

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): 04/23/2023

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, Harris County Flood Control District, SWG-2022-00268, Proposed Boudreaux Stormwater Detention Basin

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/parish/borough: Harris City: Houston
Center coordinates of site (lat/long in degree decimal format): Lat. 30.060709 N Long. -95.580819 W
Universal Transverse Mercator: Zone 15R, 251195.41 m E, 3328320.55 m N

Name of nearest waterbody: Willow Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Spring Creek

Name of watershed or Hydrologic Unit Code (HUC): Spring Watershed HUC8: 12040102

☒ 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: 04/24/2023

☒ Field Determination. Date(s): May 12, 2022

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: 3,267.02 linear feet: 4 width (ft) and/or 0.16 acres.

Wetlands: 7.39 acres.

Other: acre

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

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:

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.

WB 1 through WB 11 (0.8 total acre) are man-made waterbodies excavated from uplands and located outside the floodway and 100-year floodplain of Willow Creek. According to the preamble of the 13 November 1986 Federal Register (51 FR, p. 41217), waterfilled depressions created in dry land incidental to construction activities or pits excavated in dry land for the purpose of obtaining fill, sand, or gravel are not waters of the U.S. unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the U.S. WB 1 through WB 8 (0.8 total ac) where excavated from uplands, are abandoned but do not meet the definition of waters of the United States. Therefore, they are not subject to Section 404 of the Clean Water Act (Section 404) or Section 10 of the Rivers and Harbors Act (Section 10).

Per 33 CFR 328.3(c)(1), “adjacent” is defined as bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands”.

WET 1 (5.05 ac), WET 2 (0.66 ac), WET 3 (0.21 ac), WET 8 (0.10 ac), and WET 39 (0.03 ac) totaling 6.05 acres are wetlands located entirely outside the floodway and 100-year floodplain of Willow Creek and lack a hydrological connection to any other aquatic feature. WET 8 was confirmed to be separated from WET 9 during the jurisdictional determination verification site visit with USACE on May 12, 2022. These features are not tidally influenced, nor are they part of a surface water tributary system to interstate or navigable WOTUS; therefore, these features are determined to be “isolated” as defined in 33 CFR 330.2(e). “Isolated” waters are defined as non-tidal features that are (1) not part of a surface tributary system to interstate or navigable WOTUS and (2) not adjacent to such tributary waterbodies. The subject wetlands are neither currently used, have been used in the past, nor susceptible to use for interstate or foreign commerce. The wetlands do not cross interstate or tribal boundaries. There are no indications that these isolated wetlands would 1) affect or be used by any interstate or foreign travelers for recreation or other purposes, 2) affect or be used for fish or shellfish that could be taken and sold in interstate or foreign commerce, or 3) be involved in any direct current use or potential use for industrial purposes by industries in interstate commerce. The subject wetlands are not impoundments of any water of the U.S. The subject wetlands are not part of the territorial seas. The subject wetlands are not adjacent to waters of the U.S. The subject wetlands are not located reasonably close to a water of the U.S. as to infer they are “ecologically adjacent”; for a water/wetland to be determined to be reasonably close, it must be in a geomorphic position such that ecologic interconnectivity is beyond speculation or insubstantial for a known biologic species that requires both, the subject waters/wetlands and the nearest waterbody (a known waters of the U.S. other than an adjacent wetland) to fulfill spawning and/or life cycle requirements. There are no known species in this geo-region that requires both the waters/wetlands under review and the nearest known waterway to fulfill their life cycle requirements, therefore, these wetlands are ecologically isolated. The subject wetlands were identified using the Atlantic and Gulf Coastal Plain Region Supplement of the 1987 Corps of Engineers Wetland Delineation Manual. The subject wetlands are not inseparably bound to a water of the U.S., are not adjacent to any water of the U.S., and do not have a discrete hydrologic surface connection to any water of the U.S. Therefore, it is the draft Corps determination that WET 1 (5.05 ac), WET 2 (0.66 ac), WET 3 (0.21 ac), WET 8 (0.10 ac), and WET 39 (0.03 ac) are isolated with no known nexus to interstate commerce, are not waters of the U.S., and are not subject to Section 404 or Section 10.

