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): December 8, 2016

В.	DISTRICT OFFICE, FILE NAME, AND NUMBER: Fort Worth District - Windsong Ranch - SWF-2016-00136
C.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: Texas County/parish/borough: Denton City: Prosper Center coordinates of site (lat/long in degree decimal format): Lat. 33.235127° N, Long96.875868° W. Universal Transverse Mercator: Zone 14 Name of nearest waterbody: Doe Branch Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Trinity River Name of watershed or Hydrologic Unit Code (HUC): Elm Fork Trinity (HUC 12030103) 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: 12/9/2016 ☐ Field Determination. Date(s): 11/22/2016
SEC A.	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
	are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the lew 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:
В.	CWA SECTION 404 DETERMINATION OF JURISDICTION.
The	ere Are "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 waters² (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: linear feet: 60,253 width (ft) and/or 43.37 acres. Wetlands: 23.98 acres.

c. Limits (boundaries) of jurisdiction based on: Established by OHWM.

Elevation of established OHWM (if known):

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: Isolated Ponds and Isolated Wetlands, which lie behind agricultural terracing.

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).

Supporting documentation is presented in Section III.F.

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.

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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 waterbody⁴ 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

(i) General Area Conditions:

Watershed size: 38.66 square miles Drainage area: 38.66 square miles Average annual rainfall: 41.3 inches Average annual snowfall: 2.1 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 25-30 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 TNW⁵: Doe Branch to Elm Fork Trinity River to Trinity River.

Tributary stream order, if known: 2nd-3rd - 4th.

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

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.

(b)	General Tributary Characteristics (check all that apply Tributary is:	n: .
	Tributary properties with respect to top of bank (esting Average width: 20 feet Average depth: 10 feet Average side slopes: 2:1.	nate):
	Primary tributary substrate composition (check all that Silts Sands Gravel Bedrock Vegetation. Type/%	☐ Concrete ☑ Muck
the channel fro	Tributary condition/stability [e.g., highly eroding, slow om increased runnoff in the watershed. The banks are value of run/riffle/pool complexes. Explain: Sedin Tributary geometry: Meandering Tributary gradient (approximate average slope): 0.1 %	nent stream with pooled habitat, no riffles observed.
(c)		a/year: 20 (or greater) evelopment that is near constant; large precipitation events fill the
	Surface flow is: Discrete and confined. Characteristic	cs: .
	Subsurface flow: No . Explain findings: substrate is cl Dye (or other) test performed:	ay with sediment and muck on top.
	Tributary has (check all that apply): ☐ Bed and banks ☐ OHWM ⁶ (check all indicators that apply): ☐ clear, natural line impressed on the bank ☐ changes in the character of soil ☐ shelving ☐ vegetation matted down, bent, or absent ☐ leaf litter disturbed or washed away ☐ sediment deposition ☐ water staining ☐ other (list): ☐ Discontinuous OHWM. ⁷ Explain:	the presence of litter and debris destruction of terrestrial vegetation the presence of wrack line sediment sorting scour multiple observed or predicted flow events abrupt change in plant community
	If factors other than the OHWM were used to determine High Tide Line indicated by: Oil or scum line along shore objects fine shell or debris deposits (foreshore) physical markings/characteristics tidal gauges other (list):	ne lateral extent of CWA jurisdiction (check all that apply): Mean High Water Mark indicated by: survey to available datum; physical markings; vegetation lines/changes in vegetation types.
Cha	Explain: Water was turbid in pools - algae growth and tify specific pollutants, if known: herbicides and pestic	oily film; water quality; general watershed characteristics, etc.). cattle use; non-pooled areas, water is generally clear. ides from urban and agricultural use; livestock fecal matter from

⁶A 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 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. ⁷Ibid.

	(iv)	Bio	logical Characteristics. Channel supports (check all that apply): Riparian corridor. Characteristics (type, average width): generally herbaceous grazed - approximately 500 feet wide. 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.	Cha	aract	eristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
	(i)		Asical Characteristics: General Wetland Characteristics: Properties: Wetland size:23.98 acres Wetland type. Explain: Herbaceous. Wetland quality. Explain: Low quality due to species diversity, size, and overall complexity. Project wetlands cross or serve as state boundaries. Explain: N/A.
		(b)	General Flow Relationship with Non-TNW: Flow is: No Flow. Explain:
			Surface flow is: Overland sheetflow Characteristics: Wetlands receive hydrology from non-TNW flooding and direct precipitation.
			Subsurface flow: Unknown . Explain findings: Dye (or other) test performed:
		(c)	Wetland Adjacency Determination with Non-TNW: ☐ Directly abutting ☐ Discrete wetland hydrologic connection. Explain: ☐ Ecological connection. Explain: Located within 100-year floodplain. ☐ Separated by berm/barrier. Explain:
		(d)	Proximity (Relationship) to TNW Project wetlands are 30 (or more) river miles from TNW. Project waters are 30 (or more) aerial (straight) miles from TNW. Flow is from: No Flow. Estimate approximate location of wetland as within the 10 - 20-year floodplain.
	(ii)	Cha	emical Characteristics: aracterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Monoculture, water color is dirty, small watershed, shallow depressions along floodplain bench, frequently disturbed by cattle. https://emical.com/sites/papers/pape
	(iii	Bio	logical Characteristics. Wetland supports (check all that apply): Riparian buffer. Characteristics (type, average width): Vegetation type/percent cover. Explain:Herbaceous - 80-100 percent cover. Habitat for: Federally Listed species. Explain findings: Fish/spawn areas. Explain findings: Other environmentally-sensitive species. Explain findings: Aquatic/wildlife diversity. Explain findings:
3.	Cha	aract	eristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 30 (or more)
Approximately (23.98) 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)

See Attached Exhibits

Summarize overall biological, chemical and physical functions being performed: Water, which exits the banks of the RPW tributary during flood events becomes ponded in these shallow depressional wetlands. These aquatic features provide biological functions as habitat for amphibians and invertebrates, as well as mammals. The vegetation detritus provides the basis of a food web that supports the wildlife community downstream. The aquatic features provide for the nutrient and chemical uptake of the waters that percolate into soils. This nutrient and chemical uptake provides for a reduced nutrient/chemical loading in the downstream water column.

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: Water, which exits the banks of the non-RPW tributary during flood events becomes ponded in these shallow depressional wetlands. These aquatic features provide biological functions as habitat for amphibians and invertebrates, as well as mammals. The vegetation detritus provides the basis of a food web that supports the wildlife community downstream. The aquatic features provide for the nutrient and chemical uptake of the waters that percolate into soils. This nutrient and chemical uptake provides for a reduced nutrient/chemical loading in the downstream water column.
- 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: Water, which exits the banks of the RPW tributary during flood events becomes ponded in these shallow depressional wetlands. These aquatic features provide biological functions as habitat for amphibians and invertebrates, as well as mammals. The vegetation detritus provides the basis of a food web that supports the wildlife community downstream. The aquatic features provide for the nutrient and chemical uptake of the waters that percolate into soils. This nutrient and chemical uptake provides for a reduced nutrient/chemical loading in the downstream water column.
- 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 width (ft), 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: ☐ 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: Limited flow was observed within the tributaries during the late summer months indicating that there is continuous flow during the spring when rainfall is more regular. Base flow in the tributary is based on seeps and springs within the watershed and from urban runoff from a growing municipality.
	Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: 58,384 linear feet 20 width (ft). Other non-wetland waters: 4.36 acres. Identify type(s) of waters: natural ponds .
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: 1,869 linear feet 4.36 width (ft). 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 directly abutting an RPW: 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: The wetland was observed to connect to the tributary; there is no land area between the two features. Provide acreage estimates for jurisdictional wetlands in the review area: 0.91 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: 21.28 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: 1.78 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).

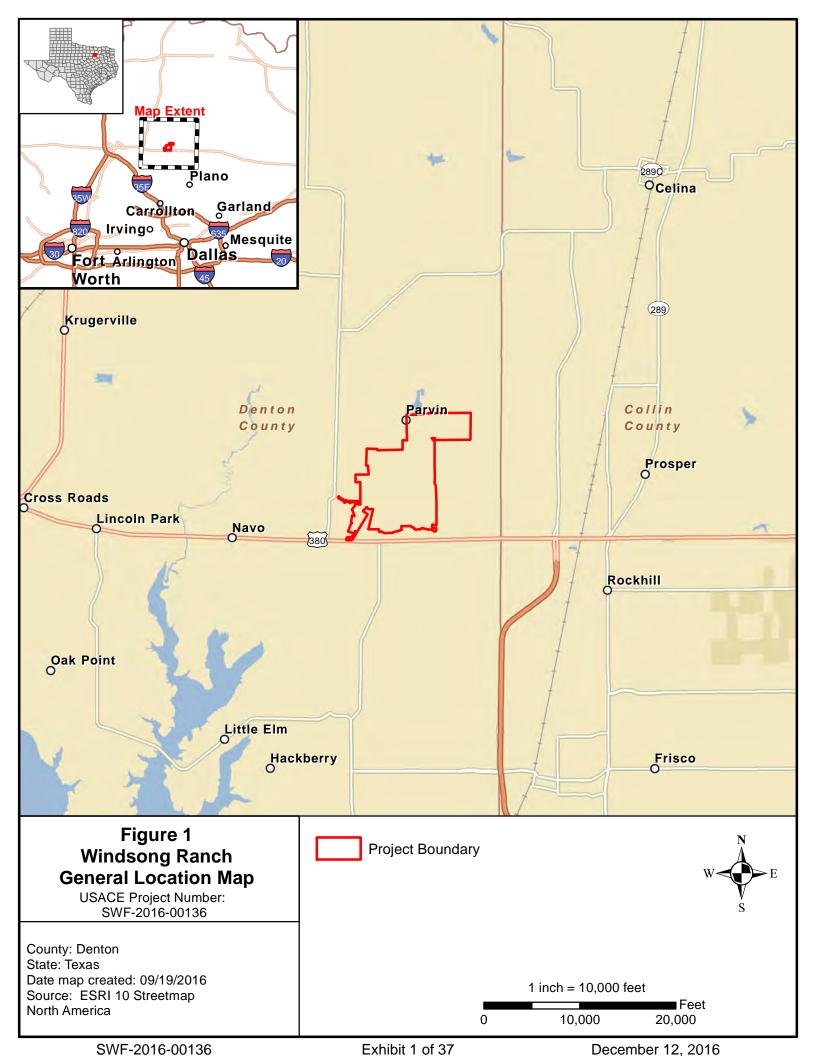
 $^{^8} See$ Footnote # 3. 9 To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

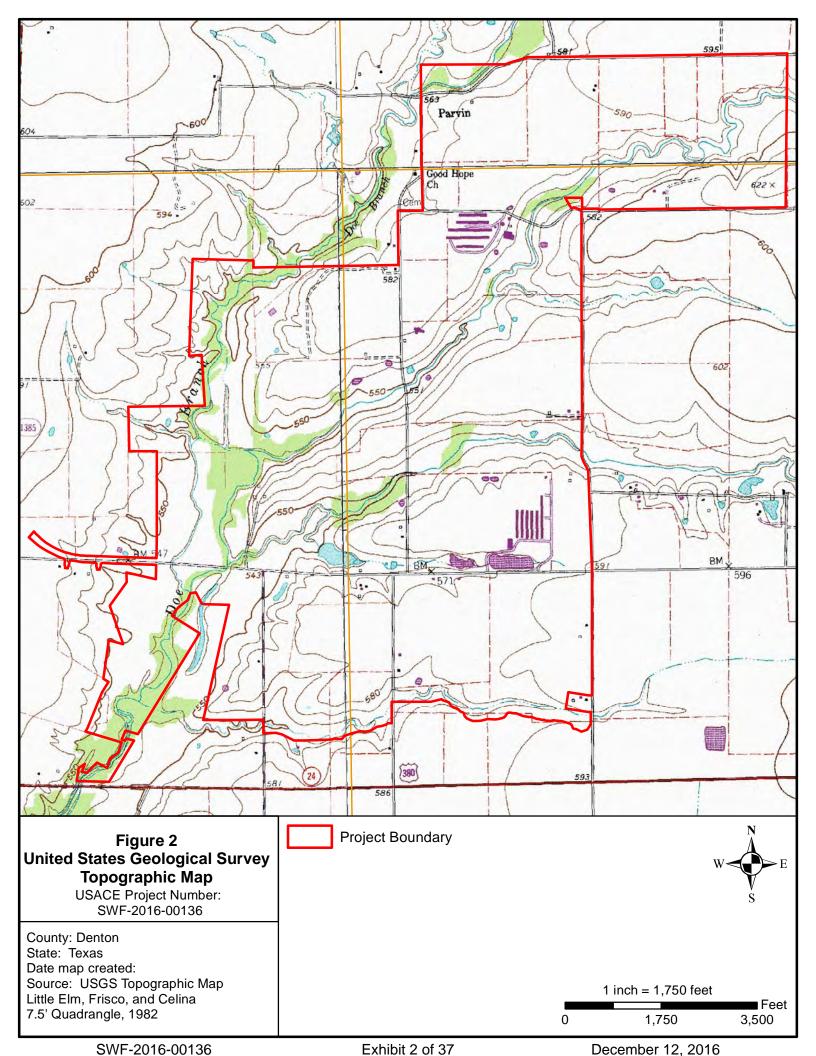
E.	ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY): 10 which are or could be used by interstate or foreign travelers for recreational or other purposes. 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: 60,253 linear feet 20 width (ft). ☐ Other non-wetland waters: 4.36acres. ☐ Identify type(s) of waters: Natural Ponds. ☐ Wetlands: 23.98 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: Wetlands were located in the uplands with more than 400 feet from a tributary system, separated by agricultural terraces. Stock ponds were constructed in uplands to collect sheet flow. Stock ponds have large embankment with no overflow structure from the pond. Other: (explain, if not covered above):
	Provide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> 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 width (ft). Lakes/ponds: acres. Other non-wetland waters: acres. List type of aquatic resource: Wetlands: 0.93 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): 2,340 linear feet, 5 width (ft). Lakes/ponds: 11.85 acres. Other non-wetland waters: acres. List type of aquatic resource: Wetlands: 0.93 acres.
SEC	CTION 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: 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.

