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): 12/06/2022

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: SWG-2022-00061, HCFCD ID G103-38-00-E001, Kingwood Diversion Ditch Improvement

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/parish/borough: Harris/Montgomery City: Houston
Center coordinates of site (lat/long in degree decimal format): Lat. 30.049843 N Long. -95.226965 W
Universal Transverse Mercator: Zone 15R, 285294.65 m E, 3326398 m N
Name of nearest waterbody: West Fork San Jacinto River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: West Fork San Jacinto River
Name of watershed or Hydrologic Unit Code (HUC): Buffalo-San Jacinto Watershed HUC8: 12040104

☒ 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: 09/28/2022
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "*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: The West Fork San Jacinto River (G103-00-00 as 379.83 LF) is a perennial river that contributes surface water flow to Lake Houston. This river is used for recreation, including commercial water-borne recreation. The West Fork San Jacinto River was originally listed on the Galveston District Section 10 list, however, a memo to the Coast Guard moved the Section 10 limit downstream to the Lake Houston Dam. Therefore, it is a TNW.

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: **379.83 LF**
      ☒ 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: 19,316.48 linear feet width (feet) and/or acres.
      G103-38-00 (18,253.86 linear feet; 20 feet wide), Bens Branch West (339.61 linear feet; 12 feet wide), Bens Branch East (343.18 linear feet; 6 feet wide), West Fork San Jacinto River (379.83 linear feet; 680 feet wide),
      Wetlands: 10.62 acres.
      WET 1 (0.52 acre), WET 2/3 (8.51 acres); WET 4 (1.45 acres), WET 5 (0.03 acre), WET 6 (0.05 acre), WET 7 (0.03 acre), WET 8 (0.03 acre)

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

[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).

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:

Features Ditch 1 (68.84 linear feet), Ditch 2 (41.73 linear feet), Ditch 3 (1,188.49 linear feet), and Ditch 4 (1,046.06 linear feet) are man-made upland-cut drainage ditches that likely function as stormwater conveyance ditches to drain abutting uplands. Additionally, these features were observed to maintain ephemeral flow regimes. Per the 2008 Rapanos Guidance, agencies generally will not assert jurisdiction over ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water, as well as swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow). As such, these drainage ditch features are non-jurisdictional.

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: **West Fork San Jacinto River**.

Summarize rationale supporting determination:

The West Fork San Jacinto River (G103-00-00 as 379.83 LF) is a perennial river that contributes surface water flow to Lake Houston. This river is used for recreation, including commercial water-borne recreation. The West Fork San Jacinto River was originally listed on the Galveston District Section 10 list, however, a memo to the Coast Guard moved the Section 10 limit downstream to the Lake Houston Dam. Therefore, it is a TNW.

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent":

WET 6 (0.05 acre) directly abuts the West Fork San Jacinto River, a TNW. WET 1 (0.52 acre), WET 2/3 (8.51 acres), and WET 4 (1.45 acres) are wetlands located within the floodway of the West Fork San Jacinto River. Therefore, they have a hydrologic surface connection to a TNW, are adjacent to the TNW, and are waters of the United States.

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

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

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

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

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

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

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[3] Supporting documentation is presented in Section III.F.

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

(i) General Area Conditions:
Watershed size: 62 **square miles**
Drainage area: 62 **square miles**
Average annual rainfall: 55.8 inches
Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☒ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

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

Identify flow route to TNW[5]:
G103-38-00 and G103-33-00 (Bens Branch) flow directly into the West Fork San Jacinto River. WC 1 within the Project Area flows indirectly into the West Fork San Jacinto River via G103-38-00.

Tributary stream order, if known:
G103-38-00 and G103-33-00 (Bens Branch) 2nd order streams that flow directly into West Fork San Jacinto River. West Fork San Jacinto River is likely a 4th order stream at its confluence with Bens Branch and G103-38-00. WC 1 is an ephemeral feature and likely is not characterized with a stream order.