D1 through D5 (total 4,675.34 linear feet) are man-made drainage ditches excavated from uplands, drain only uplands, and do not carry a relatively permanent flow of water. Therefore, the man-made, upland cut ditches are not waters of the United States and are not subject to Section 404 or Section 10.

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 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** (Please note: This JD form takes into account two Significant Nexus Analyses: 1. Ephemeral Stream (M120-00-00) and 2. Adjacent Wetlands (Willow Creek/M100-00-00))

(i) **General Area Conditions: M120-00-00 (Unnamed Tributary to Willow Creek) and Willow Creek (M100-00-00)**

Watershed size: 54 square miles

Drainage area: 54 square miles

Average annual rainfall: 48.8 inches

Average annual snowfall: 0.0 inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

☒ Tributary flows directly into TNW. Willow Creek flows directly into Spring Creek

☒ Tributary flows through 1 tributaries before entering TNW. M120-00-00 flows into Willow Creek, then Spring Creek

Project waters are 10-15 river miles from TNW.

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

Project waters are 5-10 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: N/A.

Identify flow route to TNW⁵:

1. M120-00-00 flows north into Willow Creek, 2nd order stream and RPW, which flows east directly into Spring Creek, a 3rd order stream and TNW.
2. Adjacent wetlands are located in the 100-year floodplain of Willow Creek, a 2nd order stream, which flows east directly into Spring Creek, a 3rd order stream and TNW.

Tributary stream order, if known: M120-00-00 is a stream order 1, Willow Creek is stream order 2 and Spring Creek is a stream order 3 (TNW).

(b) General Tributary Characteristics (check all that apply):

Tributary is:

☐ Natural

☐ Artificial (man-made). Explain: .

☒ Manipulated (man-altered). Explain:

1. M120-00-00 appears in early historical images and in later years is partially excavated creating perennial pools and rerouting the southern portion of the channel slightly west.
2. Based on historical aerial images and topographic maps, Willow Creek is a natural stream that has been deepened, widened, and channelized over time.

Tributary properties with respect to top of bank (estimate):

Average width: M120-00-00: 8 feet; Willow Creek: 80 feet

Average depth: M120-00-00: 2 feet; Willow Creek: 12 feet

Average side slopes: M120-00-00: 3:1; Willow Creek: 2:1

Primary tributary substrate composition (check all that apply):

M120-00-00

☒ Silts

☐ Sands

☐ Concrete

☐ Cobbles

☐ Gravel

☐ Muck

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.

- ☐ Bedrock ☒ Vegetation. Type/% cover: herbaceous; 20%
☒ Other. Explain: loam.

Willow Creek

- ☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover: herbaceous; 20%
☐ Other. Explain:.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Both M120-00-00 and Willow Creek are mostly stable, portions are experiencing moderate erosion.

Presence of run/riffle/pool complexes. Explain: M120-00-00 was not flowing during the field investigation; only the pools contained water and comprised approximately 20% of the stream. Willow creek contained 10% riffles; 60% runs; 30% pools

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 4%

(c) Flow:

Tributary provides for: **M120-00-00 provides ephemeral flow while Willow Creek provides perennial flow**

Estimate average number of flow events in review area/year: M120-00-00: **6-10**; Willow Creek: 20 or greater

Describe flow regime: M120-00-00 flows in response to rain events.

Other information on duration and volume: N/A

Surface flow is: **Discrete**. Characteristics: Surface flow within the M120-00-00 tributary may be observed only during high flood events. Flow within Willow Creek occurs within its banks.

Subsurface flow: **Unknown**. Explain findings:

- ☐ Dye (or other) test performed:

Tributary has (check all that apply):

M120-00-00

- ☒ Bed and banks
☒ OHWM⁶ (check all indicators that apply):
☐ 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: vegetation obstructs a portion of the tributary north of the in-channel perennial pool

Willow Creek

- ☒ Bed and banks
☒ OHWM⁸ (check all indicators that apply):
☒ 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.⁹ Explain:

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

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.