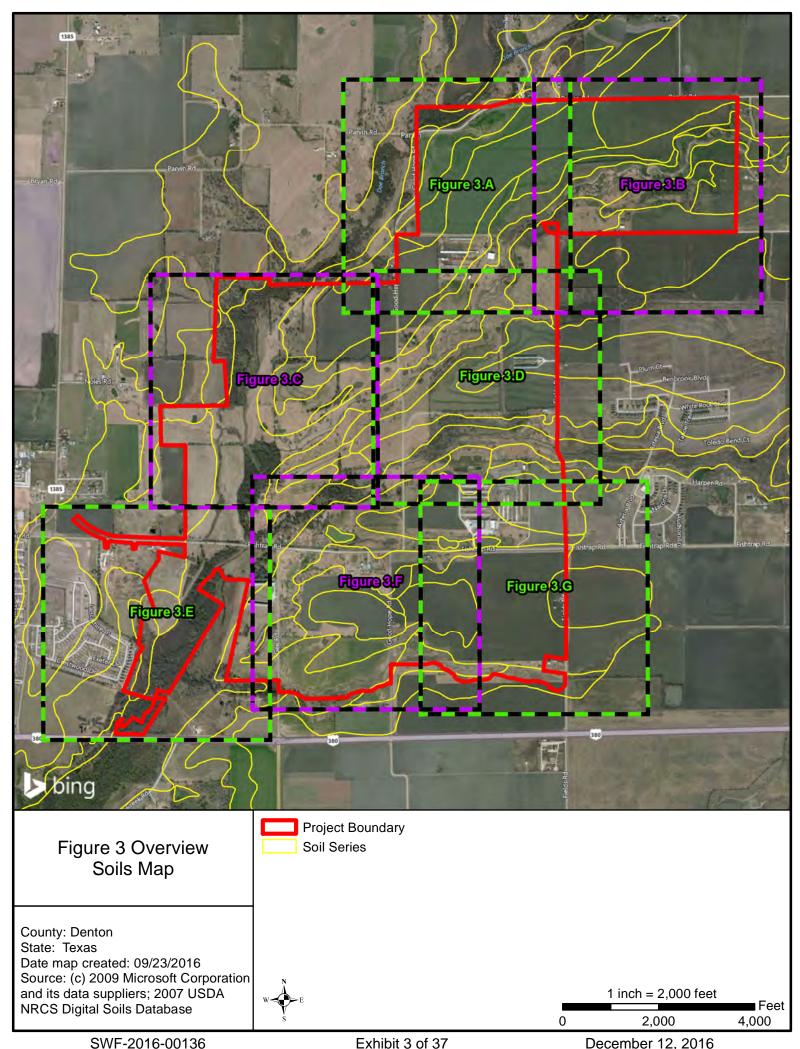
 $^{^{10}}$ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA $\it Memorandum~Regarding~CWA~Act~Jurisdiction~Following~Rapanos$.

	USGS 8 and 12 digit HUC maps.
\boxtimes	U.S. Geological Survey map(s). Cite scale & quad name: Little Elm, Celina, and Frisco 7.5'.
\boxtimes	USDA Natural Resources Conservation Service Soil Survey. Citation: 2007 USDA NRCS Digital Soils Database
\boxtimes	National wetlands inventory map(s). Cite name: ORM2.
	State/Local wetland inventory map(s):
\boxtimes	FEMA/FIRM maps:48121C0410G, 48121C0430G, and 48121C0290G.
	100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
	Photographs: Aerial (Name & Date):Google Earth - 2016.
	or ☑ Other (Name & Date):On-site photos submitted by applicant.
	Previous determination(s). File no. and date of response letter: .
	Applicable/supporting case law:
	Applicable/supporting scientific literature:
	Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:







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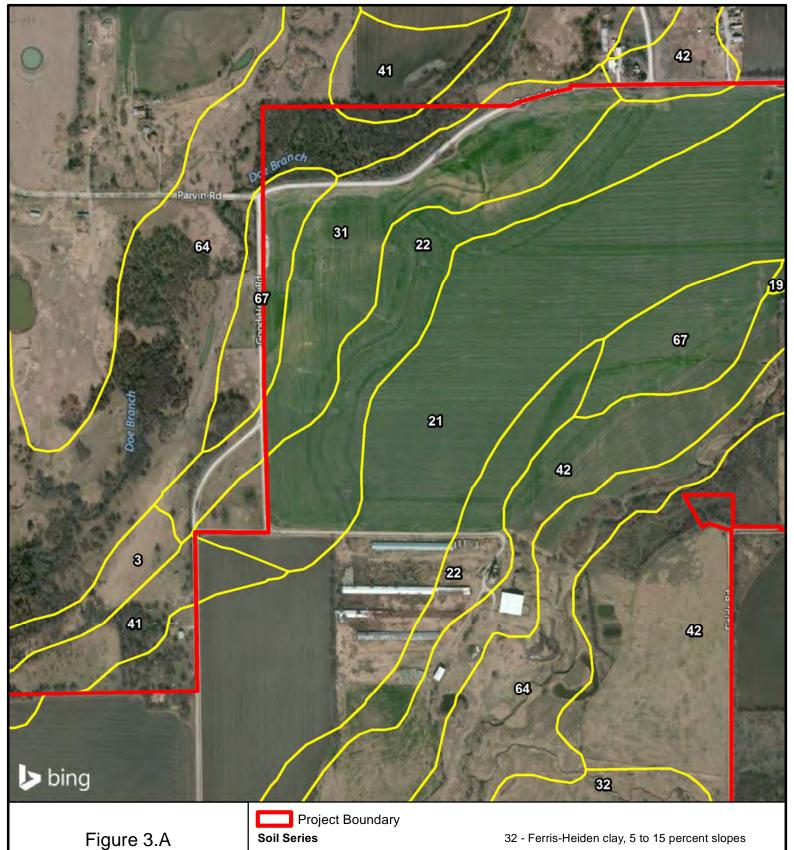


Figure 3.A Soils Map

County: Denton State: Texas

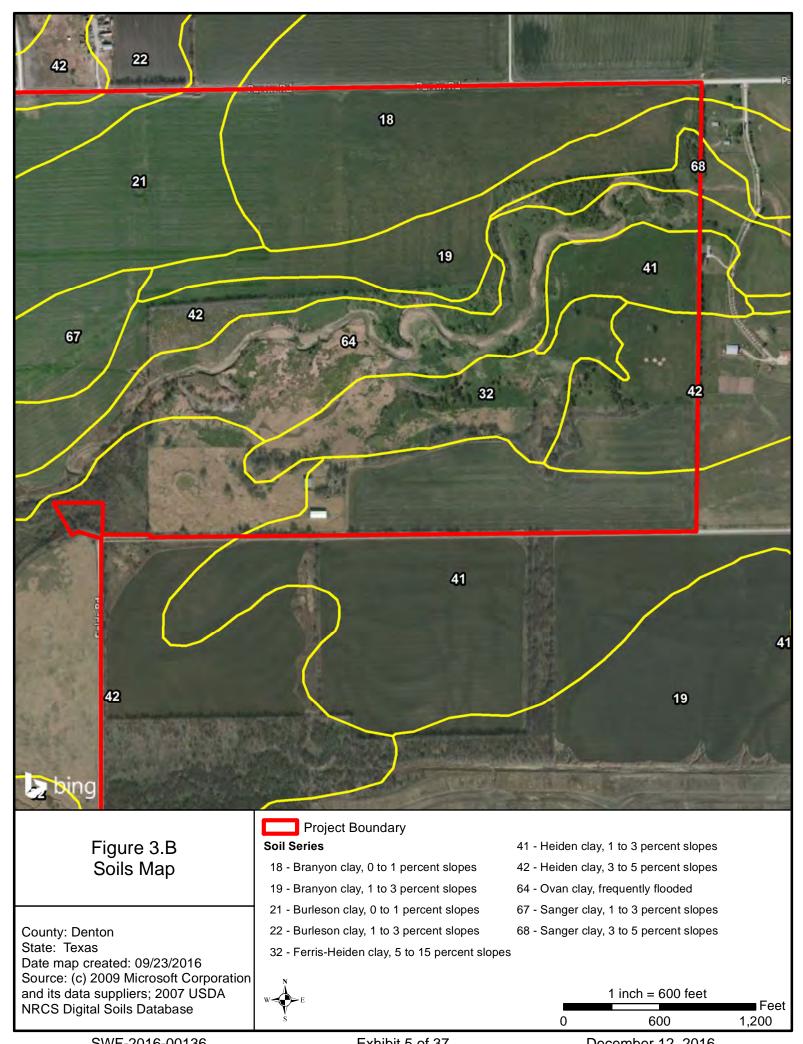
Date map created: 09/23/2016 Source: (c) 2009 Microsoft Corporation and its data suppliers; 2007 USDA NRCS Digital Soils Database

- 19 Branyon clay, 1 to 3 percent slopes
- 21 Burleson clay, 0 to 1 percent slopes
- 22 Burleson clay, 1 to 3 percent slopes
- 3 Altoga silty clay, 5 to 8 percent slopes
- 31 Ferris-Heiden clay, 3 to 5 percent slopes
- 41 Heiden clay, 1 to 3 percent slopes
- 42 Heiden clay, 3 to 5 percent slopes
- 64 Ovan clay, frequently flooded
- 67 Sanger clay, 1 to 3 percent slopes