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

Tributary is: ☐ Natural
☒ Artificial (man-made). Explain:
G103-38-00 was excavated in the 1970s to serve as a diversion channel for surface water flow within Bens Branch. WC 1 was likely excavated to drain adjacent neighborhoods during storm events.
☒ Manipulated (man-altered). Explain:
Bens Branch is a natural stream that has been channelized and partially concrete lined.

Tributary properties with respect to top of bank (estimate):
Average width: 10 (WC 1); 150 (G103-38-00); 50 (Bens Branch) feet
Average depth: 12 (WC 1); 25 (G103-38-00); 15 (Bens Branch) feet
Average side slopes: **3:1**.

Primary tributary substrate composition (check all that apply):

☒ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☒ Other. Explain: Clay and rock rip-rap.		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
The banks along Bens Branch and WC 1 are stable; however, portions of G103-38-00 along the downstream segment are highly eroding. The upstream segment of G103-38-00 were observed to be stable.

Presence of run/riffle/pool complexes. Explain:
G103-38-00 primarily comprised of runs, with few pools and several riffles throughout its length within the Project Area. Bens Branch consisted primarily of runs with one riffle within the Project Area length. WC 1 did not contain standing water; however, contained rock rip-rap throughout its reach within the Project Area.

Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 10 %

(c) Flow:

Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime:
Flow within G103-38-00 exhibits perennial flow. Bens Branch west of the confluence with G103-38-00 exhibits perennial flow and east of the confluence exhibits intermittent flow. WC 1 exhibits ephemeral flow.
Other information on duration and volume: .

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

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

[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.

☐ Dye (or other) test performed: .

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):
- ☒ 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

☐ Discontinuous OHWM.[7] Explain: .

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

☐ High Tide Line indicated by:

- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:

- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

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

Explain: Water was cloudy brown with small amounts of debris and household garbage present.

Identify specific pollutants, if known: .

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

☒ Riparian corridor. Characteristics (type, average width): The southern terminus of G103-38-00 maintains a minimum riparian corridor approximately 30 feet wide. Bens Branch maintains a minimum riparian corridor of approximately 15 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. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.09 acres

Wetland type. Explain:

WET 5 (0.03 acre) is a palustrine emergent (PEM) wetland located on the top-of-bank of G103-38-00. WET 7 (0.03 acre) and WET 8 (0.03 acre) are PEM wetlands located on the fringes of G103-38-00.

Wetland quality. Explain:

WET 5 is situated on the banks of G103-38-00, which is subject to being regularly mowed and maintained. Additionally, WET 5 did not contain standing water. Therefore, WET 5 is relatively low quality as it is subject to regular disturbance. Furthermore, WET 7 and WET 8 consisted of obligate wetland vegetation and directly abuts G103-38-00 perennial stream; therefore, appears to be optimal wetland quality.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial flow**. Explain: Flow from WET 7 and WET 8 to the TNW is perennial. Flow from WET 5 to TNW id intermittent.

Surface flow is**: Discrete and confined**

Characteristics: Surface flow is discrete and confined within the G103-38-00 and Bens Branch channels; same as WC 1.

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[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

[7]Ibid.

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

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting

☒ Not directly abutting

☒ Discrete wetland hydrologic connection. Explain: WET 5 is located in the floodplain of G103-38-00 and is located on the top-of-bank; therefore, does not directly abut the WOTUS.

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **1 (or less)** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **500-year or greater** 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 is cloudy brown with some debris and household garbage present.

Identify specific pollutants, if known: N/A.

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

☐ Riparian buffer. Characteristics (type, average width): .

☒ Vegetation type/percent cover. Explain:

The on-site wetlands are dominated by alligatorweed (*Alternanthera philoxeroides*) and swamp smartweed (*Persicaria hydropiperoides*).

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings:

Mosquitofish (*Gambusia spp.*) were observed within the wetlands A snowy egret (*Egretta thula*) was observed adjacent to the G103-38-00.