⁸A 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.

⁹Ibid.

- | | |
|--|--|
| ☐ 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): | |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: M120-00-00: Water within the perennial pools was stained brown. No water was flowing within the channel.

Willow Creek: water is murky brown (highly turbid), minor debris consisting of logs and household garbage present.

Identify specific pollutants, if known: .

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☒ Riparian corridor. Characteristics (type, average width): trees and shrubs are present along both M120-00-00 and Willow Creek riparian corridor. Width varies: M120-00-00 from 0 feet (non-existent) to the width of the Project Area (approximately 3,000 feet); Willow Creek varies from 0 feet to over 4,000 feet wide with an average of 500 feet
- ☐ Wetland fringe. Characteristics: N/A.
- ☐ 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: 7.39 total acres from 35 wetlands (WET 4 through WET 7 and WET 9 through WET 38)

Wetland type. Explain: Wetlands adjacent to Willow Creek include 14 palustrine emergent (PEM) wetlands (1.63 total ac), 8 palustrine scrub-shrub (PSS) wetlands (1.42 total ac), and 13 palustrine forested (PFO) wetlands (4.34 total ac).

Wetland quality. Explain: The PEM wetlands were observed to be of low quality due to previous mechanized (excavation activities, motor vehicle traffic, mowing) and cattle grazing disturbances. The PSS and PFO wetlands were observed to be high, optimal quality features.

Project wetlands cross or serve as state boundaries. Explain: N/A.

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: Adjacent wetlands are located within the 100-year floodplain of Willow Creek and only experience flow to the RPW during flood events. One wetland (WET 35 [0.42 ac]) is located within the M120-00-00 channel and abuts this feature. Flow within the M120-00-00 channel is ephemeral and only flows during rain events.

Surface flow is: **Discrete**

Characteristics: The surface flow between the wetlands to Willow Creek and M120-00-00 may be observed only during high flood events.

Subsurface flow: **Unknown**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting: One wetland (WET 35 [0.42 ac]) is directly abutting M120-00-00. No wetlands directly abut Willow Creek

☒ Not directly abutting

☒ Discrete wetland hydrologic connection. Explain: The adjacent wetlands (WET 4 through WET 7 and WET 9 through WET 38 [7.39 total ac]) are either located within the floodway or 100-year floodplain of Willow Creek or have a direct hydrological connection to wetlands located in the floodway or 100-year floodplain of Willow Creek.

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **10-15** river miles from TNW.

Project waters are **5-10** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**

Estimate approximate location of wetland as within the **50 - 100-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: Water within the wetlands, if present, was generally shallow, mostly clear, and slightly tinted brown. Wetlands are surrounded by urban development and roadways.

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☒ Vegetation type/percent cover. Explain: Herbaceous, scrub-shrub, and forested; 100% 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. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **30 (or more)** There are two relevant reaches included on this form and are described below:

1. Ephemeral Stream (M120-00-00) Analysis: Approximately 0.42 acre in total are being considered in the cumulative analysis. Total acreage includes delineated wetlands.
2. Adjacent Wetlands Analysis: Approximately 160.23 acres in total are being considered in the cumulative analysis. Total acreages include delineated wetlands and NWI features.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
1. Ephemeral Stream (M120-00-00) Analysis: See Table 2			
2. Adjacent Wetlands Analysis: See Table 3			

Summarize overall biological, chemical and physical functions being performed:

Ephemeral Stream (M120-00-00) Analysis:

M120-00-00 is an ephemeral (Non-RPW) tributary and a 1st order stream that flows directly into Willow Creek, a 2nd order stream and RPW. M120-00-00 begins (headwater) within the Project Area and extends north for 3,267.02 feet to Willow Creek. The confluence with Willow Creek is approximately 13 river miles from the nearest TNW. Willow Creek directly connects to Spring Creek, a TNW and likely 3rd order stream. M120-00-00 historically extended south of Boudreaux Road; however, based on hydrological analysis and field visits, this feature begins at the north side of Boudreaux Road, as indicated on the attached maps. M120-00-00 is located entirely within the 100-year floodplain of Willow Creek.