1 inch = 600 feetFeet 1,200 600

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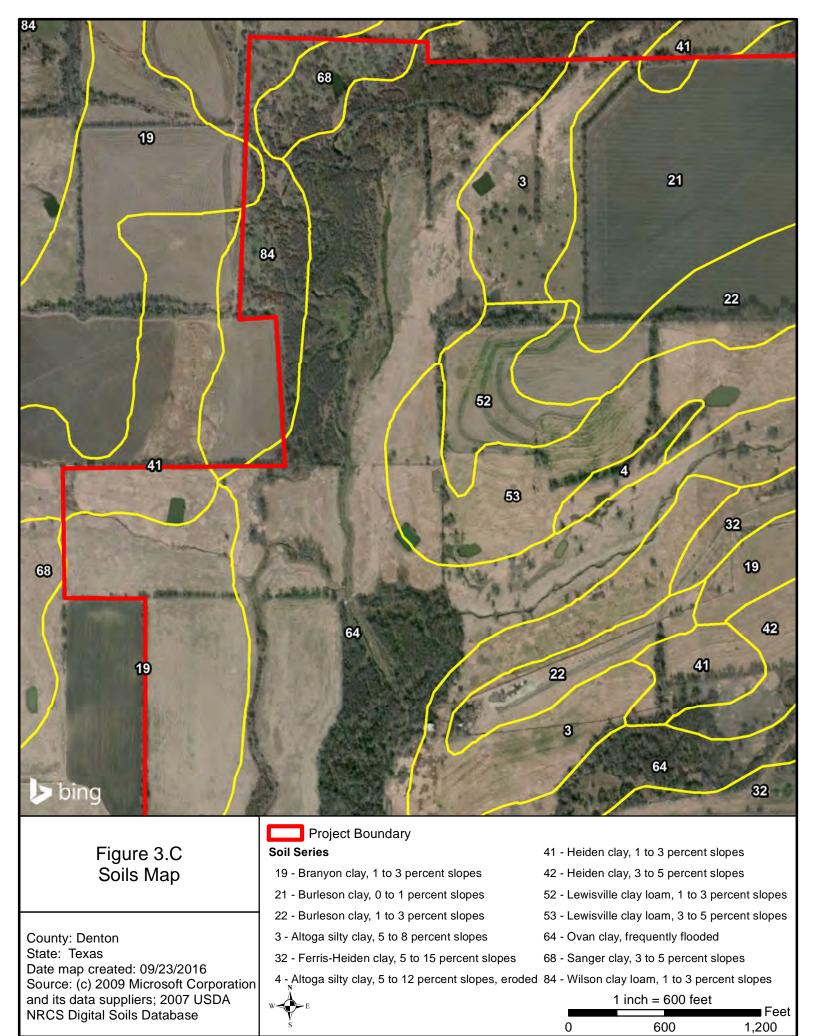
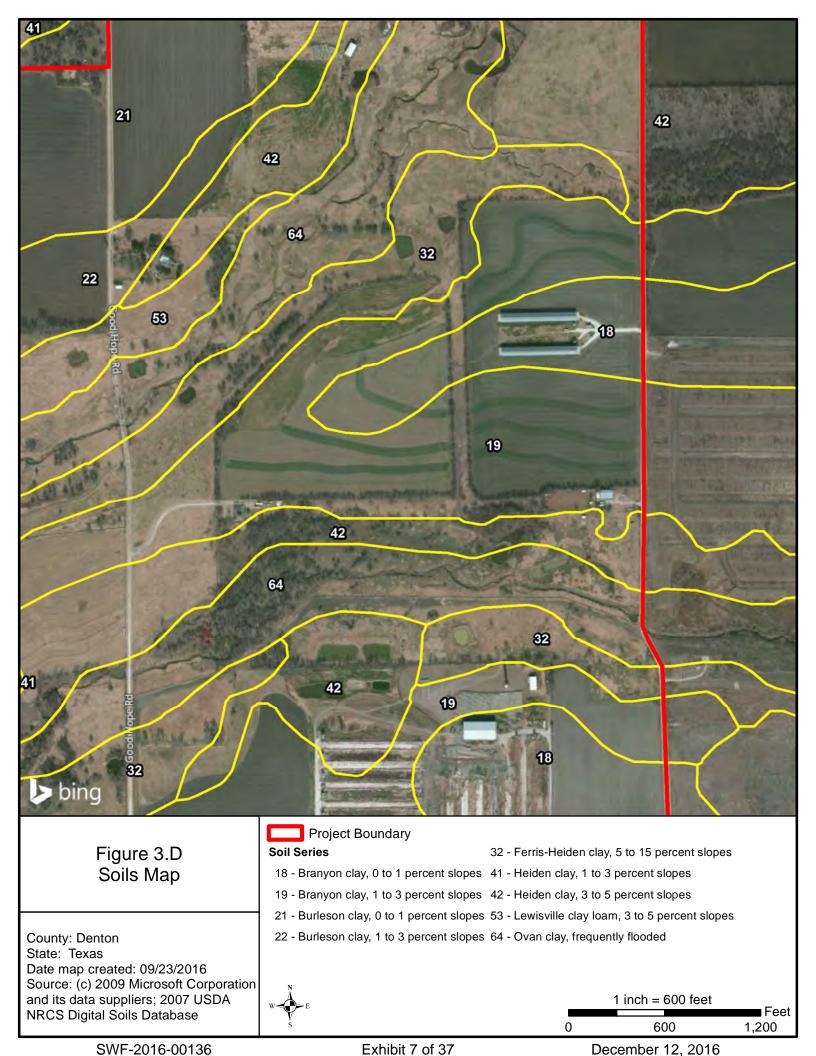
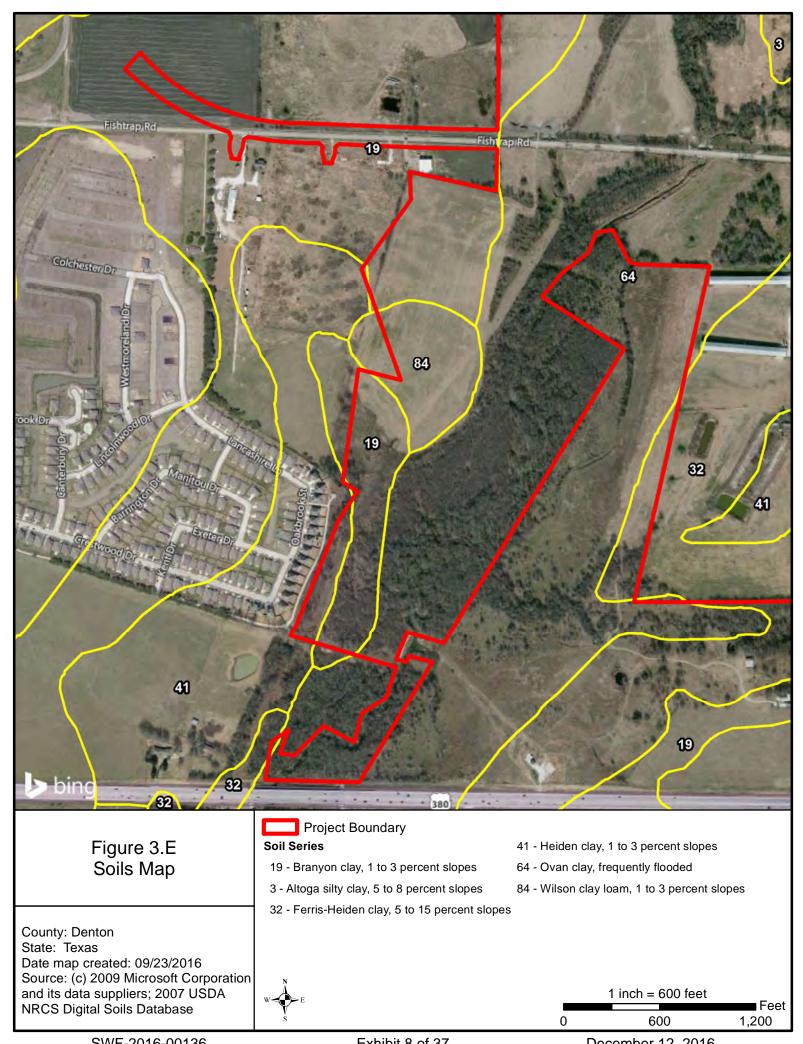
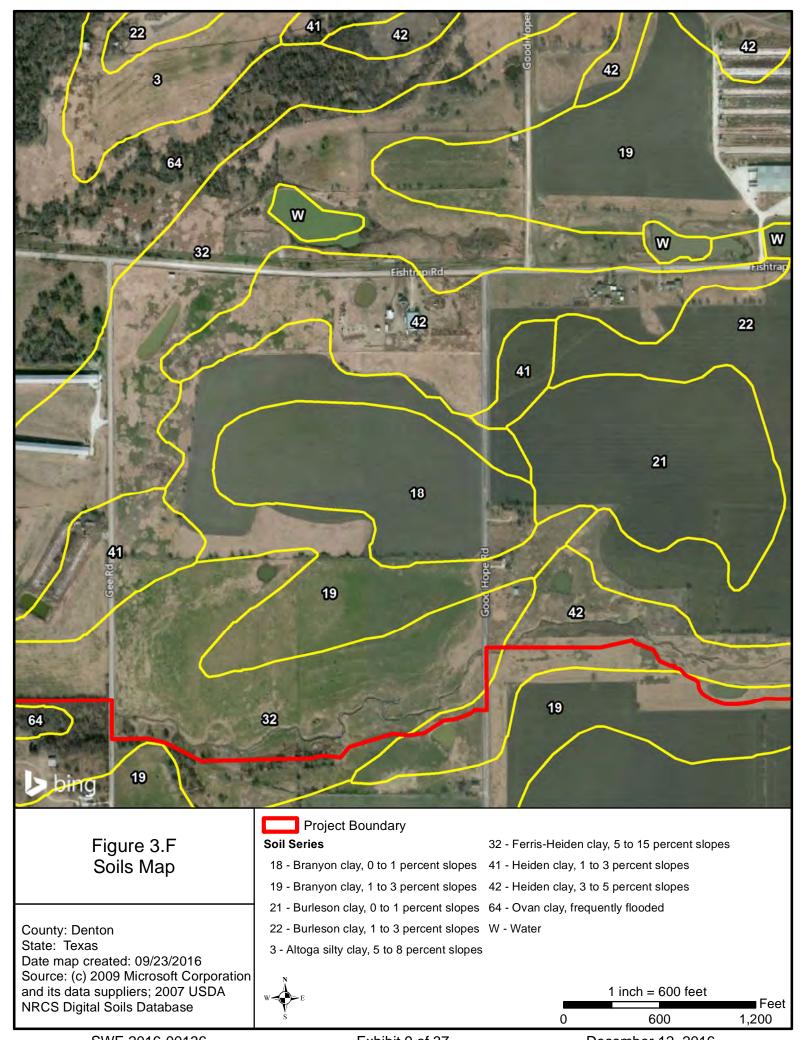


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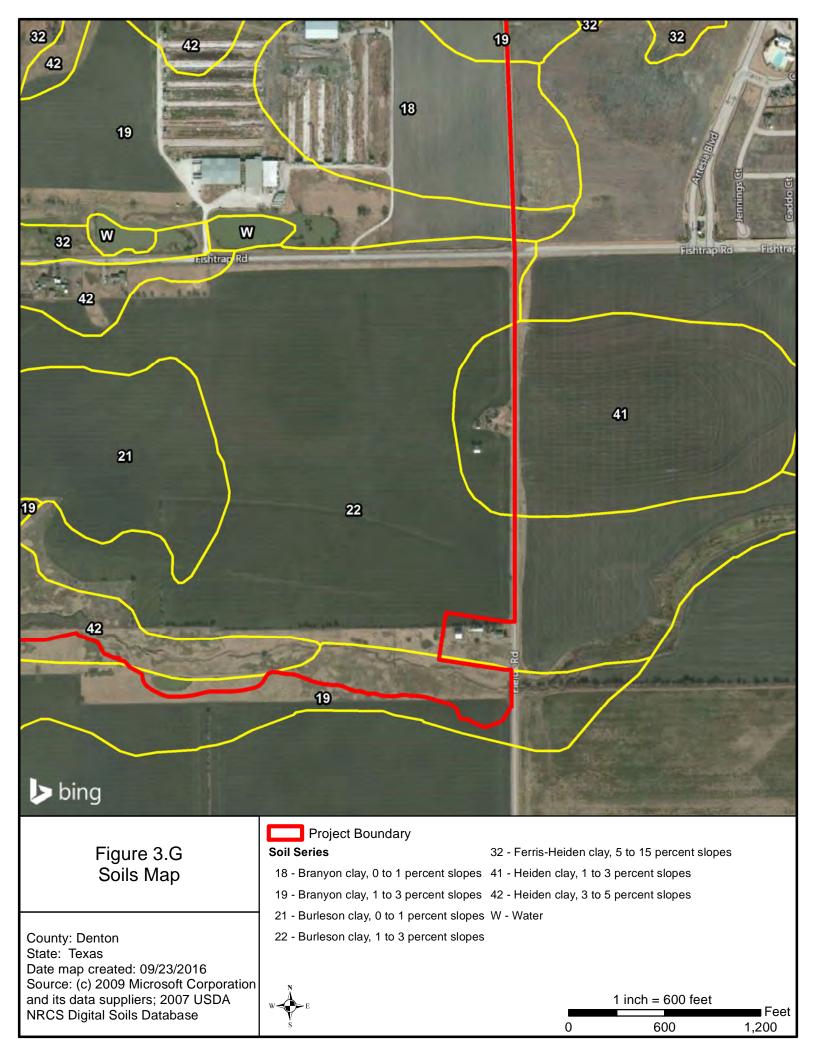




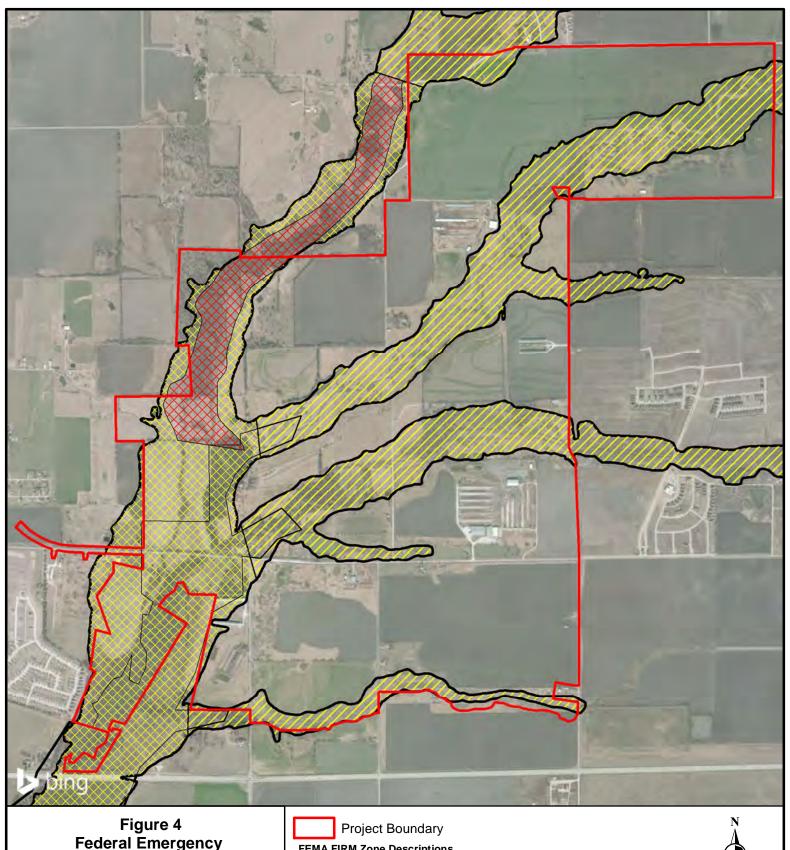
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Federal Emergency **Management Agency Flood Insurance Rate Map**

