APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 8, 2014

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Orem Falls Business Park, SPK-2014-00522

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Utah** County/parish/borough: **Utah** City: **Orem**
Center coordinates of site (lat/long in degree decimal format): Lat. **40.3208657738194°**, Long. **-111.733820281967°**
Universal Transverse Mercator: **12 437655.21 4463629.52**
Name of nearest waterbody: **Utah Lake**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Utah Lake**
Name of watershed or Hydrologic Unit Code (HUC): **Utah Lake. Utah., 16020201**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form:

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): **June 26, 2014**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are and are not** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: **2,820** linear feet, **2-10** wide, and/or **0.326** acres.
      Wetlands: **1.1** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): **Jurisdiction of channel based on OHWM- elevation varies.**

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **The entire study area has been highly disturbed and manipulated by mining, farming and other excavation activities for many decades. The feature identified as Wetland B was evaluated as a potential wetland but it did not meet wetland parameters. This feature occurs in an**

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

excavated low spot that was dug out many years ago to mine sand. Past irrigation practices on this parcel contributed to the existence of Wetland B until those practices ceased several years ago. This remnant feature no longer meets the hydrology or hydric soil parameters and is now an upland feature.

Wetlands D, E and F occur in excavated low spots from sand mining but were dug low enough to intercept groundwater. These isolated features are entirely surrounded by uplands and no indication of hydrology beyond the wetland boundaries was observed by Corps personnel. Wetland F may have historically been connected to Ditch 2, which is a result of past land management practices. Now they are separated by a topographic rise. The uppermost extent of Ditch 2, which is the nearest portion of ditch, is several feet above the elevation of Wetland F. For flow to drain from Wetland F into Ditch 2, the water level would have to raise 4-5 feet. This is not possible since only 2-3 feet of water level rise would cause the wetland to first drain out to uplands to the north, east and south. The portion of Ditch 2 adjacent to Wetland F has no indication of flow and no OHWM. There are no features to convey hydrology into Wetland F. The nearest jurisdictional features to Wetlands D, E and F are approximately 160 feet (Ditch 1), 200 feet (Ditch 1) and 115 feet (Unnamed Stream Channel 1) away, respectively. Therefore, the Corps has determined that Wetlands D, E and F have no potential for significant nexus to jurisdictional waters and are being evaluated as isolated wetland features. The nearest TNW is Utah Lake, approximately 1.7 miles to the west.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

(i) General Area Conditions:
Watershed size: **16020201 HUC- 1340 square miles**
Drainage area: **Approx. 100 acres**
Average annual rainfall: **13** inches
Average annual snowfall: **29** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **2** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **1-2** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]: **The non-TNW that flows into a TNW is a storm drain with a relatively permanent flow, which flows west and ties into the regional storm drain buried along Geneva Road. This drain runs north to an outfall into Lindon Hollow Creek, just south of I-15. Lindon Hollow Creek flows generally west through an industrial area and directly into Utah Lake, a TNW.**
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☒ Manipulated (man-altered). Explain: **Tributary is a piped, man-made strom drain that empties into Lindon Hollow Creek, a heavily altered natural stream.**

Tributary properties with respect to top of bank (estimate):
Average width: **10** feet
Average depth: **2** feet
Average side slopes: **3:1 .**

Primary tributary substrate composition (check all that apply):

☒ Silts	☒ Sands	☐ Concrete
☐ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Tributary is a 24-inch storm drain that carries relatively permanent flow from this site into the regional storm drain system, which discharges into Lindon Hollow Creek.**
Presence of run/riffle/pool complexes. Explain: **None, flow is within an enclosed pipe.**
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **1** %

(c) Flow:
Tributary provides for: **Perennial**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: **The storm drain typically has year-round flows carrying groundwater, springwater and stormwater runoff.**
Other information on duration and volume:

Surface flow is: **Discrete and confined.** Characteristics:

Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is

☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☒ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☒ other (list): **The storm drain has a perennial connection to regulated waters and flow was observed by Corps personnel.**

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: **Water in the storm drain system contains typical residentail and industrial runoff pollutants.**
Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width):
☐ Wetland fringe. Characteristics:
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: **0.375** acres
Wetland type. Explain: **palustrine emergent**
Wetland quality. Explain: **Quality of Wetland G is in decline due to removal of irrigation practices on site several years ago. According to the delineation, hydrology indicators are very faint.**
Project wetlands cross or serve as state boundaries. Explain: **Wetlands on site do not cross or serve as state boundaries. Nearest state boundary is 59 miles from the site.**

(b) General Flow Relationship with Non-TNW:
Flow is: **No Flow** . Explain: **Wetland G has no regular flow relationship with a non-TNW.**

Surface flow is**: Not present**
Characteristics: **Surface flow would only occur during extreme flood events.**

Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☒ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain:
☐ Ecological connection. Explain:

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unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

☒ Separated by berm/barrier. Explain: **Wetland G is separated from the storm drain system intake by an estimated 1-foot high, 10-foot stretch of uplands.**

(d) Proximity (Relationship) to TNW
Project wetlands are **2-5** river miles from TNW.
Project waters are **1-2** aerial (straight) miles from TNW.
Flow is from: **No Flow.**
Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Wetland G has no flow as the hydrology from irrigation has been cut off.**
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
☒ Riparian buffer. Characteristics (type, average width): **Little riparian buffer- sporadic russian olive trees on site.**
☒ Vegetation type/percent cover. Explain: **Juncus articus 30%, Distichlis spicata 5%, Phalaris arundinacea 5%, Eleocharis rostellata 5%**
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **1**
Approximately **0.375** acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
N	**0.375**		

Summarize overall biological, chemical and physical functions being performed: **Wetland G has low potential to filter pollutants since it can only receive inflow when the adjacent detention basin fills beyond capacity and flows down the emergency spillway. Nesting habitat is low since very few mature trees exist within or adjacent to the wetland. Historic irrigation practices provided the hydrology for the wetland until those practices ceased several years ago. Evidence, such as weak hydrology indicators, suggests the site is transitioning to uplands, though all three parameters are still present within the wetland.**

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?

- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **Wetland G has the potential to receive enough water to flow into the storm drain system, eventually draining into Utah Lake. For this to occur, storm water would have to exceed the capacity of the storm drain from the east and back up into the adjacent detention basin. If the basin filled beyond capacity, water would discharge through the emergency spillway and directly into Wetland G. To reach the storm drain inlet, ponding in Wetland G would only need to rise 1 foot higher than the wetland boundary. Though a storm event of this magnitude is unlikely, the Corps has determined that there is significant nexus between Wetland G and Utah Lake, a TNW. The existence of the storm drain inlet in close proximity to the northwest corner of Wetland G suggests that a connection is possible or even planned for- otherwise the inlet would not have been installed. Since more than speculative potential exists for this feature to transport pollutants to a jurisdictional water, the Corps is considering Wetland G a regulated water.**

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet, wide, Or acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **The feature identified as Unnamed Stream Channel carries year-round flows from Fugal Spring, located east of I-15 . In addition, storm water from I-15 is directed into the channel. Flow was observed in the channel during early spring, late spring and late fall by Corps personnel and the consultant. Ditch 1 is a very deep ditch with year-round flow that was excavated to mine ground water. Both channels flow into the city storm drain system along Geneva Road to the west, and eventually drain into Utah Lake, a TNW.**
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☒ Tributary waters: **2,820** linear feet **3-8** wide.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet, wide.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is

[8]See Footnote # 3.

directly abutting an RPW: **Wetlands A and C are part of the fringe wetland/ riparian corridor that directly abuts the Unnamed Stream Channel and Ditch 1 on both banks. Both channels carry year-round flow and the wetlands occur as a direct result of the hydrology from the channels.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☒ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **0.375** acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain:
☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet, wide.
☐ Other non-wetland waters: acres.
Identify type(s) of waters:
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above):

