

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): 5/02/20177

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2016-01063,

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/Parish: Harris City: Houston

Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. see table° N, Long. ° W;

Universal Transverse Mercator: UTM: , N., E., NAD: 83

Name of nearest water body: Brickhouse Gully

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

Name of watershed or Hydrologic Unit Code (HUC): 12040104, Buffalo-San Jacinto Watershed

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: 3/27/2017

Field Determination. Date(s): 01/25/2017

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** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. **[Required]**

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

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

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres

Wetlands: 0.740 acres

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

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.

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain:

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, fill out Section III.D.2 and 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 water body⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the water body has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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

(i) General Area Conditions:

Watershed size: 1182 square miles

Drainage area: acres

Average annual rainfall: 47.84 inches

Average annual snowfall: 0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

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:

Identify flow route to TNW⁵: Brickhouse Gully to Whiteoak Bayou to Buffalo Bayou

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.

Tributary stream order, if known: **First Order**

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

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: **Brickhouse Gully has been extended and channelized.**

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

Average width: **10** feet
Average depth: feet
Average side slopes: **3:1**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Brickhouse Gully has concrete-lined banks.**

Presence of run/riffle/pool complexes. Explain: **None observed**

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: **Brickhouse Gully is a perennial RPW.**

Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics: **Brickhouse Gully has a defined OHWM.**

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

Dye (or other) test performed:

Tributary has (check all that apply):

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:

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

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

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

Explain: **Water color is clear.**

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 water body'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.

Identify specific pollutants, if known: Not on 303 (d) list at this reach but Brickhouse Gully is on the 303(d) list south of this reach.

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: **Approximately 0.74** acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: **These wetlands are all located within the 100-year floodplain of Brickhouse Gully and or share a direct surface hydrological to aquatic resources within the 100-year flood plain.**

Surface flow is: **Not present**

Characteristics:

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

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain:
 - Ecological connection. Explain:
 - 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 **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known: **Unknown**

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: **Herbaceous**
- 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: **2**

Approximately **(0.6)** acres in total are being considered in the cumulative analysis.

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>
N	0.2		
N	0.4		

Summarize overall biological, chemical and physical functions being performed: There are appx 0.6 acre of neighboring wetlands (excluding those in the project area) within this reach. They provide for storage of flood waters and aid in the sequestration of pollutants (chemical and thermal). These adjacent wetlands also provide for food source associated with detritus breakdown and hold flood waters.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: Brickhouse Gully within this reach is approximately 2.3 mile long, 1st Order relatively permanent waterway that is concrete lined. It does not have a broken surface hydrologic connection to the downstream TNW. This reach concludes approximately 13.4 miles upstream of the nearest TNW (Buffalo Bayou). There are six wetlands (totaling appx 1.34 acres) that are adjacent to the tributary within this reach. (NOTE: Four of these wetland polygons are within the project review area.) Wetland associated with Pond 5 (0.04 acre) is located approximately 12 miles from the TNW; Resample 2 wetland (0.012 acre) is located approximately 11.7 miles from

the TNW; Wetland at Pond 8 (0.687 acre) is located approximately 11.7 miles from the TNW; and wetland at Pond 2 (0.001 acre) is located approximately 11.9 miles from the TNW.

This 1st order reach (appx 2.3 miles long) nor any of the adjacent wetlands have been identified as impaired waters in the TCEQ 303(d) list. However, it is noteworthy that appx 0.6 mile further downstream, Brickhouse Gully is listed as an impaired water by TCEQ. The land surrounding this reach is largely developed with residential housing and commercial businesses. In conclusion, there is not evidence that the waters in this review area (2.3 miles of concrete line waterway and 1.34 acres of adjacent wetlands) provide more than a speculative or insubstantial effect upon the chemical integrity of the downstream TNW located 13.4 miles downstream.

There are portions of this review area { 1st order reach (appx 2.3 miles long) & appx 1.34 acres of adjacent wetlands } that are located within the 100 year flood plain; which means that there is a 1% every year that the waters of the adjacent tributary will share a surface hydrologic connection with these adjacent wetlands. These 1.34 acres of wetlands and the 2.3 mile concrete lined tributary do provide vital storage & physical characteristics that are directly related to the physical integrity of the downstream TNW. The retention of water and retardation of overbank flooding associated with adjacent wetlands provides an important physical function for floodplain storage and water retention that is vital to maintain and protect the physical integrity of the downstream TNW. The loss of this function will effect flow rates and volumes downstream.

While this 1st order tributary has a unbroken surface hydrologic connect there are not any known biological aquatic species in this region that require both the aquatic resources in the review area (2.3 mile concrete line tributary & the appx. 1.34 acres of adjacent wetlands) and the downstream TNW 13.4 miles downstream to fulfill their life cycle requirements. These adjacent wetlands do provide as a potential food source for biological species in the waters. It is highly probably that species of fishes share both the tributary and the TNW waters at some time in their life, but it is speculative. In conclusion we did not find that the waters in the review area provide more than a speculative or insubstantial effect upon the downstream TNW.

In summary; we did find that the waters within this review area (2.3 miles of a 1st order tributary and appx 1.34 acres of waters do provide more than a speculative or insubstantial effect upon the physical integrity of the downstream TNW. Therefore in accordance with the federal courts since they(water in review) provide more than a speculative or insubstantial effect upon the chemical, physical and/or biological integrity of the downstream TNW they would be considered to be waters of the U.S. 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: 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: The water in the review is a water of the US since it is an RPW - note it is concrete lined channelized tributary with a major hydrologic contributor being the effluent of the Westway Waste Water Treatment Facility (WWTF) has had a permit to discharge water under the National Pollution Discharge Elimination System (NPDES) since 1974.