Due to the direct hydrological connection to Willow Creek (RPW), M120-00-00 significantly affects the chemical, physical, and/or biological integrity of the downstream TNW. M120-00-00 and its abutting wetland (WET 35; 0.42 ac) function to filter out pollutants and transfer nutrients downstream to Willow Creek (RPW) and Spring Creek (TNW) and play an important role in maintaining the overall water quality of the downstream TNW. M120-00-00 allows stormwater conveyance into Willow Creek, and subsequently Spring Creek, during flood events which likely affects surface water elevations within the downstream TNW. Lastly, the perennial pools within M120-00-00 sustain fish and other aquatic fauna and likely transfers nutrients downstream into Willow Creek during high flow events. However, due to the ephemeral nature of M120-00-00, it is unlikely that aquatic organisms would require both the TNW and M120-00-00 to complete their lifecycles. The relevant reach of M120-00-00 and its abutting wetland provide more than a speculative or insubstantial effect on the chemical, physical, and/or biological integrity of the downstream TNW, Spring Creek.

Adjacent Wetland Analysis:

Willow Creek (RPW) is a perennial tributary and a 2nd order stream that flows directly into Spring Creek, a 3rd order stream and TNW. Willow Creek begins as a 2nd order stream approximately 8 aerial miles west of the Project Area and extends east for approximately 9 aerial miles to Spring Creek (TNW). Willow Creek is jurisdictional by definition under the Clean Water Act and is included on a separate PJD form.

A desktop analysis identified 18.05 acres of NWI offsite wetlands abutting Willow Creek and 134.79 acres of offsite adjacent NWI wetlands within the 100-year floodplain and/or floodway of Willow Creek. Delineated wetlands (7.39 acres) and NWI resources (152.84 acres) identified during the desktop analysis function, in conjunction with Willow Creek (RPW), to filter out chemical pollutants and bacteria prior to reaching Spring Creek (TNW). These wetlands play an important role in maintaining the overall water quality of the downstream TNW. The relevant reach of Willow Creek (RPW) and its adjacent wetlands provide more than a speculative or insubstantial effect on the chemical integrity of the downstream TNW, Spring Creek.

Additionally, the relevant reach and adjacent wetlands retain floodwaters and provide valuable temporary water storage during flood events to help reduce the frequency and severity of flooding in the downstream TNW. The effects of removing or adversely affecting

these wetlands would include increased flow volumes and velocity to the downstream TNW (Spring Creek) which would likely result in increased flooding and scouring. As such, the relevant reach and the adjacent wetlands provide more than a speculative or insubstantial effect on the physical integrity of the downstream TNW.

Furthermore, there are no known species within the Project Area that require both the adjacent wetlands, Willow Creek (RPW), and Spring Creek (TNW) to complete their life cycles. The neighboring wetlands potentially aid in providing species habitat, shelter from predators, and detritus and nutrients as a food source, particularly during flood events. Therefore, it can be determined that the adjacent wetlands within this relevant reach of Willow Creek (RPW), although speculative, provide an important effect on the biological integrity of the downstream TNW.

In conclusion, it has been determined that there is sufficient evidence to support the statement that M120-00-00 (3,267.02 linear feet), the abutting delineated wetland to M120-00-00 (0.42 acre), the delineated wetlands (7.39 acres) within Willow Creek's floodplain/floodway, and NWI resources (152.84 acres) abutting and/or adjacent to Willow Creek provide a significant nexus (more than speculative or insubstantial effect) to the chemical, physical and/or biological integrity of the downstream TNW (Spring Creek). In conclusion, the relevant reaches of M120-00-00 and Willow Creek and the adjacent wetlands within the Project Area are waters of the United States subject to Section 404 of the Clean Water Act.

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:

N/A

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: .