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☒ Wetlands: **Wetlands D, E and F; 0.251** acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Frontier Corporation USA.**
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☒ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☐ U.S. Geological Survey Hydrologic Atlas:
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; UT-OREM**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:
☒ National wetlands inventory map(s). Cite name:
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Google Earth**
  or ☒ Other (Name & Date): **Frontier Corporation USA.**
☒ Previous determination(s). File no. and date of response letter: **SPK-2004-50120. Feb 12, 2012 preliminary JD.**
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The report states that Wetland G is an isolated feature and is therefore non-jurisdictional. The Corps does not concur with this determination. As indicated above, this feature was evaluated as a wetland adjacent to a storm drain with a perennial connection to a TNW. The Corps has determined that significant nexus exists between Wetland G and a TNW and that this feature is under Corps jurisdiction.

Wetlands that did not meet criteria in 1987 manual= 0.084 acre (Wetland B). Isolated waters= 0.626 acre (Wetlands D, E, F and G). Jurisdictional waters= 1.1 acres (Wetlands A, C and G) and 2,820 linear feet of stream/ ditch channel.

Figure 1. Project Area Location Map - 1:100,000 Topographic Base

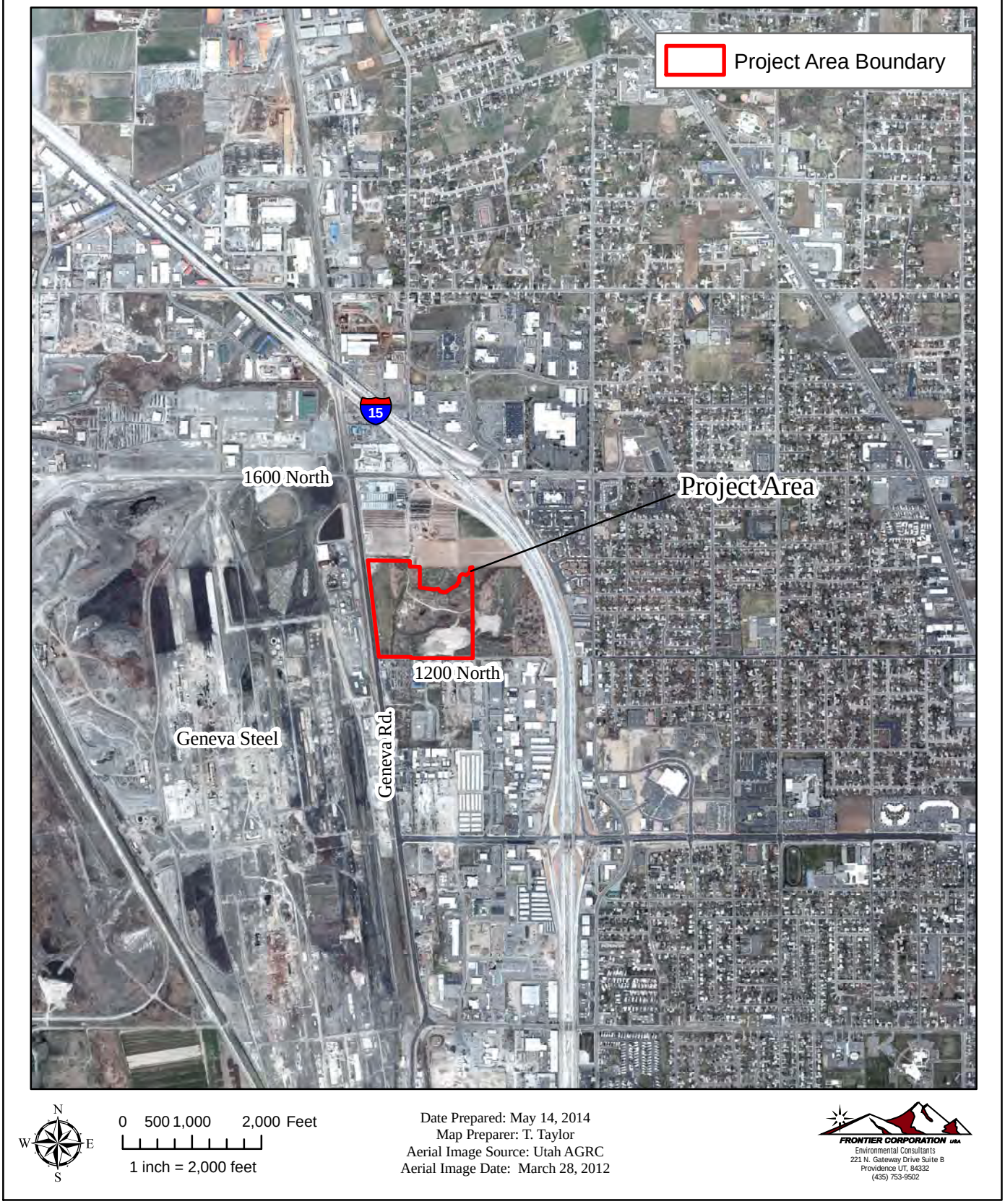


Figure 2b. Site Vicinity Map - Aerial base.

Figure 3b. Wetland Delineation Survey Map - aerial base

Orem Falls Phase 2 Business Park