3. Characteristics of all wetlands adjacent to the tributary (if any)

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

Approximately (1,928.09) 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)
WET 6 (Y)	0.05	WET 1 (N)	0.52
WET 7 (Y)	0.03	WET 2/3 (N)	8.51
WET 8 (Y)	0.03	WET 4 (N)	1.45
4 NWI Resources (Y)	15.03	WET 5 (N)	0.03
31 NWI Resources (N)	124.22		

Summarize overall biological, chemical and physical functions being performed:

Bens Branch, and G103-38-00 are 2nd order streams and are RPWs (totaling 18,593.47 linear feet) that are essentially the same tributary as Bens Branch was diverted into G103-38-00 and flow directly into the West Fork San Jacinto River, a TNW and likely 4th order stream at its confluence with Bens Branch and G103-38-00. Delineated aquatic and NWI resources that directly abut and/or are adjacent to but not abutting the RPWs (totaling 149.87 acres), in conjunction with the RPWs, provide beneficial of chemical pollutants and bacteria from reaching the West Fork San Jacinto River. These wetlands also play an important role in maintaining the overall water quality of the downstream TNW. The relevant reaches of Bens Branch and their adjacent wetlands provide more than a speculative or insubstantial effect on the downstream TNW, the West Fork San Jacinto River.

The relevant reaches 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, West Fork San Jacinto River, which would likely result in increased flooding and scouring. As such, the relevant reaches and their adjacent wetlands provide more than a speculative or insubstantial effect on the physical integrity of the downstream TNW.

. The relevant reaches and their adjacent wetlands produce detritus and organics as a food source for downstream aquatic organisms. It is doubtful that the adjacent wetlands on the project site have aquatic organisms that require both the wetlands and the TNW to complete their life cycle. Therefore, we could not conclude that the relevant reaches and its adjacent wetlands have more than a speculative or insubstantial effect on the downstream TNW.

In conclusion, we have determined that there is sufficient evidence to support the statement that the 18,593.47 linear feet and the 149.87 acres of adjacent wetlands provide a significant nexus (more than speculative or insubstantial effect) to the chemical, physical and/or biological integrity of the downstream TNW (West Fork of the San Jacinto River). In conclusion, it is our opinion that this relevant reach of Bens Branch and G10338-00 and the 0.09-acre of adjacent wetlands on the project site 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:

   The site visit did not identify any wetlands adjacent to the relevant teach of the unnamed tributary (WC 1) to G103-38-00. Because there are no adjacent wetlands to the relevant reach, only the 527.31 linear feet of C-1 is being utilized for this significant nexus evaluation. This relevant reach is approximately 1.37 river miles from the nearest TNW, the West Fork San Jacinto River and maintains a direct hydrologic connection through G103-38-00. This relevant reach does not have any adjacent wetlands to filter pollutants before they reach the TNW. Therefore, this relevant reach does not aid in the reduction of chemical pollutants from adjacent land uses (residential and transportation) flowing into the West Fork San Jacinto River. Therefore, this relevant reach does not provide more than speculative or insubstantial effect on the chemical integrity of the TNW, the West Fork San Jacinto River. This relevant reach does not have any adjacent wetlands to retain floodwaters. Therefore, this relevant reach does not provide benefits to the physical integrity of the Colorado River by reducing velocities during overbank events, or stabilizing soils. This relevant reach could contribute to erosion and sedimentation within the West Fork San Jacinto River; however, this would be speculative based on the length of the relevant reach and the distance to the TNW. Therefore, this relevant reach does not provide more than a speculative or insubstantial effect on the physical integrity of the downstream TNW, the West Fork San Jacinto River. There are no adjacent wetlands along this relevant reach to produce detritus and organics as a food source for downstream organisms. It is doubtful that the relevant reach has aquatic organisms that require this relevant reach and the TNW. Therefore, we could not conclude that the relevant reach has more than a speculative or insubstantial effect on the biological integrity of the West Fork San Jacinto River.
   In conclusion, it is the USACE opinion that there is not sufficient evidence to support the statement that this relevant reach provides a significant nexus (more than speculative or insubstantial) effect on the chemical, physical or biological integrity of the downstream TNW, the West Fork San Jacinto River. Based on the significant nexus evaluation, we determined that the relevant reach of WC 1 is not a water of the United States and is not subject to federal jurisdiction under Section 404 of the Clean Water Act.