- 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-RPWs⁸ that flow directly or indirectly into TNWs.

- Water body 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:

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: **Approximately 0.740** 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.

⁸See Footnote # 3.

⁹To 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.

- 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):

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: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

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

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: SMC Consulting dated 26 September 2016
- 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
- Galveston District’s Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name: Hillendahl 1915, Addicks 1955, Hedwig Village 1970, 1982, and 2013, Texas
- USDA Natural Resources Conservation Service Soil Survey. Citation: USDA Web Soil Survey Harris County
- National wetlands inventory map(s). Cite name: USFWS NWI
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: Panel 48201C0635M dated 6/9/2014
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro Aerials (1943-2016)

or Other (Name & Date): Site Visit Photographs, 25 January 2017

Previous determination(s). File no. and date of response letter:

Applicable/supporting case law:

Applicable/supporting scientific literature:

Other information (please specify): 2001 HCFC Lidar: Harris County, EPA Texas Water Quality Assessment Report Data, EPA NEPA Assist Data

B. ADDITIONAL COMMENTS TO SUPPORT JD: Based on our 25 January 2017 site visit and a review of on and off-site data associated with this request, we have determined that the project area contains waters of the United States, specifically Pond 5 wetland, Pond 8 wetland, Resample 2 wetland, and Pond 2 wetland totaling 0.740 acre. Pond 5 wetland, Pond 8 wetland, and Resample 2 wetland are in the 100-year floodplain of Brickhouse Gully, an RPW which flows into Whiteoak Bayou, which flows into Buffalo Bayou, a TNW. Pond 2 wetland is in the 500-year floodplain but has a hydrologic connection to the 100-year floodplain. Therefore, the approximate 0.740 acre of wetlands adjacent to Brickhouse Gully are waters of the United States subject to Section 404 of the Clean Water Act. Under Section 404, a Department of the Army permit is required prior to the discharge of dredged and/or fill material into these jurisdictional waters.

Brickhouse Gully within this reach is approximately 2.3 mile long, 1st Order relatively permanent waterway that is concrete lined. It does not have a broken surface hydrologic connection to the downstream TNW. This reach concludes approximately 13.4 miles upstream of the nearest TNW (Buffalo Bayou). There are six wetlands (totaling appx 1.34 acres) that are adjacent to the tributary within this reach. (NOTE: Four of these wetland polygons are within the project review area.) Wetland associated with Pond 5 (0.04 acre) is located approximately 12 miles from the TNW; Resample 2 wetland (0.012 acre) is located approximately 11.7 miles from the TNW; Wetland at Pond 8 (0.687 acre) is located approximately 11.7 miles from the TNW; and wetland at Pond 2 (0.001 acre) is located approximately 11.9 miles from the TNW.

This 1st order reach (appx 2.3 miles long) nor any of the adjacent wetlands have been identified as impaired waters in the TCEQ 303(d) list. However, it is noteworthy that appx 0.6 mile further downstream, Brickhouse Gully is listed as an impaired water by TCEQ. The land surrounding this reach is largely developed with residential housing and commercial businesses. In conclusion, there is not evidence that the waters in this review area (2.3 miles of concrete line waterway and 1.34 acres of adjacent wetlands) provide more than a speculative or insubstantial effect upon the chemical integrity of the downstream TNW located 13.4 miles downstream.

There are portions of this review area { 1st order reach (appx 2.3 miles long) & appx 1.34 acres of adjacent wetlands } that are located within the 100 year flood plain; which means that there is a 1% every year that the waters of the adjacent tributary will share a surface hydrologic connection with these adjacent wetlands. These 1.34 acres of wetlands and the 2.3 mile concrete lined tributary do provide vital storage & physical characteristics that are directly related to the physical integrity of the downstream TNW. The retention of water and retardation of overbank flooding associated with adjacent wetlands provides an important physical function for floodplain storage and water retention that is vital to maintain and protect the physical integrity of the downstream TNW. The loss of this function will effect flow rates and volumes downstream.

While this 1st order tributary has a unbroken surface hydrologic connect there are not any known biological aquatic species in this region that require both the aquatic resources in the review area (2.3 mile concrete line tributary & the appx. 1.34 acres of adjacent wetlands) and the downstream TNW 13.4 miles downstream to fulfill their life cycle requirements. These adjacent wetlands do provide as a potential food source for biological species in the waters. It is highly probable that species of fishes share both the tributary and the TNW waters at some time in their life, but it is speculative. In conclusion we did not

find that the waters in the review area provide more than a speculative or insubstantial effect upon the downstream TNW.

In summary; we did find that the waters within this review area (2.3 miles of a 1st order tributary and appx 1.34 acres of waters do provide more than a speculative or insubstantial effect upon the physical integrity of the downstream TNW. Therefore in accordance with the courts since they (waters in review) provide more than a speculative or insubstantial effect upon the chemical, physical and/or biological integrity of the downstream TNW they would be considered to be waters of the U.S. subject to Section 404 of the Clean Water Act.

TABLE

Wetland	Acreage	Latitude	Longitude	Distance to TNW (miles)
Pond 2 wetland	0.001	29.827894	-95.543308	11.9
Pond 5 wetland	0.040	29.831167	-95.543681	12
Resample 2 wetland	0.012	29.831068	-95.538525	11.7
Pond 8 wetland	0.687	29.828449	-95.539233	11.7