M120-00-00 is an ephemeral stream located entirely within the 100-year floodplain of Willow Creek and drains directly into Willow Creek (RPW) within the Project Area boundary. One abutting wetland (WET 35 [0.42 ac]) is located within M120-00-00. Further desktop evaluation concludes that M120-00-00 is a natural tributary to Willow Creek that has been manipulated over time. This feature only flows in response to rain events, but contains perennial pools that support aquatic fauna and has the capacity to transfer nutrients downstream. This feature conveys stormwater into Willow Creek (RPW) and likely contributes to surface water elevation changes within Willow Creek and Spring Creek during storm events. M120-00-00 likely functions to filter out pollutants prior to reaching Willow Creek and Spring Creek (TNW) and plays an important role in maintaining the overall water quality of the downstream TNW. Due to the direct hydrological connection to an RPW (Willow Creek) and the abutting wetland, M120-00-00 significantly (more than speculative or insubstantial) affects the chemical, physical, and/or biological integrity of the downstream TNW.

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:

A total of 117 wetlands (40 delineated and field verified onsite wetlands totaling 7.39 acres and 77 NWI offsite wetlands totaling 152.84 acres) are abutting and/or adjacent to Willow Creek (RPW) and likely function in conjunction with this stream feature to filter pollutants prior to reaching Spring Creek (TNW). Adjacent wetlands are located within the 100-year floodplain of Willow Creek. The system retains flood waters and reduces overbank flooding downstream, thereby decreasing the velocity and amount of water flowing downstream into Spring Creek (TNW). Retaining flood waters reduces scouring and the loss of property as well as preserving the physical attributes of the downstream TNW. Delineated wetlands (7.39 acres) and NWI features (152.84 acres) identified during the desktop analysis, in conjunction with Willow Creek (RPW), filter out chemical pollutants and bacteria prior to reaching Spring Creek (TNW). These wetlands play an important role in maintaining the overall water quality of the downstream TNW. There are no known species within the Project Area that require both the adjacent wetlands, Willow Creek (RPW), and Spring Creek (TNW) to complete their life cycles. The neighboring wetlands potentially aid in providing species habitat, shelter from predators, and detritus/nutrients as a food source, particularly during flood events. Therefore, it can be determined that the adjacent wetlands within this relevant reach of Willow Creek (RPW), provide an important effect on the biological integrity of the downstream TNW (Spring Creek). There is sufficient evidence to support the statement that the delineated wetlands (7.39 acres) and NWI features (152.84 acres) provide a significant nexus (more than speculative or insubstantial effect) to the chemical, physical and biological integrity of the downstream TNW (Spring Creek).

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 are

- ☐ 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: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
 Identify type(s) of waters:

3. Non-RPWs¹⁰ 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: **3,267.02** linear feet **4** width (ft). **M120-00-00**
☐ Other non-wetland waters: acres; ft.
 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: .

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 jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **7.39** acres. **See Table 1**

¹⁰See Footnote # 3.

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: **7.39** acres. See **Table 1** (same as above).

7. Impoundments of jurisdictional waters.¹¹

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):¹²

- ☐ 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 width (ft).
☐ Other non-wetland waters: acres; ft.
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).
WET 1 (5.05 ac), WET 2 (0.66 ac), WET 3 (0.21 ac), WET 8 (0.10 ac), and WET 39 (0.03) totaling 6.05 acres are wetlands located entirely outside the 100-year floodplain of Willow Creek. WET 1 is separated from WET 4, a likely jurisdictional wetland, by a man-made berm. WET 8 is separated from nearby wetlands by a berm that was confirmed during the jurisdictional determination verification site visit with the USACE on May 12, 2022. Because these features lack a hydrological connection to Willow Creek or any other jurisdictional feature, they are likely non-jurisdictional.
☐ Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain:
☒ Other: (explain, if not covered above):
WB 1 through WB 11 (0.8 total ac) are man-made stock ponds excavated from uplands and located outside the 100-year floodplain of Willow Creek. Because these are man-made features with no hydrological connection to Willow Creek or any other jurisdictional feature, they are likely non-jurisdictional. D1 through D5 (total 4,675.34 linear ft) are man-made drainage ditches excavated in and draining only uplands that do not carry a relatively permanent flow of water. Therefore, they are likely non-jurisdictional.