Orem, Utah County, UT
Wetland Delineation Technical Report

Frontier Corporation USA
May 2014

Wetlands and Water Bodies Delineated within the Phase II Project Area.

Delineated Wetland	Wetland Habitat Type	Size acres	Water Feature	Length feet (size acres)
*Wetland A	*Palustrine Forest/Scrub-Shrub	*0.489 ac	Unnamed Stream Channel Segment 1	1,189 ft (0.112 ac)
Wetland B (Remnant)	Palustrine Emergent	0.084 ac	Unnamed Stream Channel Segment 2	214 ft (0.029 ac)
*Wetland C	*Palustrine Forest/Scrub-Shrub	*0.236 ac	**Total Stream Channel**	**1,403 ft (0.141 ac)**
*Wetland D	*Palustrine Emergent	*0.046 ac		
*Wetland E	*Palustrine Emergent	*0.106 ac	Ditch 1 (wet)	1,367 ft (0.182 ac)
*Wetland F	*Palustrine Emergent	*0.099 ac	Ditch 2a (wet)	50 ft (0.003 ac)
*Wetland G	*Palustrine Emergent	*0.375 ac		
	Total Wetlands	**1.435 ac**	**Total Ditch with OHWM**	**1,417 ft (0.185 ac)**
	*Total current wetlands	1.351 ac		
	Total remnant wetlands	0.084 ac		

WEST QUARTER CORNER SECTION 4, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN (FOUND 3" BRASS CAP)

437,433 m E
4,463,857 m N
UTM Zone 12N

STREAM FLOWS CAPTURED BY STORM WATER PIPE THAT EMPTIES INTO REGIONAL STORM DRAIN BURIED ALONG GENEVA ROAD.

PARCEL 1-A
(UDOT PROPERTY)
44,288 SF OR 1.02 AC

S00°39'32"E
82.27'

N89°32'30"E 627.35'

S89°10'22"E 67.01'

N89°37'50"E
74.48'

S00°00'03"E 296.75'

UNNAMED STREAM CHANNEL
214 L.F.
0.029 A.C.

WETLAND G
16,326 S.F.
0.375 A.C.

OREM CITY DETENTION BASIN PROPERTY (NOT A PART)

UNNAMED STREAM CHANNEL
1,189 L.F.
0.122 A.C.

BURIED ROAD CULVERT

WETLAND A
21,317 S.F.
0.489 A.C.

OREM FALLS PHASE II - BUSINESS PARK
1,739,875 S.F.
39.94 A.C.