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

Bens Branch, and G103-38-00 are 2nd order streams and are RPWs (totaling 18,593.47 linear feet) that are essentially the same tributary as Bens Branch was diverted into G103-38-00 and flow directly into the West Fork San Jacinto River, a TNW and likely 4th order stream at its confluence with Bens Branch and G103-38-00. Delineated aquatic and NWI resources that directly abut and/or are adjacent to but not abutting the RPWs (totaling 149.87 acres), in conjunction with the RPWs, provide beneficial of chemical pollutants and bacteria from reaching the West Fork San Jacinto River. These wetlands also play an important role in maintaining the overall water quality of the downstream TNW. The relevant reaches of Bens Branch and their adjacent wetlands provide more than a speculative or insubstantial effect on the downstream TNW, the West Fork San Jacinto River.

The relevant reaches 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, West Fork San Jacinto River, which would likely result in increased flooding and scouring. As such, the relevant reaches and their adjacent wetlands provide more than a speculative or insubstantial effect on the physical integrity of the downstream TNW.

. The relevant reaches and their adjacent wetlands produce detritus and organics as a food source for downstream aquatic organisms. It is doubtful that the adjacent wetlands on the project site have aquatic organisms that require the TNW to complete their life cycle. Therefore, we could not conclude that the relevant reaches and its adjacent wetlands have more than a speculative or insubstantial effect on the downstream TNW.

In conclusion, we have determined that there is sufficient evidence to support the statement that the 18,593.47 linear feet and the 149.87 acres of adjacent wetlands provide a significant nexus (more than speculative or insubstantial effect) to the chemical, physical and/or biological integrity of the downstream TNW (West Fork of the San Jacinto River). In conclusion, it is our opinion that this relevant reach of Bens Branch and G10338-00 and the 0.09-acre of adjacent wetlands on the project site are waters of the United States subject to Section 404 of the Clean Water Act.

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: 379.83 linear feet 680 width (ft), Or, acres.

☒ Wetlands adjacent to TNWs: 10.53 acres

WET 1 (0.52 acre), WET 2/3 (8.51 acres), WET 4 (1.45 acres), WET 6 (0.05 acre)

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:

G103-38-00 (18,253.86 linear feet) and Bens Branch West (339.61 linear feet) exhibit perennial flow as evidenced by historical imagery, presence of a continuous surface water supply, and multiple observed flow events.

☒ 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:

Bens Branch East (343.18 linear feet) exhibits intermittent flow as evidenced by the lack of vegetation within the channel and seasonal water supply.

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

☒ Tributary waters: linear feet width (ft).

G103-38-00 (18,253.86 linear feet; 20 feet wide), Bens Branch West (339.61 linear feet; 12 feet wide), Bens Branch East (343.18 linear feet; 6 feet wide)

☐ Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

☐ Tributary waters: linear feet 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:

WET 7 (0.03 acre) and WET 8 (0.03 acre) are PEM wetlands located on the fringe of G103-38-00, within the channel and above the OHWM.

[8]See Footnote # 3.

☐ 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: **0.06** 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: **WET 5 - 0.03** acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

7. **Impoundments of jurisdictional waters.**[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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

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

☒ Other: (explain, if not covered above): .
Features Ditch 1 (68.84 linear feet), Ditch 2 (41.73 linear feet), Ditch 3 (1,188.49 linear feet), and Ditch 4 (1,046.06 linear feet) are man-made, upland-cut drainage ditches that likely function as stormwater conveyance ditches to drain abutting uplands. Additionally, these features were observed to maintain ephemeral flow regimes. Per the 2008 Rapanos Guidance, agencies generally will not assert jurisdiction over ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water, as well as swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow). As such, these drainage ditch features are likely considered non-jurisdictional.