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 width (ft).
☒ Lakes/ponds: 0.80 acres.
☐ Other non-wetland waters:
☒ Wetlands: 6.05 acres. WET 1 (5.05 ac), WET 2 (0.66 ac), WET 3 (0.21 ac), WET 8 (0.10 ac), and WET 39 (0.03)

¹¹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹² 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 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, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: ft. 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: Waters of the United States Report, January 2022.
☒ 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. 2017 National Hydrography Dataset
☒ USGS 8 and 12 digit HUC maps. <https://apps.nationalmap.gov/viewer/>
☒ U.S. Geological Survey map(s). Cite scale & quad name: Louetta, TX and Tomball, TX 7.5-minute USGS quadrangles: 1916, 1962, 1995, 2013.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: 2020 NRCS Soil Survey.
☒ National wetlands inventory map(s). Cite name: 2014 National Wetlands Inventory.
☐ State/Local wetland inventory map(s): .
☒ FEMA/FIRM maps: FEMA FIRM panel numbers 48201C0240M, effective 10/15/2013 and 48201C0230L, effective 6/17/2007.
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): 1938, 1953, 1957, 1964, 1978, 2004, 2016.
 or ☒ Other (Name & Date): Photographs taken during site visits on October 4 through 7, 19, and 20, 2021.
☒ Previous determination(s). File no. and date of response letter: SWG-2020-00192 May 2021
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): USACE Antecedent Precipitation Tool.

B. ADDITIONAL COMMENTS TO SUPPORT JD: According to the APT, conditions within the Project Area during the field surveys conducted on October 4 through 7, 19, and 20, 2021 were wetter than normal relative to the rolling thirty-year period.

Based on USGS topographic maps, aerial photographs, FEMA floodplain data, and the site visits conducted on October 4 through 7, 19, and 20, 2021, the Project Area includes, **11** waterbodies (0.80 total ac), **18** PEM wetlands (7.47 total ac), **nine (9)** PSS wetlands (1.63 total ac), **13** PFO wetlands (4.34 total ac), **one (1)** ephemeral stream with perennial pools (3,267.02 linear ft and 0.16 ac), and **five (5)** man-made drainage ditches (4,675.34 linear ft).

Table 1: Summary of Aquatic Features Delineated within the Project Area

Feature Name	Feature Type	Latitude, Longitude	Potentially Jurisdictional?	Length (ft)	Size (ac)
WB 1	Waterbody	30.05951525, -95.57479293	No, man-made isolated pond constructed out of uplands	-	0.08
WB 2	Waterbody	30.05969546, -95.5746954	No, man-made isolated pond constructed out of uplands	-	0.25
WB 3	Waterbody	30.0597640, -95.57445229	No, man-made isolated pond constructed out of uplands	-	0.18
WB 4	Waterbody	30.05695058, -95.57834828	No, man-made isolated pond constructed out of uplands	-	0.02
WB 5	Waterbody	30.05680159, -95.57851405	No, man-made isolated pond constructed out of uplands	-	0.05
WB 6	Waterbody	30.05670463, -95.57825391	No, man-made isolated pond constructed out of uplands	-	0.07
WB 7	Waterbody	30.05661715, -95.57805198	No, man-made isolated pond constructed out of uplands	-	0.07
WB 8	Waterbody	30.05673569, -95.57786338	No, man-made isolated pond constructed out of uplands	-	0.04
WB 9	Waterbody	30.0660815, -95.58144605	No, man-made isolated pond constructed out of uplands	-	0.01
WB 10	Waterbody	30.06361024, -95.58438779	No, man-made isolated pond constructed out of uplands	-	0.01