DITCH 2A
50 L.F.
0.010 A.C.

EXISTING DIVERSION STRUCTURE AND CROSSING

A 4-5 FOOT TOPOGRAPHIC RISE EXISTS AT THE WESTERN EDGE OF WETALND F.

WETLAND E
4,617 S.F.
0.106 A.C.

WETLAND F
4,328 S.F.
0.099 A.C.

ABANDONED DIVERSION DITCH

DITCH 1
1,367 L.F.
0.182 A.C.

WETLAND B
3,657 S.F.
0.084 A.C.

WETLAND D
1,992 S.F.
0.046 A.C.

N07°45'53"W 1390.02'

N00°07'02"W 1317.68'

WETLAND C
10,281 S.F.
0.236 A.C.

VERY DEEP DITCH THAT WAS DUG TO MINE GROUNDWATER.

GENEVA ROAD (SR-114)

ABANDONED CONCRETE DITCH

DITCH 1
1,367 L.F.
0.182 A.C.

WETLAND C
10,281 S.F.
0.236 A.C.

N89°12'58"W 324.84'

S89°15'29"W 141.96'

N00°52'30"W
16.50'

S89°33'10"W 883.73'

DITCH FLOWS EMPTY INTO REGIONAL STORM DRAIN BURIED ALONG GENEVA ROAD.

1200 NORTH STREET
(PUBLIC STREET)

437,896 m E
4,463,424 m N
UTM Zone 12N

PHASE 2

LEGEND

- BOUNDARY LINE
- FENCE LINE
- POWER LINE
- SECTION LINE
- CURB LINE
- ASPHALT LINE
- PROPERTY LINE
- WETLAND BOUNDARY LINE
- UNNAMED STREAM CHANNEL BOUNDARY LINE
- DITCH BOUNDARY LINE
- SEWER LINE
- WATER VALVE
- FIRE HYD.
- STORM DRAIN MANHOLE
- STORM DRAIN CATCH BASIN
- SEWER MANHOLE
- IRRIGATION MANHOLE
- POWER POLE
- GUY WIRE
- SECTION CORNER
- REMNANT WETLAND AREA

- PHOTOPOINT AND VIEW DIRECTION
- DELINEATION SAMPLE POINT
- OHWM CROSS SECTION

Date prepared: May 21, 2014
Prepared by: T. Taylor
Map Source: Stantec
Aerial Image Source: Utah AGRC
Aerial Image Date: March 28, 2012

GRAPHIC SCALE

0 75' 150' 300' 600'

(IN FEET)
1 inch = 150 ft.

Project Number: 186201157
File Name: 011507v_wetlands.dwg

Dwn.	Chkd.	Dsgn.	YY.MM.DD
SRV	TMW	SRV	14.05.20

Drawing No.
Revision Sheet

Permit-Seal

OREM FALLS PHASE II - BUSINESS PARK
GENEVA HOLDINGS, LLC

SW 1/4 SEC 4 & SE 1/4 SEC 5 T6S R2E , SLB&M

OREM, UTAH

OREM FALLS PHASE II - BUSINESS PARK

Revision	By	Appd.	YY.MM.DD	Issued	By	Appd.	YY.MM.DD

Stantec
3995 S. 700 E. SUITE 300
SALT LAKE CITY, UTAH 84107
Tel. 801.261.0090
Fax. 801.266.1671
www.stantec.com

Control gate can be closed for maintenance purposes, which would back groundwater drainage into Wetland G.

When storm water flows exceed this metered control structure, storm water drainage backs up into detention basin.

Storm drain intake from Wetland G. Notice small upland barrier necessitating the need for significant nexus evaluation.

Storm water flows down emergency spillway when detention basin capacity is exceeded.