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[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: linear feet. List type of aquatic resource:

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: 527.31 linear feet. List type of aquatic resource: Based on the significant nexus evaluation, WC 1 is determined to not have a significant nexus on the West Fork San Jacinto River.
☐ 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, December 2021.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☒ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: Moonshine Hill Weeden, and Maeden, TX 7.5' quadrangles.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☒ National wetlands inventory map(s). Cite name: 2014 National Wetlands Inventory Data.
☐ State/Local wetland inventory map(s): .
☒ FEMA/FIRM maps: Panel numbers 48201C0315L, effective 6/17/2007, 48201C0305L, effective 6/17/2007, and 78339C0750H, effective 8/17/2014.
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):1938, 1953, 1969, 1977, 1983, 1995, 2004, 2010, 2020.
  or ☒ Other (Name & Date): Site visit photographs taken August 17, 18, 24, 25, and September 27, 2021.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): USACE Antecedent Precipitation Tool (APT).

B. ADDITIONAL COMMENTS TO SUPPORT JD: According to the APT, conditions within the Project Area were normal relative to the rolling thirty-year period from the field visits conducted on August 17-18, 24-25, and September 27, 2021, and wetter than normal relative to the rolling thirty-year period from the field visits conducted on August 18, 2021.

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

Feature Name	Feature Type	Latitude, Longitude	Potentially Jurisdictional?	Length (ft)	Size (ac)
G103-38-00	Perennial stream	30.045266, -95.227014	Yes, RPW	18,253.86	-
Bens Branch West (G103-33-00)	Perennial stream	30.070343, -95.222875	Yes, RPW	339.61	-
Bens Branch East (G103-33-00)	Intermittent stream	30.070187, -95.222313	Yes, RPW	343.18	-
West Fork San Jacinto River (G103-00-00)	Perennial stream	30.025492, -95.213127	Yes, TNW	379.83	-
WET 1	PFO wetland	30.029743, -95.215117	Yes, within floodway	-	0.52
WET 2/3	PFO wetland	30.028919, -95.215197	Yes, within floodway	-	8.51
WET 4	PFO wetland	30.027566, -95.216741	Yes, within floodway	-	1.45
WET 5	PEM wetland	30.048875, -95.226979	Yes, adjacent to G103-38-00	-	0.03

Feature Name	Feature Type	Latitude, Longitude	Potentially Jurisdictional?	Length (ft)	Size (ac)
WET 6	**PEM wetland**	**30.025630, -95.213666**	**Yes, directly abuts West Fork San Jacinto River**	**-**	**0.05**
WET 7	**PEM wetland**	**30.051398, -95.226944**	**Yes, directly abuts G103-38-00**		**0.03**
WET 8	**PEM wetland**	**30.051522, -95.227003**	**Yes, directly abuts G103-38-00**		**0.03**
WC 1	Ephemeral stream	30.033430, -95.226400	No, negative significant nexus	527.31	-
Ditch 1	Upland-cut drainage ditch	30.051986, -95.227160	No, upland-cut drainage ditch	68.84	-
Ditch 2	Upland-cut drainage ditch	30.030046, -95.218029	No, upland-cut drainage ditch	41.73	-
Ditch 3	Upland-cut drainage ditch	30.028011, -95.215326	No, upland-cut drainage ditch	1,188.49	-
Ditch 4	Upland-cut drainage ditch	30.027835, -95.215485	No, upland-cut drainage ditch	1,046.06	-
			TOTAL POTENTIALLY JURISDICTIONAL AQUATIC FEATURES	**19,316.48**	**10.62**
			TOTAL POTENTIALLY NON-JURISDICTIONAL AQUATIC FEATURES	**2,872.43**	**-**
			TOTAL AQUATIC FEATURES	**22,188.91**	**10.62**