County: Denton State: Texas

Date map created: 09/22/2016 Source: Federal Emergency Management Agency Flood Insurance Rate Map Panel,

48121C0410G, 48121C0430G, 48121C0290G

Effective Date: 04/18/2011

FEMA FIRM Zone Descriptions

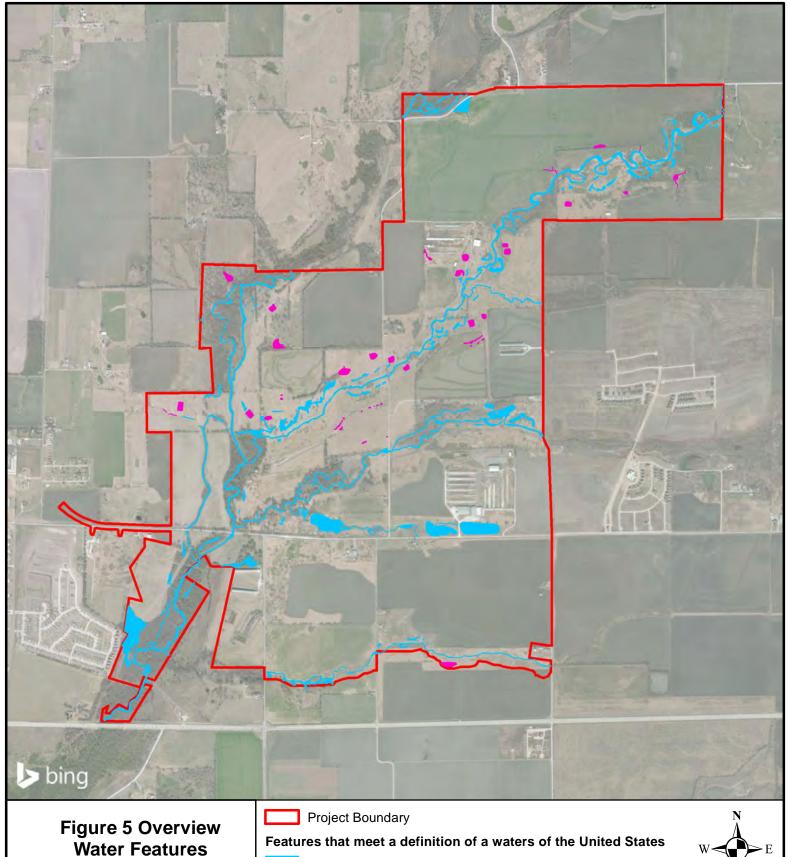
Zone X - Areas determined to be outside the 0.2% annual chance floodplain

Zone X - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood

Zone A - Special Flood Hazard Areas subject to inundation by the 1% annual chance flood; No base flood elevations determined

Zone AE - Special Flood Hazard Areas subject to inundation by the 1% annual chance flood; Base flood elevations determined 1 inch = 1,750 fee

Zone AE - Floodway areas in Zone AE

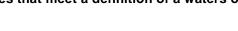


USACE Project Number: SWF-2016-00136

County: Denton State: Texas

Date map created: 09/22/2016 Source: (c) 2009 Microsoft Corporation

and its data suppliers

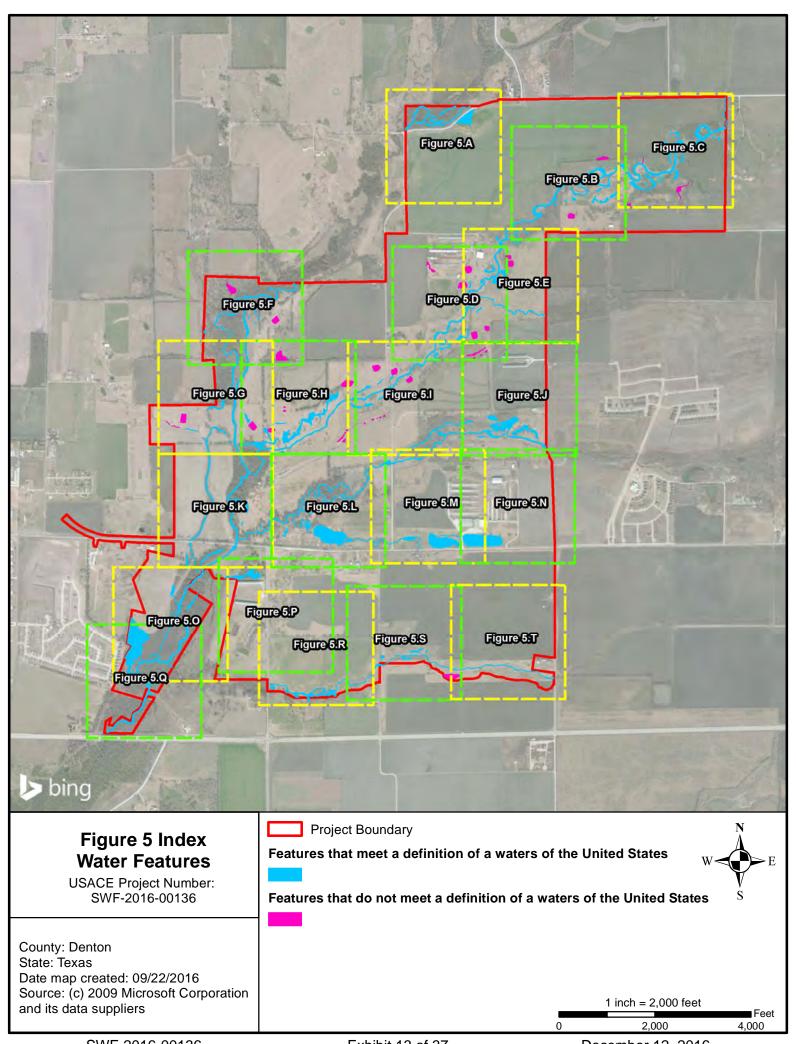


Features that do not meet a definition of a waters of the United States

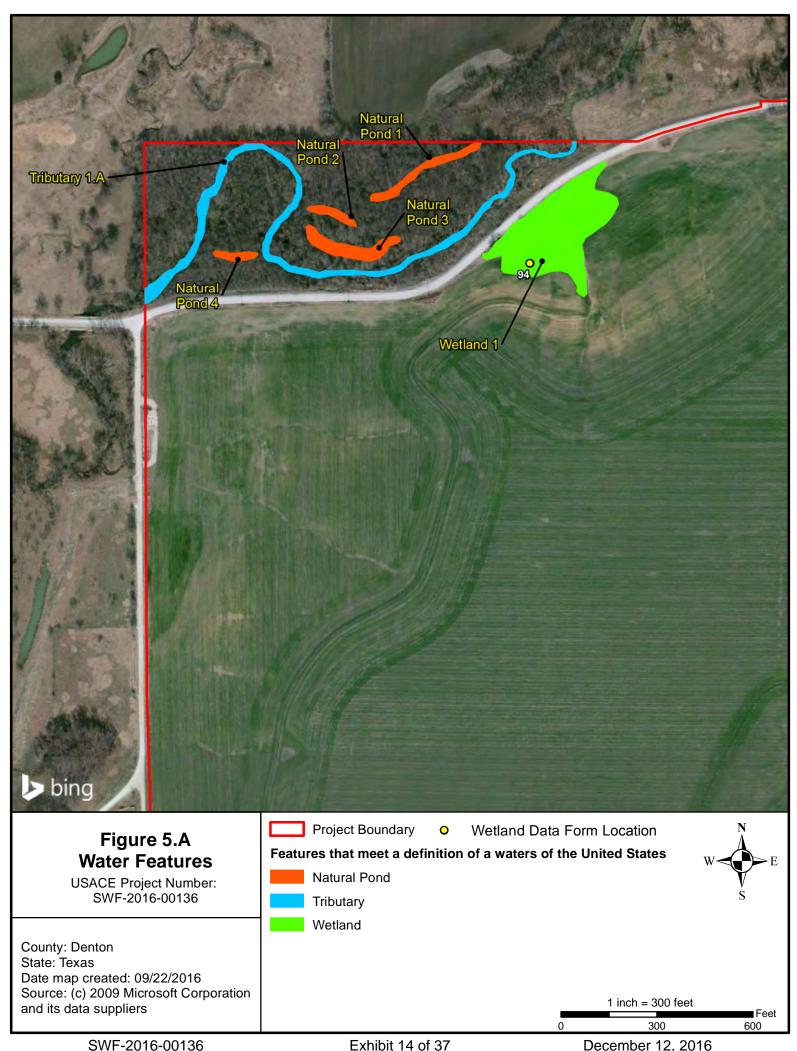


1 inch = 2,000 feet2,000 4,000

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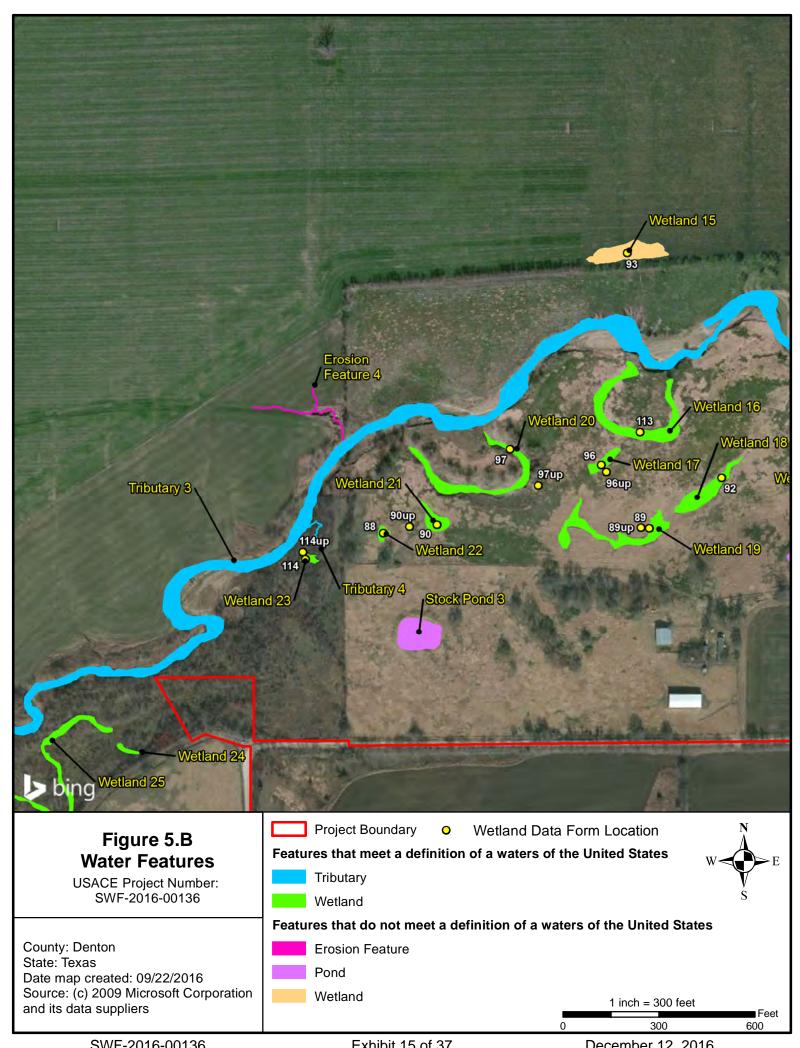