Storm water pipe

Ground water pipe

Wetland G

Scale: 1" = 60'

Pond Top: 4581.25
Bottom: 4571.00
Storage Volume: 18.57 acre-ft

Tie to Existing 24" Pipe FL: 4554.46

67.28' of 24" RCP Class III @ 1.53%

Control Structure #1-See Detail Sheet D1
STA: 0+67.28 OFF: 0.00
RIM: 4567 Will Be Above Road
24" RCP FL IN: 4555.54 E
24" RCP FL IN: 4561.00 S
24" RCP FL OUT: 4555.49 NW

83.10' of 24" @ 2.75%

10.85' of 24" @ 9.21%

Inlet Structure #1-See Detail Sheet D2
STA: 0+67.54 OFF: 10.85 R
24" FL OUT: 4562.00 N

Grading Not Shown Around Inlet Structure-Grade and Tie Into Road Grading

Wetland Area Not To Be Disturbed

∅60" Manhole #1
STA: 1+50.38 OFF: 0.00
STA: 0+00.00 OFF: 0.00
RIM: 4572.75
24" RCP FL IN: 4557.88 E
12" PVC FL IN: 4559.30 S
24" RCP FL OUT: 4557.83 W

132.34' of 24" RCP Class III @ 3.92%

Control Structure #2-See Detail Sheet D3
STA: 2+82.71 OFF: 0.00
RIM: 4583 Same As Access Road
54" RCP FL IN: 4563.12 E
48" RCP FL IN: 4563.12 S
24" RCP FL OUT: 4563.07 W
15" SDR-35 FL IN: 4563.12 N

∅48" Manhole #5
STA: 2+81.90 OFF: 11.51 L
RIM: 4583.17
15" SDR-35 FL IN: 4563.13 E
15" SDR-35 FL OUT: 4563.13 S

7.41' of 15" SDR-35 @0.14%

18.66' of 48" RCP Class III @ 41.37%

Inlet Structure #2-See Detail Sheet D2
STA: 2+83.51 OFF: 18.64 R
48" RCP FL OUT: 4570.84 /N