Feature Name	Feature Type	Latitude, Longitude	Potentially Jurisdictional?	Length (ft)	Size (ac)
WB 11	Waterbody	30.06040907, -95.58584131	No, man-made isolated pond constructed out of uplands	-	0.02
WET 1	PEM wetland	30.06038498, -95.57656463	No, isolated	-	5.05
WET 2	PEM wetland	30.0611767, -95.57591332	No, isolated	-	0.66
WET 3	PSS wetland	30.05640043, -95.57835179	No, isolated	-	0.21
WET 4	PEM wetland	30.06018263, -95.58471175	Yes, within floodway	-	0.01
WET 5	PFO wetland	30.05938536, -95.57831407	Yes, hydrological connection to likely jurisdictional wetlands	-	0.43
WET 6	PSS wetland	30.05864519, -95.57963941	Yes, hydrological connection to likely jurisdictional wetlands	-	0.44
WET 7	PSS wetland	30.05829597, -95.57925268	Yes, hydrological connection to likely jurisdictional wetlands	-	0.15
WET 8	PEM wetland	30.05800955, -95.57956425	No, isolated	-	0.10
WET 9	PFO wetland	30.0583575, -95.5797728	Yes, within 100-year floodplain	-	0.95
WET 10	PEM wetland	30.05870263, -95.5812206	Yes, within 100-year floodplain	-	0.05
WET 11	PFO wetland	30.05870827, -95.58143415	Yes, within 100-year floodplain	-	0.04
WET 12A	PFO wetland	30.05741018, -95.58064275	Yes, within 100-year floodplain	-	0.63
WET 12B	PSS wetland	30.05776875, -95.58024661	Yes, within 100-year floodplain	-	0.21
WET 13	PFO wetland	30.05779894, -95.58110023	Yes, within 100-year floodplain	-	0.19
WET 14	PEM wetland	30.05692822, -95.58067376	Yes, within 100-year floodplain	-	0.05
WET 15	PEM wetland	30.05658315, -95.58093654	Yes, within 100-year floodplain	-	0.03
WET 16	PSS wetland	30.05677626, -95.58150792	Yes, within 100-year floodplain	-	0.19
WET 17	PFO wetland	30.05611825, -95.58108011	Yes, within 100-year floodplain	-	0.25
WET 18	PEM wetland	30.0558478, -95.58101979	Yes, within 100-year floodplain	-	0.20
WET 19	PSS wetland	30.05516439, -95.58155872	Yes, within 100-year floodplain	-	0.13
WET 20	PEM wetland	30.05587428, -95.58260805	Yes, within 100-year floodplain	-	0.04
WET 21	PSS wetland	30.06284358, -95.58007792	Yes, within 100-year floodplain	-	0.19
WET 22	PEM wetland	30.06224146, -95.5801114	Yes, within 100-year floodplain	-	0.05
WET 23	PSS wetland	30.0607590, -95.58198401	Yes, within 100-year floodplain	-	0.08
WET 24	PFO wetland	30.0602785, -95.58125443	Yes, within 100-year floodplain	-	0.86
WET 25	PFO wetland	30.05956183, -95.58141955	Yes, within 100-year floodplain	-	0.07
WET 26	PFO wetland	30.05923278, -95.58142046	Yes, within 100-year floodplain	-	0.01
WET 27	PEM wetland	30.05670466, -95.58412673	Yes, within 100-year floodplain	-	0.06
WET 28	PFO wetland	30.06456373, -95.58213525	Yes, within floodway	-	0.16
WET 29	PEM wetland	30.06422697, -95.58233582	Yes, within floodway	-	0.06
WET 30	PFO wetland	30.06280844, -95.58225537	Yes, within floodway	-	0.10