Exhibit 15 of 37 December 12, 2016 SWF-2016-00136

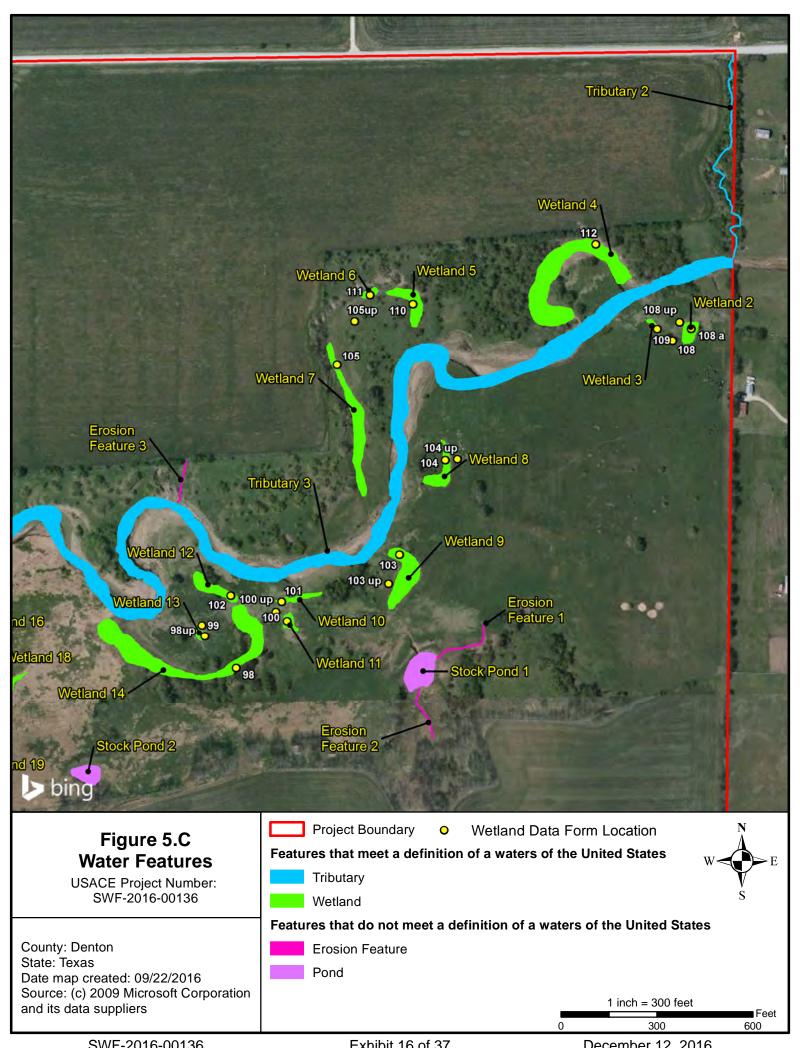


Exhibit 16 of 37 December 12, 2016 SWF-2016-00136

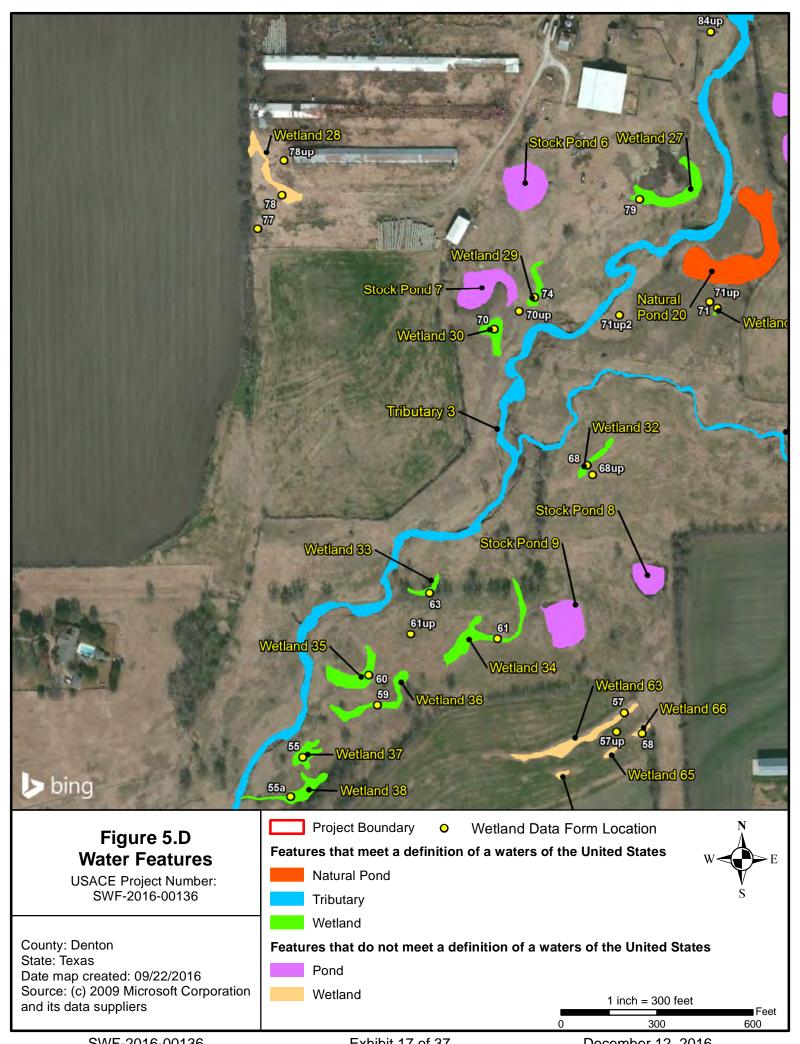
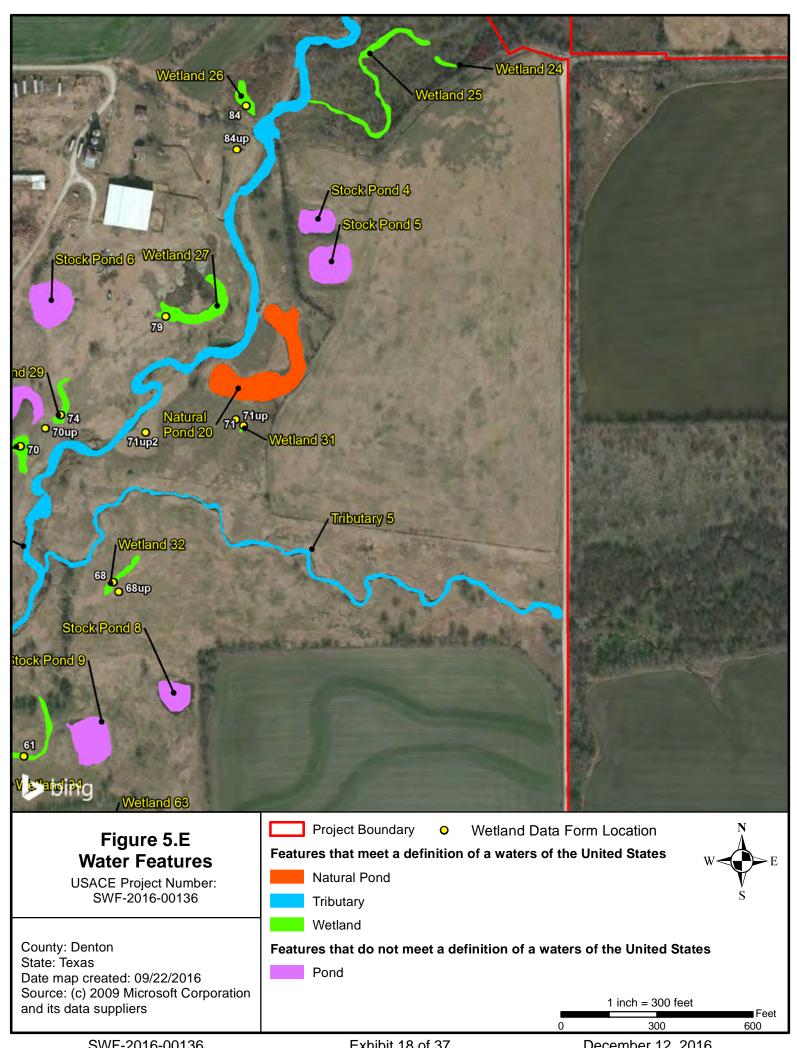
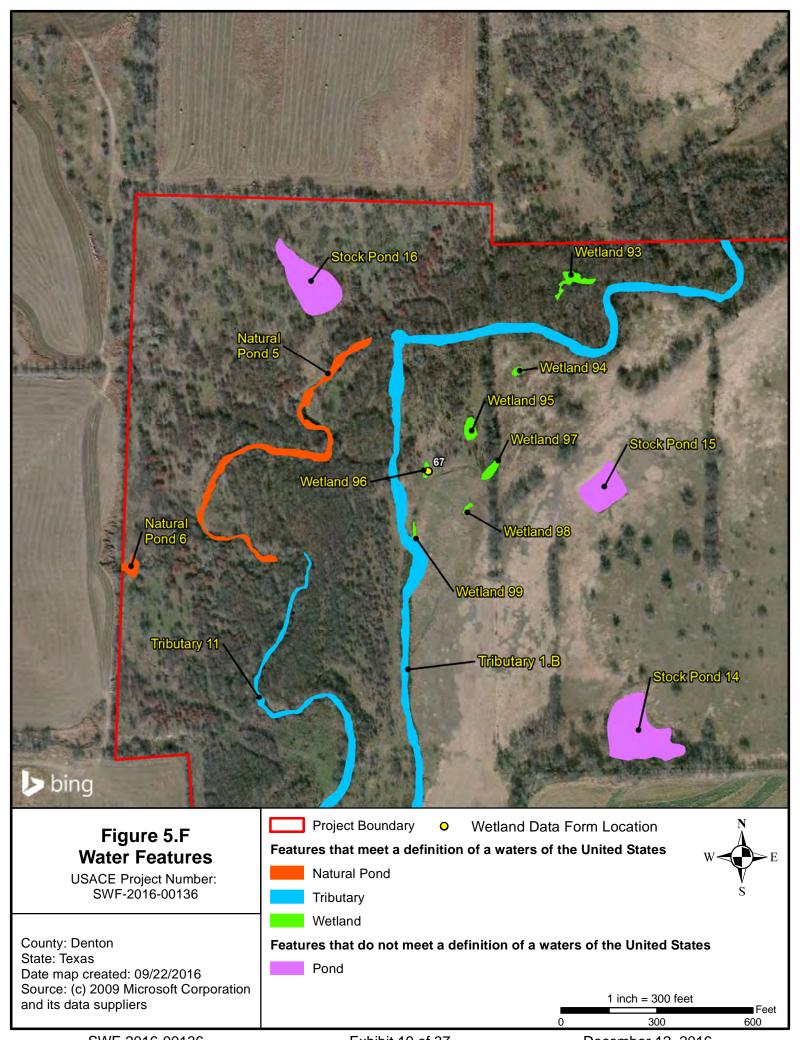


