6/8**	**3**			**Silt Loam**	
15-26	**10YR5/2**	**100**	**NA**				**Silt Clay**	
26-36	**7.5YR5/4**	**80**	**NA**				**Loam**	
	7.5YR5/2	**20**						

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

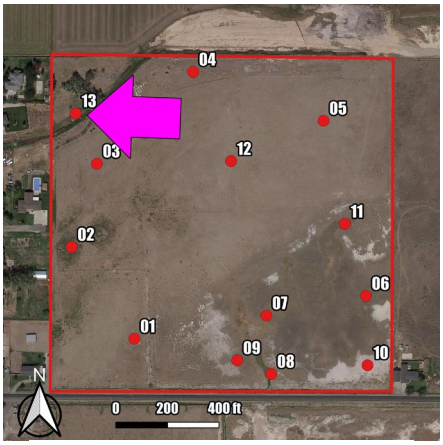
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

36" Excavated pit.

Remarks:



PHOTOGRAPHS OF SAMPLE SITE #13

Upper left: Northern view of sample point #13. Upper right: Label flag for the pit. Lower left: Southern view of the same point. Lower right: Location of the sample site relative to the other points is indicated by the pink arrow. Although vegetation was technically hydrophytic by the Dominance Test, the Prevalence Index showed this was not a wetland plant community. No other wetland parameters were met.