Feature Name	Feature Type	Latitude, Longitude	Potentially Jurisdictional?	Length (ft)	Size (ac)
WET 31	PFO wetland	30.06146639, -95.58355561	Yes, within floodway	-	0.18
WET 32	PEM wetland	30.06180183, -95.58425808	Yes, within floodway	-	0.06
WET 33	PEM wetland	30.06117340, -95.58446768	Yes, within floodway	-	0.01
WET 34	PSS wetland	30.06073570, -95.58446279	Yes, within floodway	-	0.03
WET 35	PEM wetland	30.05914700, -95.58449700	Yes, within 100 year floodplain	-	0.42
WET 36	PEM wetland	30.06065147, -95.58594017	Yes, within floodway	-	0.02
WET 37	PEM wetland	30.06033017, -95.58628966	Yes, within floodway	-	0.57
WET 38	PFO wetland	30.05833434, -95.5866085	Yes, within 100-year floodplain	-	0.47
WET 39	PEM wetland	30.0561651, -95.5780482	No, isolated	-	0.03
M120-00-00	Ephemeral stream with perennial pools	30.05584243, -95.58324467	Yes, hydrological connection to Willow Creek (M100-00-00)	3,267.02	0.16
D1	Man-made drainage ditch	30.06180665, -95.58690316	No, man-made ditch excavated in and draining uplands	144.01	-
D2	Man-made drainage ditch	30.06425493, -95.583979	No, man-made ditch excavated in and draining uplands	382.36	-
D3	Man-made drainage ditch	30.05878216, -95.58596402	No, man-made ditch excavated in and draining uplands	607.04	-
D4	Man-made drainage ditch	30.05873624, -95.5864894	No, man-made ditch excavated in and draining uplands	288.98	-
D5	Man-made drainage ditch	30.05690783, -95.57905682	No, man-made ditch excavated in and draining uplands	3,252.95	-
TOTAL POTENTIALLY JURISDICTIONAL AQUATIC FEATURES				3,267.02	7.55
TOTAL POTENTIALLY NON-JURISDICTIONAL AQUATIC FEATURES				4,675.34	6.85
TOTAL AQUATIC FEATURES				7,942.36	14.40

Table 2: M120-00-00 Ephemeral Stream Significant Nexus Analysis

Feature Name	Feature Type	Abutting?	Size
WET 35	PEM wetland	Yes, M120-00-00	0.42
Total			0.42

Table 3: Willow Creek Perennial Stream Significant Nexus Analysis

Feature Name	Feature Type	Abutting?	Size
WET 4	PEM wetland	No, adjacent	0.01
WET 5	PFO wetland	No, adjacent	0.43
WET 6	PSS wetland	No, adjacent	0.44
WET 7	PSS wetland	No, adjacent	0.15
WET 9	PFO wetland	No, adjacent	0.95
WET 10	PEM wetland	No, adjacent	0.05
WET 11	PFO wetland	No, adjacent	0.04
WET 12A	PFO wetland	No, adjacent	0.63
WET 12B	PSS wetland	No, adjacent	0.21
WET 13	PFO wetland	No, adjacent	0.19
WET 14	PEM wetland	No, adjacent	0.05
WET 15	PEM wetland	No, adjacent	0.03
WET 16	PSS wetland	No, adjacent	0.19
WET 17	PFO wetland	No, adjacent	0.25
WET 18	PEM wetland	No, adjacent	0.20

Feature Name	Feature Type	Abutting?	Size
WET 19	PSS wetland	No, adjacent	0.13
WET 20	PEM wetland	No, adjacent	0.04
WET 21	PSS wetland	No, adjacent	0.19
WET 22	PEM wetland	No, adjacent	0.05
WET 23	PSS wetland	No, adjacent	0.08
WET 24	PFO wetland	No, adjacent	0.86
WET 25	PFO wetland	No, adjacent	0.07
WET 26	PFO wetland	No, adjacent	0.01
WET 27	PEM wetland	No, adjacent	0.06
WET 28	PFO wetland	No, adjacent	0.16
WET 29	PEM wetland	No, adjacent	0.06
WET 30	PFO wetland	No, adjacent	0.10
WET 31	PFO wetland	No, adjacent	0.18
WET 32	PEM wetland	No, adjacent	0.06
WET 33	PEM wetland	No, adjacent	0.01
WET 34	PSS wetland	No, adjacent	0.03
WET 35	PEM wetland	Yes, M120-00-00	0.42
WET 36	PEM wetland	No, adjacent	0.02
WET 37	PEM wetland	No, adjacent	0.57
WET 38	PFO wetland	No, adjacent	0.47
Adjacent NWI Features (70)	PEM, PFO, and PSS wetlands	No, adjacent	134.79
Abutting NWI Features (7)	PFO and PSS wetlands	Yes, Willow Creek	18.05
Total Delineated Wetlands			7.39
Total NWI Wetlands			152.84
Total			160.23