Exhibit 17 of 37 December 12, 2016 SWF-2016-00136



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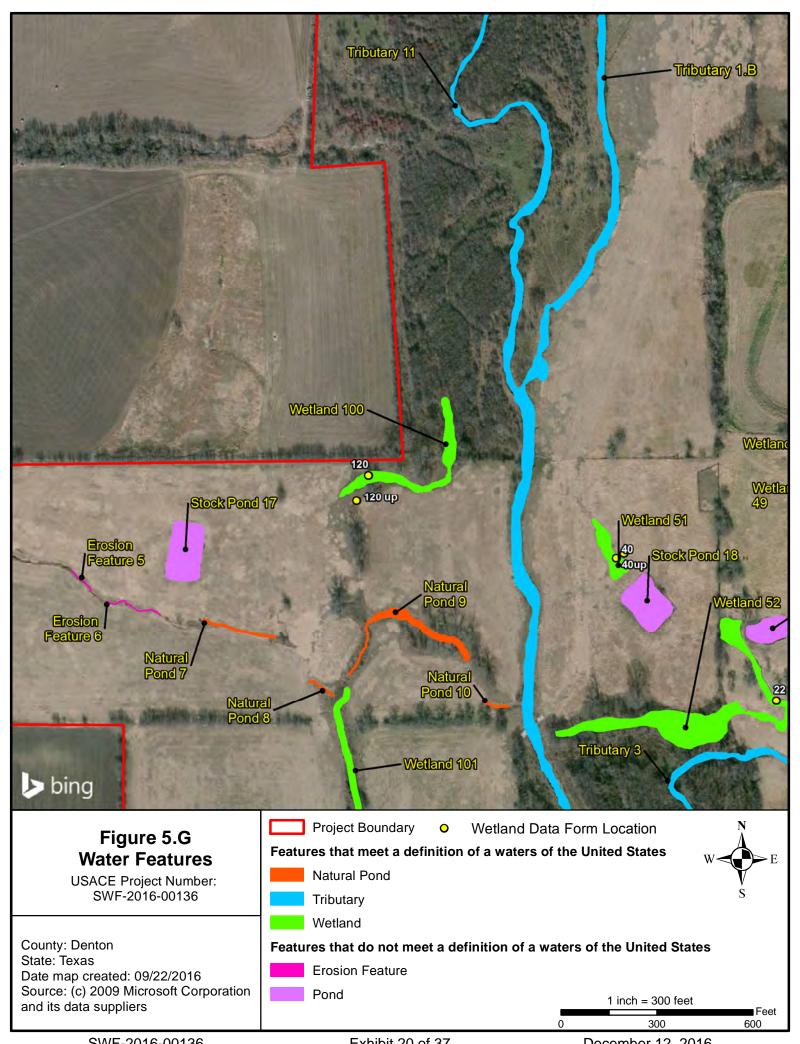
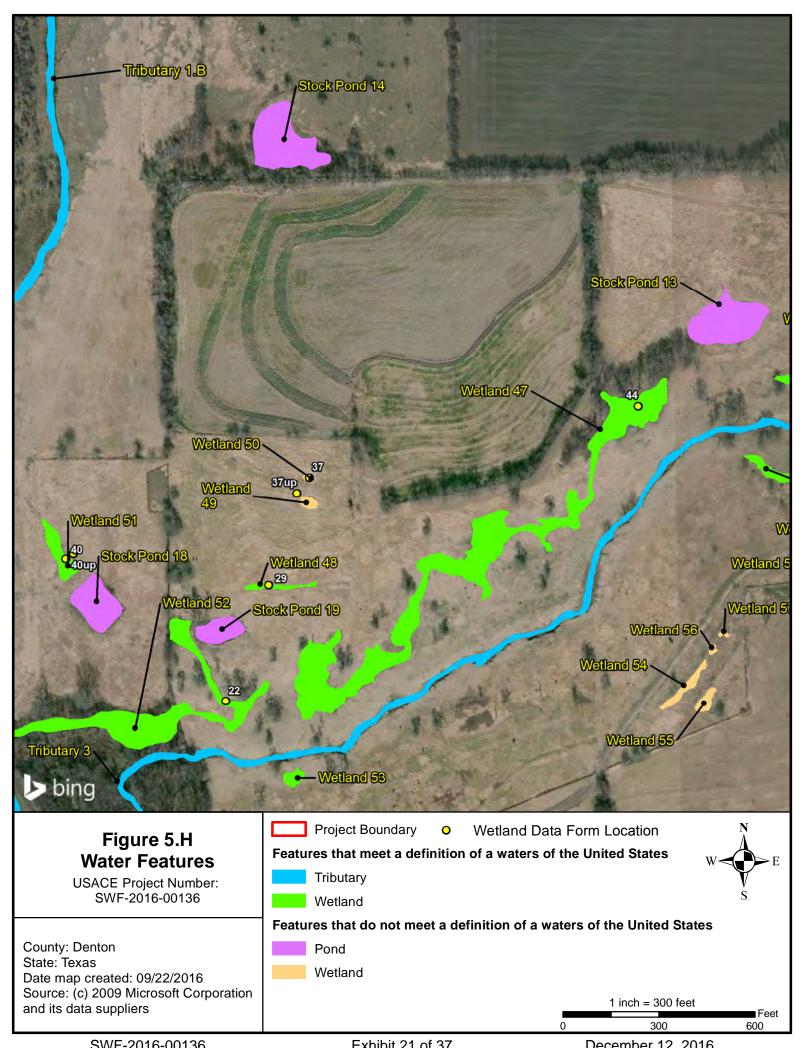


Exhibit 20 of 37 December 12, 2016 SWF-2016-00136



SWF-2016-00136 Exhibit 21 of 37 December 12, 2016

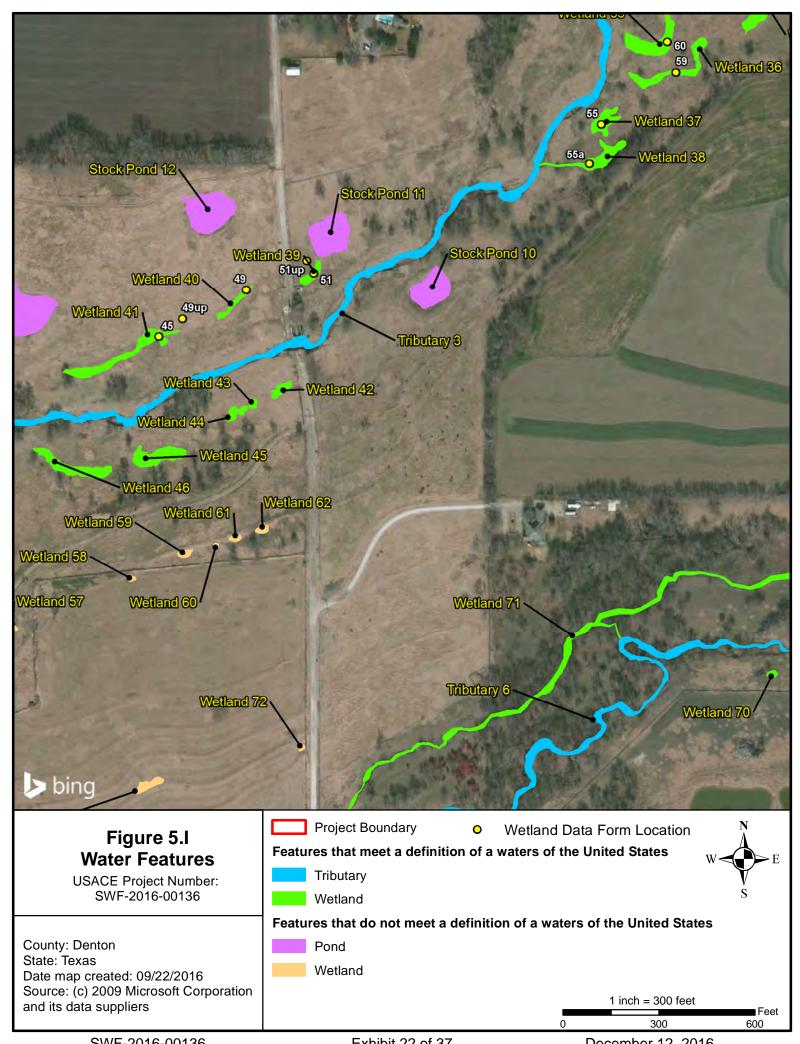
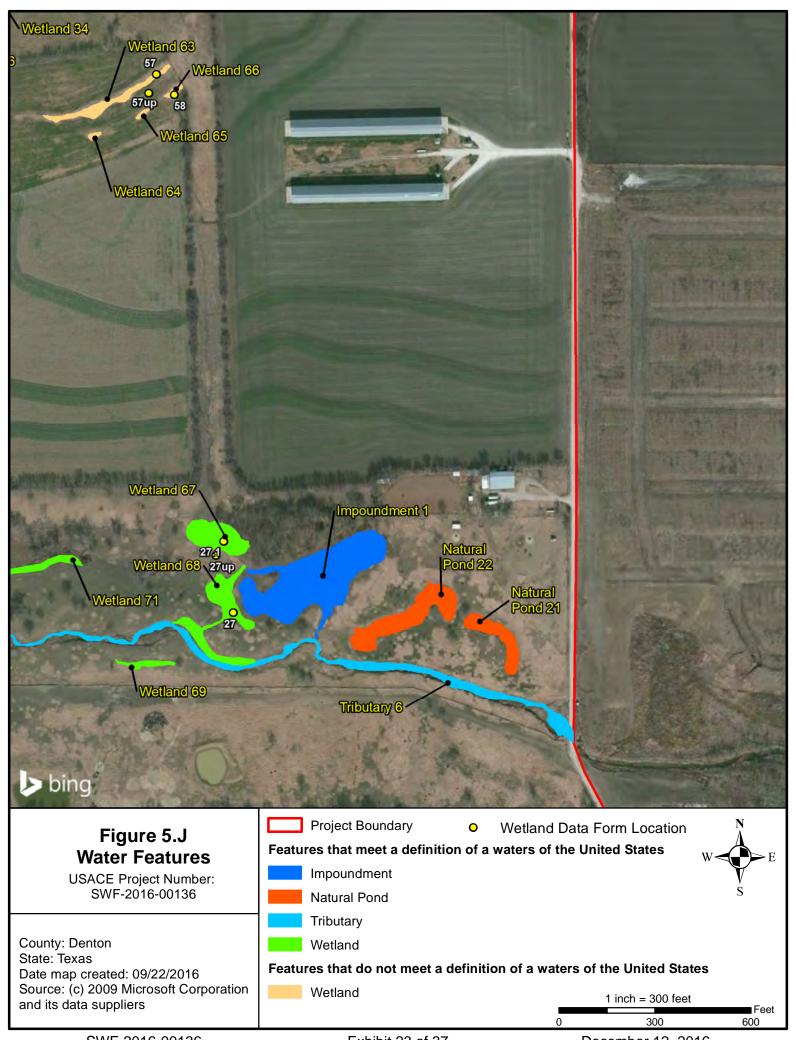
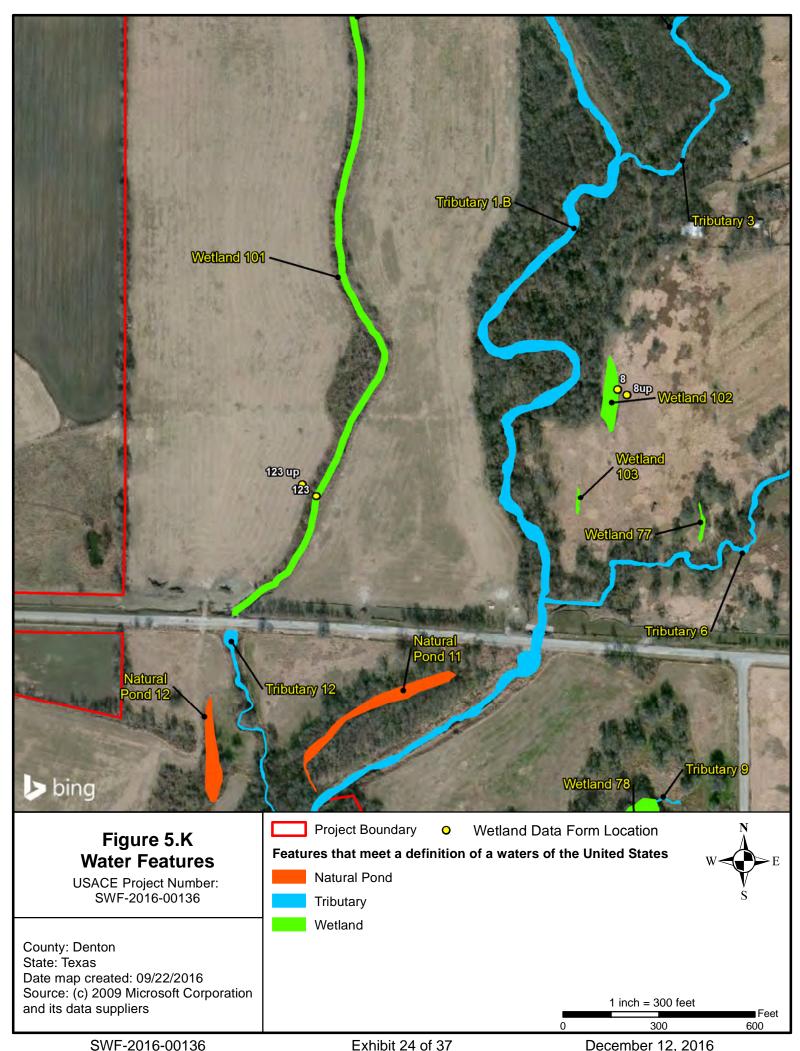