16' Wide Access

447.62' of 15" SDR-35 @0.14%

434.53' of 54" RCP Class III @ 0.76%

∅96" MANHOLE #1
STA: 7+17.24 OFF: 0.00
RIM: 4583.39
54" RCP FL IN: 4566.47 S
54" RCP FL OUT: 4566.42 W

∅48" Manhole #6
STA: 7+17.24 OFF: 14.50 L
RIM: 4576.29
15" SDR-35 FL IN: 4563.76 S
15" SDR-35 FL OUT: 4563.76 W

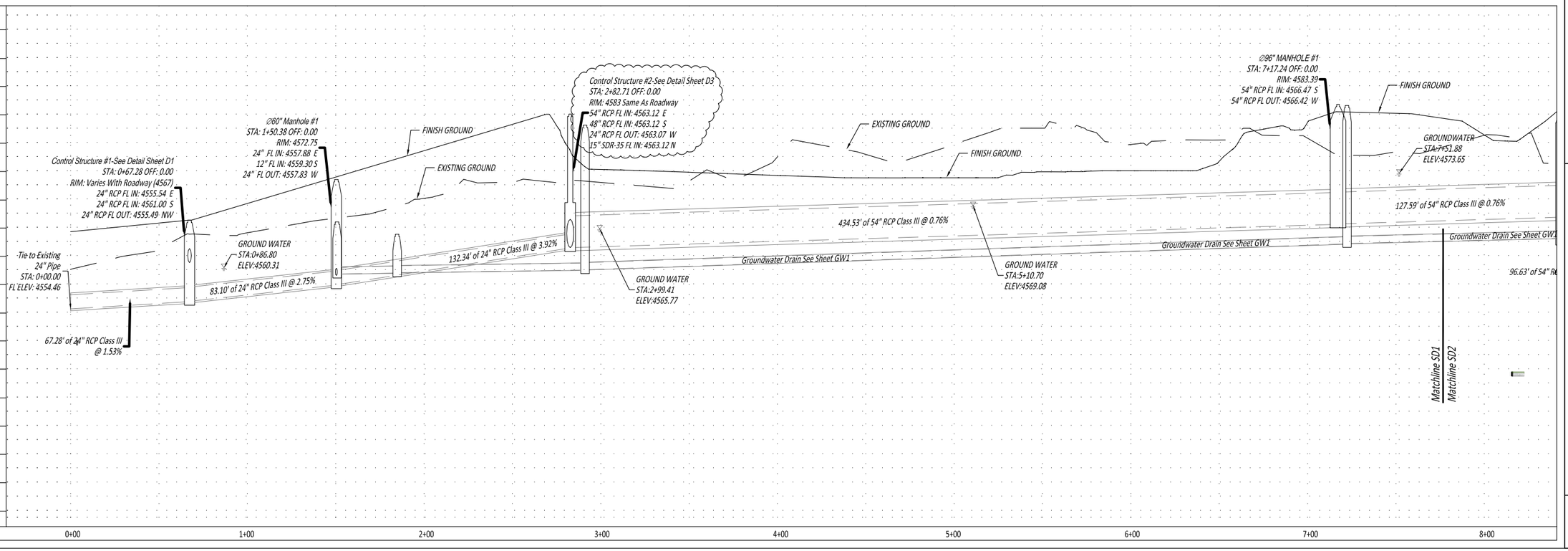
Wetland Area Not To Be Disturbed

Matchline SD1
Matchline SD2

127.59' of 54" RCP Class III @ 0.76%

131.87' of 15" SDR-35 @0.14%

Riparian Channel Not To Be Disturbed



CITY OF OREM
DEVELOPMENT SERVICES
ENGINEERING DIVISION
56 NORTH STATE ST
OREM, UT 84057

WILLIAMS FARM STORM DRAIN AND DETENTION POND PROJECT

Storm Drainage Plan and Profile

X:\Storm\2011 Williams Farm Commercial Concept\Const Drawing\2012 Project Base.dwg

PLAN & PROFILE 0+00 TO 7+75

SD1

REV	DATE	BY	DESCRIPTION
#1	6-24-13	TCJ	Added Parallel 15" Line and Dropped 54" Pipe

DESIGN TCJ
DRAWN TCJ
CHECKED SRK

APPROVAL RECOMMENDED — DATE January 2013 — CITY ENGINEER

APPROVED — DATE January 2013 — DEVELOPMENT SERVICES DIRECTOR

Orem Stormwater Map

Northwest Quadrant

Lindon Hollow Creek

SWO-11

Project Area

Utah Lake

Lake Bottom Canal

SWO-10

IHC InstaCare

Aspen Elementary

Northridge Elementary

Bonneville Park

Bonneville Elementary

Windsor Park Windsor Elementary

Timpanogos Hospital

Fire Station #2

Orem Jr. High

Orem Public Works

State Park

Fire Station #3

Cascade Elementary

ESC Soccer Fields

Orem Community Hospital

Cascade Park

Sunrise Elementary

Orem City Center Library

Mtn. View High

Orem Rec Center

Target

Community Park

Lakeside Sports Park

Legend

Orem City System
- Drain Inlet
- Sump
- Manhole
- Bubble-Up
- Diversion Structure
- Outfall
- Stormwater Outfall
- Conveyance
- Undefined Conveyance

Private System
- Drain Inlet
- Sump
- Manhole
- Bubble-Up
- In-Flow
- Outfall
- Conveyance

Zones
- Industrial
- Commercial
- Provo River Buffer

Groundwater System
- Manhole
- Diversion Structure
- Outfall

Irrigation System
- Drain Inlet
- Manhole
- Bubble-Up
- Diversion Structure
- Outfall
- Conveyance

Detention
- In-Flow
- Outfall
- Detention Basin

Landmarks
- Orem Boundary
- Railroad
- Road
- Water Body
- River
- Drainage
- Building
- Park
- Wetland

N W E S

Scale: 1:18,000

1000 Ft.

OREM

Map Created: 11/1/2010