Exhibit 22 of 37 December 12, 2016 SWF-2016-00136



SWF-2016-00136 Exhibit 23 of 37 December 12, 2016



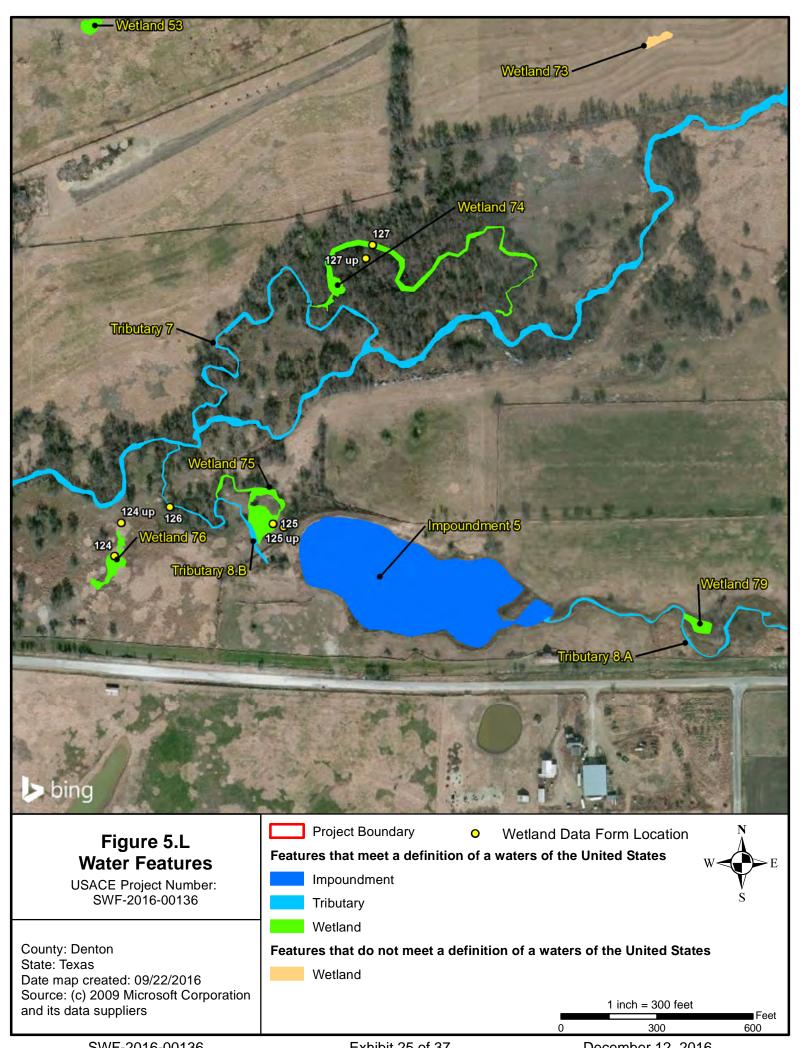
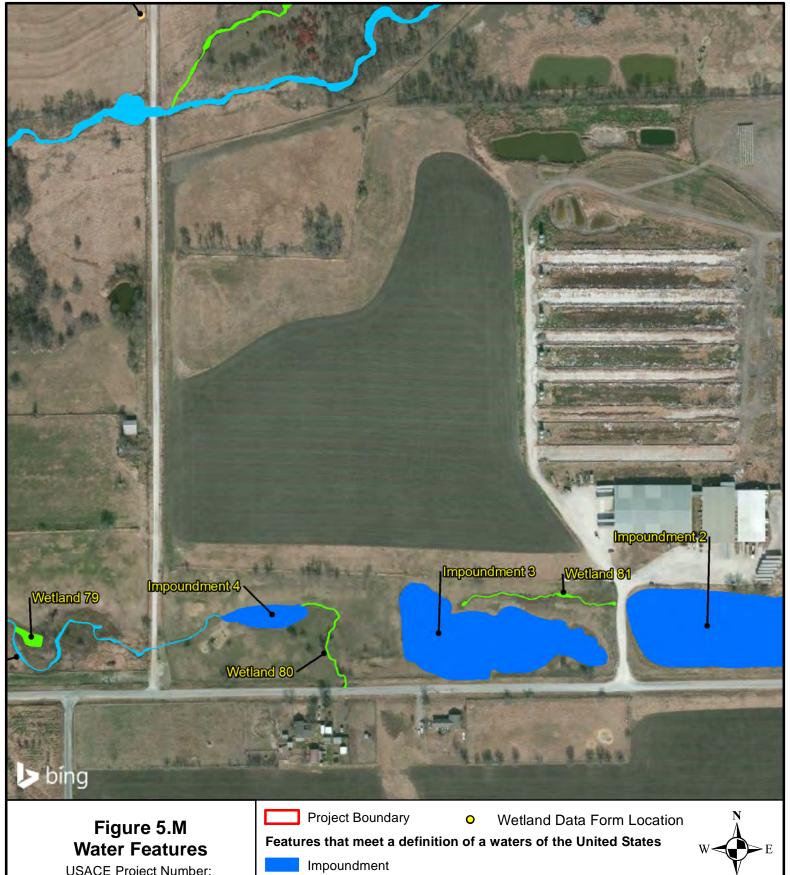


Exhibit 25 of 37 December 12, 2016 SWF-2016-00136



USACE Project Number: SWF-2016-00136

County: Denton State: Texas

Date map created: 09/22/2016 Source: (c) 2009 Microsoft Corporation

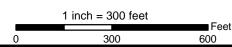
and its data suppliers

Tributary

Wetland

Features that do not meet a definition of a waters of the United States

Wetland



December 12, 2016 SWF-2016-00136 Exhibit 26 of 37



Figure 5.N Water Features

USACE Project Number: SWF-2016-00136

County: Denton State: Texas

Date map created: 09/22/2016 Source: (c) 2009 Microsoft Corporation

and its data suppliers

Project Boundary

Wetland Data Form Location

Features that meet a definition of a waters of the United States

Impoundment

Tributary

Wetland



1 inch = 300 feet

Feet
0 300 600

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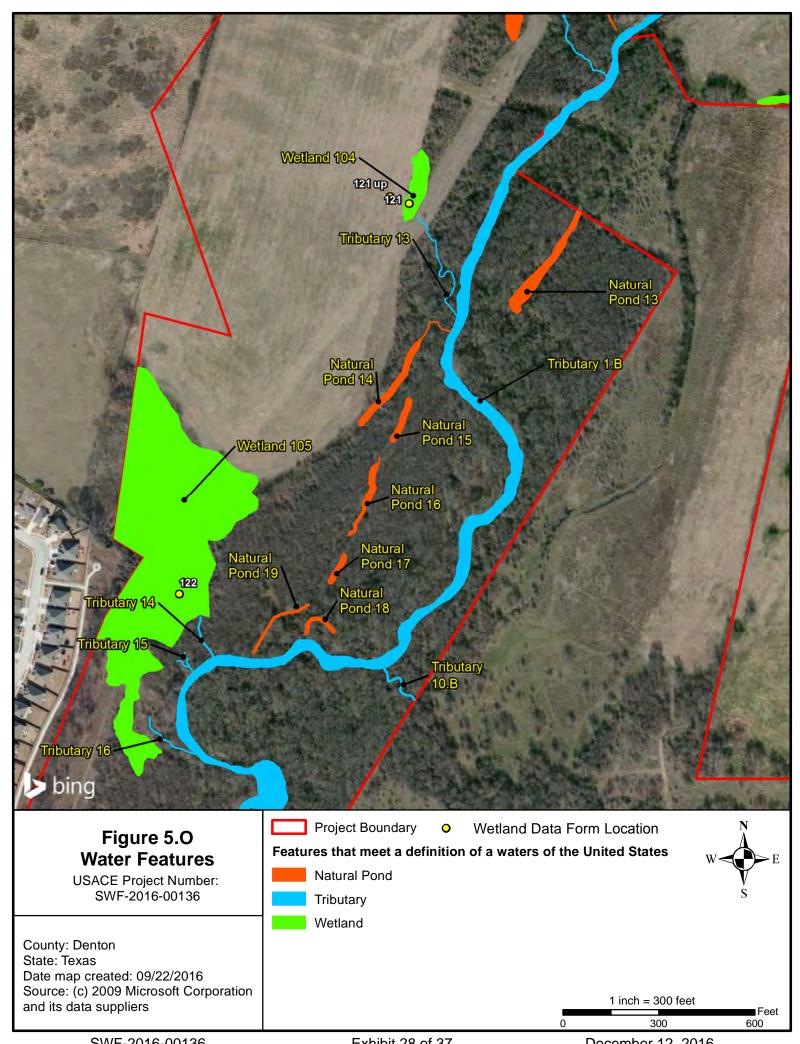


Exhibit 28 of 37 December 12, 2016 SWF-2016-00136



USACE Project Number: SWF-2016-00136

County: Denton State: Texas

Date map created: 09/22/2016 Source: (c) 2009 Microsoft Corporation

and its data suppliers

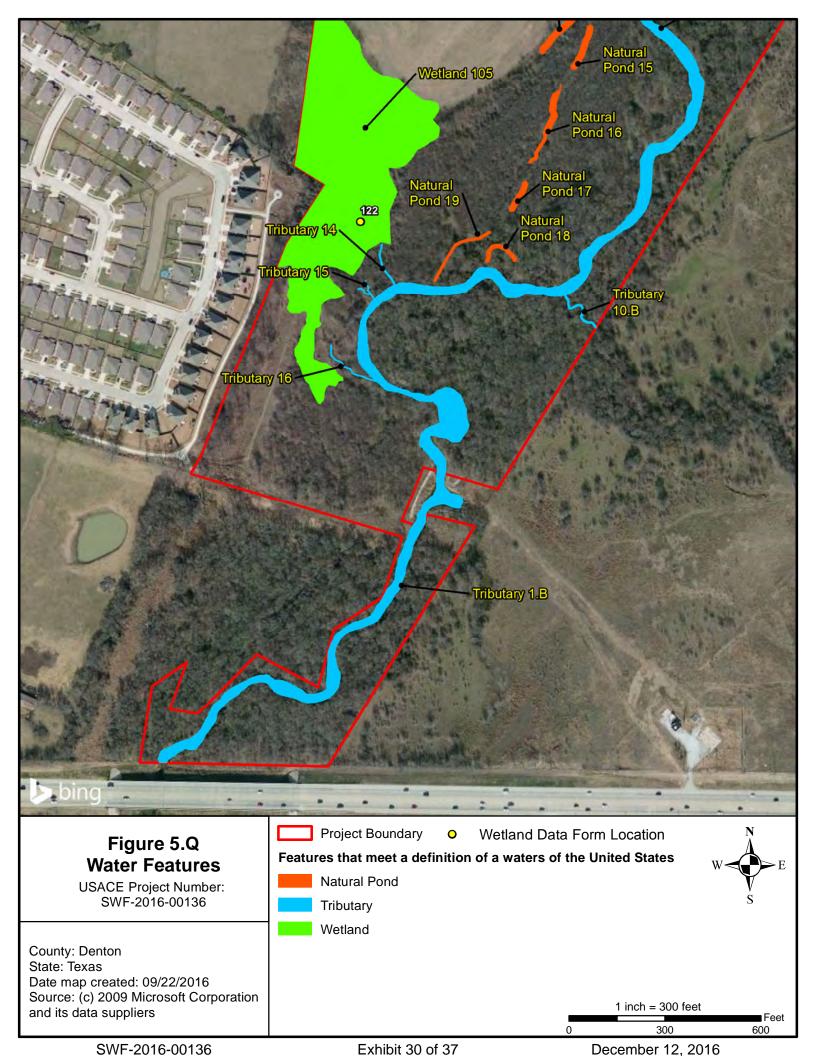
Tributary

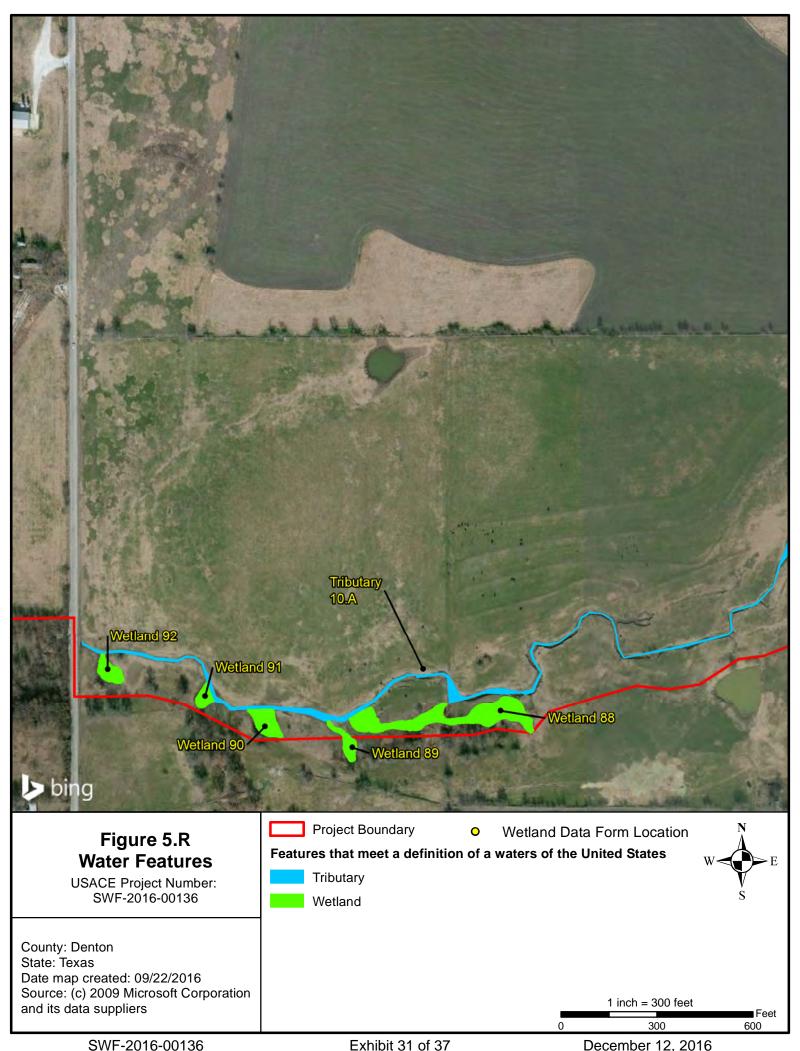
Wetland

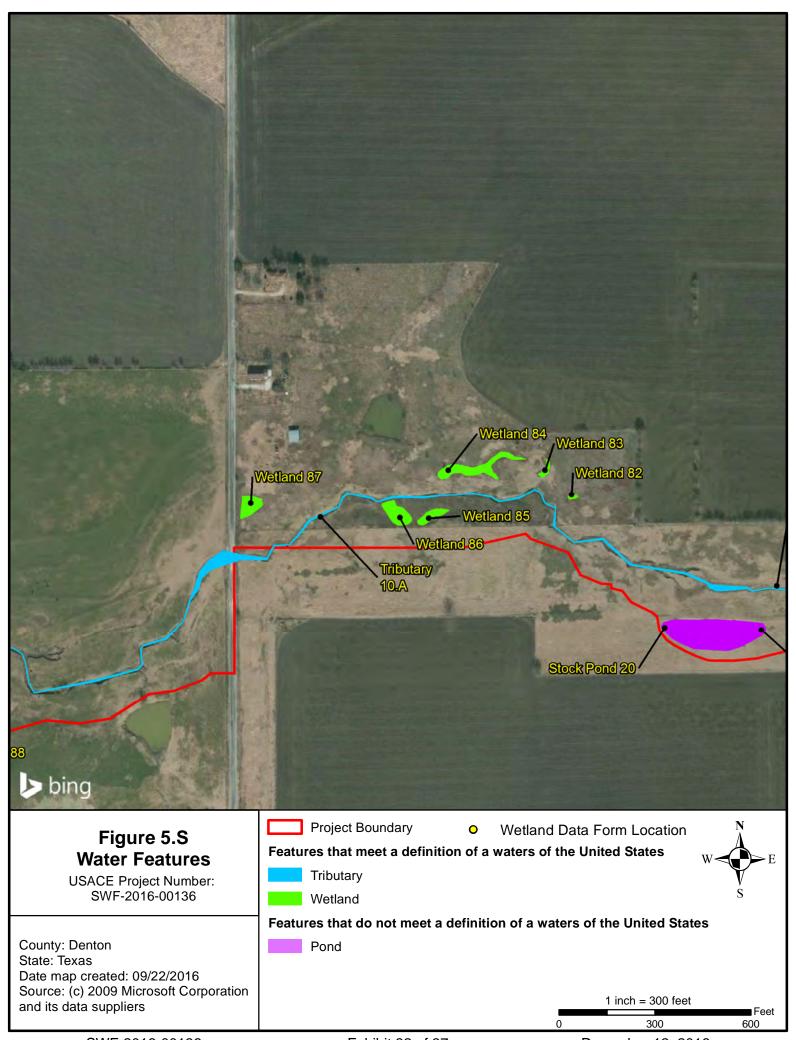


1 inch = 300 feet 300 600

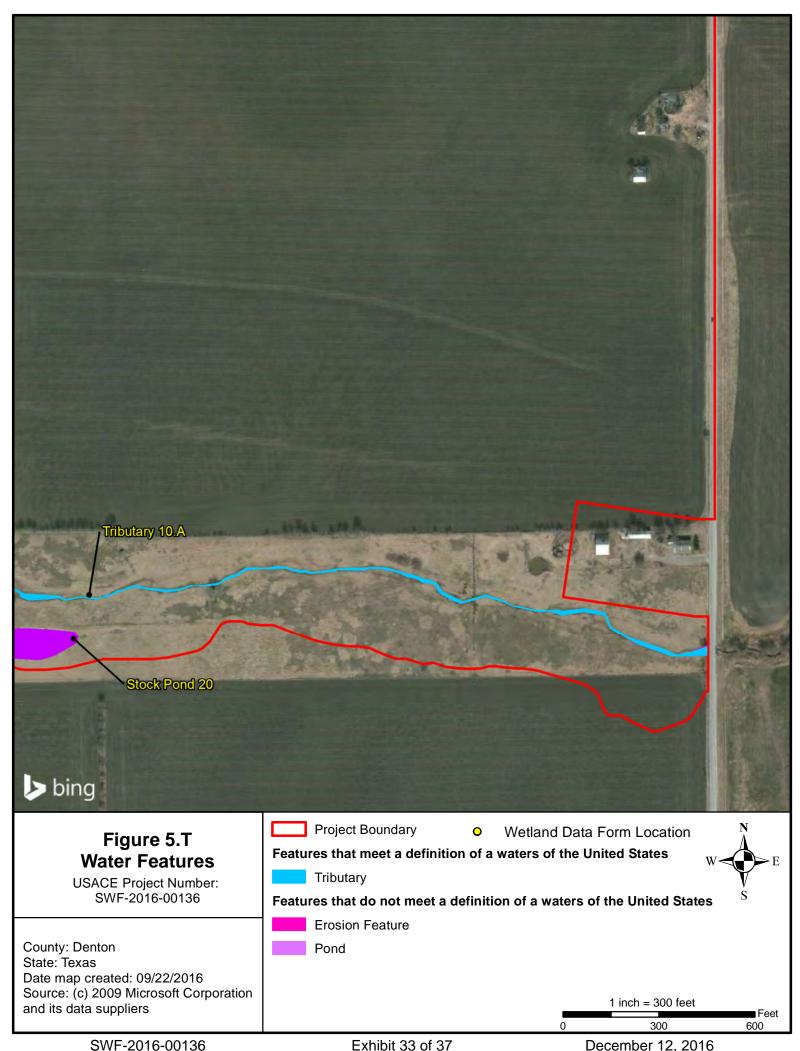
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Soil Map Unit Symbol	Soil Map Unit Name	Area within Project Site (Acres)
3	Altoga silty clay, 5 to 8 percent slopes	48.1
4	Altoga silty clay, 5 to 12 percent slopes, eroded	3.9
18	Branyon clay, 0 to 1 percent slopes	129.3
19	Branyon clay, 1 to 3 percent slopes	306.4
21	Burleson clay, 0 to 1 percent slopes	203.2
22	Burleson clay, 1 to 3 percent slopes	213.7
31	Ferris-Heiden clay, 3 to 5 percent slopes	32.8
32	Ferris-Heiden clay, 5 to 15 percent slopes	220.1
41	Heiden clay, 1 to 3 percent slopes	86.3
42	Heiden clay, 3 to 5 percent slopes	229.4
52	Lewisville clay loam, 1 to 3 percent slopes	13.3
53	Lewisville clay loam, 3 to 5 percent slopes	44.1
64	Ovan clay, frequently flooded	404.6
67	Sanger clay, 1 to 3 percent slopes	19.8
68	Sanger clay, 3 to 5 percent slopes	12.6
84	Wilson clay loam, 1 to 3 percent slopes	22.9
w	Water	6.5

Table 2. Water Features Identified within Windsong Ranch Project Boundary

Water Identification	Post Rapanos Classification	Water of the United States	Hydrologic Characteristics	Area (Acres)	Length (Linear Feet)
Tributary 1.A	RPW	Yes	Intermittent	1.00	2,263
Tributary 1.B	RPW	Yes	Intermittent	9.02	13,670
Tributary 2	Non-RPW	Yes	Ephemeral	0.08	758
Tributary 3	RPW	Yes	Intermittent	10.21	16,414
Tributary 4	Non-RPW	Yes	Ephemeral	0.01	139
Tributary 5	RPW	Yes	Intermittent	0.55	2,280
Tributary 6	RPW	Yes	Intermittent	3.16	9,046
Tributary 7	RPW	Yes	Intermittent	0.23	1,497
Tributary 8.A	RPW	Yes	Intermittent	0.14	1,464
Tributary 8.B	RPW	Yes	Intermittent	0.09	803
Tributary 9	Non-RPW	Yes	Ephemeral	0.01	81
Tributary 10.A	RPW	Yes	Intermittent	1.17	8,164
Tributary 10.B	RPW	Yes	Intermittent	0.02	179
Tributary 11	RPW	Yes	Intermittent	0.68	1,777
Tributary 12	RPW	Yes	Intermittent	0.15	827
Tributary 13	Non-RPW	Yes	Ephemeral	0.03	427
Tributary 14	Non-RPW	Yes	Ephemeral	0.02	142
Tributary 15	Non-RPW	Yes	Ephemeral	0.01	118
Tributary 16	Non-RPW	Yes	Ephemeral	0.02	205
Impoundment 1	Impoundment of non-RPW	Yes	Seasonally Inundated	1.48	N/A
Impoundment 2	Impoundment of non-RPW	Yes	Seasonally Inundated	3.96	N/A
Impoundment 3	Impoundment of non-RPW	Yes	Seasonally Inundated	2.60	N/A
Impoundment 4	Impoundment of non-RPW	Yes	Seasonally Inundated	0.33	N/A
Impoundment 5	Impoundment of non-RPW	Yes	Seasonally Inundated	4.00	N/A
Natural Pond 1	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.20	N/A
Natural Pond 2	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.09	N/A
Natural Pond 3	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.28	N/A
Natural Pond 4	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.07	N/A
Natural Pond 5	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.52	N/A
Natural Pond 6	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.05	N/A
Natural Pond 7	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.04	N/A
Natural Pond 8	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.01	N/A
Natural Pond 9	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.21	N/A
Natural Pond 10	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.01	N/A
Natural Pond 11	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.37	N/A

Table 2. Water Features Identified within Windsong Ranch Project Boundary

Water Identification	Post Rapanos Classification	Water of the United States	Hydrologic Characteristics	Area (Acres)	Length (Linear Feet)
Natural Pond 12	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.25	N/A
Natural Pond 13	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.24	N/A
Natural Pond 14	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.16	N/A
Natural Pond 15	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.07	N/A
Natural Pond 16	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.09	N/A
Natural Pond 17	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.04	N/A
Natural Pond 18	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.04	N/A
Natural Pond 19	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.05	N/A
Natural Pond 20	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.78	N/A
Natural Pond 21	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.24	N/A
Natural Pond 22	Adjacent Geographical Feature	Yes	Seasonally Inundated	0.54	N/A
Wetland 1	Wetland Adjacent to RPW	Yes	Seasonally Inundated	1.20	N/A
Wetland 2	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.06	N/A
Wetland 3	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.02	N/A
Wetland 4	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.63	N/A
Wetland 5	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.12	N/A
Wetland 6	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.02	N/A
Wetland 7	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.28	N/A
Wetland 8	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.10	N/A
Wetland 9	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.23	N/A
Wetland 10	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 11	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 12	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.10	N/A
Wetland 13	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.02	N/A
Wetland 14	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.62	N/A
Wetland 16	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.38	N/A
Wetland 17	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.07	N/A
Wetland 18	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.19	N/A
Wetland 19	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.28	N/A
Wetland 20	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.26	N/A
Wetland 21	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.08	N/A
Wetland 22	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.03	N/A
Wetland 23	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.02	N/A
Wetland 24	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.02	N/A
Wetland 25	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.22	N/A

Table 2. Water Features Identified within Windsong Ranch Project Boundary

Water Identification	Post Rapanos Classification	Water of the United States	Hydrologic Characteristics	Area (Acres)	Length (Linear Feet)
Wetland 26	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.07	N/A
Wetland 27	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.24	N/A
Wetland 29	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.07	N/A
Wetland 30	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.10	N/A
Wetland 31	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.01	N/A
Wetland 32	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.06	N/A
Wetland 33	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 34	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.23	N/A
Wetland 35	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.18	N/A
Wetland 36	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.14	N/A
Wetland 37	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.09	N/A
Wetland 38	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.14	N/A
Wetland 39	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 40	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 41	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.20	N/A
Wetland 42	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 43	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.01	N/A
Wetland 44	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.04	N/A
Wetland 45	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.15	N/A
Wetland 46	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.16	N/A
Wetland 47	Wetland Adjacent to RPW	Yes	Seasonally Inundated	2.59	N/A
Wetland 48	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.06	N/A
Wetland 51	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.17	N/A
Wetland 52	Wetland Adjacent to RPW	Yes	Seasonally Inundated	1.14	N/A
Wetland 53	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.06	N/A
Wetland 67	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.32	N/A
Wetland 68	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.42	N/A
Wetland 69	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.06	N/A
Wetland 70	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.01	N/A
Wetland 71	Wetland Abutting RPW	Yes	Seasonally Inundated	0.57	N/A
Wetland 74	Wetland Abutting RPW	Yes	Seasonally Inundated	0.35	N/A
Wetland 75	Wetland Adjacent to Non-RPW	Yes	Seasonally Inundated	0.24	N/A
Wetland 76	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.12	N/A
Wetland 77	Wetland Adjacent to RPW	Yes	Seasonally Inundated	0.02	N/A
Wetland 78	Wetland Adjacent to RPW	Yes	Seasonally Inundated	1.24	N/A