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.

SE A.	CTION I: BACKGROUND INFORMATION REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 16 November 2021
B.	DISTRICT OFFICE, FILE NAME, AND NUMBER: SWT-2021-00530 - 2
C.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: Texas
D.	REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY): Office (Desk) Determination. Date: 4 November 2021 Field Determination. Date(s): 27 October 2021
	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
rev	are Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the lew area. [Required] Waters subject to the ebb and flow of the tide. Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: CHALS CRETION 404 DETERMINATION OF MADDICTION.
	CWA SECTION 404 DETERMINATION OF JURISDICTION.
The	tre 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: 5,972 linear feet: 2.5 width (ft) and/or acres. Wetlands: acres.
	c. Limits (boundaries) of jurisdiction based on: Established by OHWM. Elevation of established OHWM (if known):
	 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.

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.

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

(i) General Area Conditions: Watershed size: 35,352 acres Drainage area: 840 acres Average annual rainfall: 23.9 inches Average annual snowfall: 7 inches

(ii) Physical Characteristics:

(a) Relationship with TNW: ☐ Tributary flows directly into TNW. ☐ Tributary flows through 2 tributaries before entering TNW. Project waters are **30 (or more)** river miles from TNW. Project waters are 5-10 river miles from RPW. Project waters are 20-25 aerial (straight) miles from TNW. Project waters are 5-10 aerial (straight) miles from RPW. Project waters cross or serve as state boundaries. Explain: N/A.

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

Traditionally Navigable Water. Tributary stream order, if known: Both tributaries, ES-1 and ES-2 are first order streams.
(b) General Tributary Characteristics (check all that apply): Tributary is: Natural Artificial (man-made). Explain: Manipulated (man-altered). Explain: ES-1 and ES-2 have been altered by farming activity reducing the duration of innundation. The streams have been plowed, planted, and tilled in order to maximize productive land within the current farming operation.
Tributary properties with respect to top of bank (estimate): Average width: 2.5 feet Average depth: 1 feet Average side slopes: 3:1.
Primary tributary substrate composition (check all that apply): Silts Sands Concrete Cobbles Gravel Muck Bedrock Vegetation. Type/% cover: 15-20% of ES-1 exhibits native grasses along the stream channel. ES-2 is located entirely in an area frequently farmed with no vegetation. Other. Explain: .
Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: ES-1 appears to have had an on-channel pond at one time of which the dam has been cut. The stream channel appears to be relatively stable. ES-2 has been heavily manipulated for farming practices. Presence of run/riffle/pool complexes. Explain: N/A. Tributary geometry: Relatively straight
Tributary gradient (approximate average slope): 1-3 %
(c) Flow: Tributary provides for: Ephemeral flow Estimate average number of flow events in review area/year: 6-10 Describe flow regime: The two unnamed tributaries of North Groesbeck Creek are located in a relatively dry area in western Texas. The stream channels likely only experience ephemeral flow following large rain events for a short duration. The stream channels are located within a rather large drainage area so overland sheet flow likely contributes to flow within the stream channel during these events. Other information on duration and volume:
Surface flow is: Overland sheetflow. Characteristics: The stream channels likely exhibit overland flow due to continous manipulation for farming activity.
Subsurface flow: Unknown . Explain findings:
Tributary has (check all that apply): Bed and banks OHWM ⁶ (check all indicators that apply): clear, natural line impressed on the bank

Identify flow route to TNW⁵: The two unnamed tributaries of North Groesbeck Creek, ES-1 and ES-2 flow together approximately 300 yards off of the property then flow into North Groesbeck Creek which flows into the Red River, a

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. 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.

If factors other than the OHWM were used to determ	ine 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	d, oily film; water quality; general watershed characteristics, etc.)
Explain: Water was not observed during the site visit	conducted 27 October 2021. The stream channels likely convey
flow only during and immediately after a precipitatio	n event. The stream channels are likely influenced by overland
sheet flow during these events.	
Identify specific pollutants, if known: .	

	(iv)		ogical Characteristics. Channel supports (check all that apply):
			Riparian corridor. Characteristics (type, average width): ES-1 once included an on-channel pond in which the dam has
			ES-1 is loosely vegetated along each bank for approximately 100 yards with mesquite, bluestem, broomweed, and
pric	скіў р	ear sp	oread throughout. Wetland fringe. Characteristics: .
		H	Habitat for:
			Federally Listed species. Explain findings: .
			Fish/spawn areas. Explain findings:
			Other environmentally-sensitive species. Explain findings:
			Aquatic/wildlife diversity. Explain findings: Macro invertebrates likley inhabit the stream channels identified within
			ger wildlife, such as deer, coyotes, and wild hogs likely use ES-1 as a a transportation corridor given the vast openness
surround	ling a	nd th	e shelter and safety the riparian corridor provides along the stream.
2.	Cha	racto	eristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
	(i)		sical Characteristics: General Wetland Characteristics:
		(a)	Properties:
			Wetland size: acres
			Wetland type. Explain: .
			Wetland quality. Explain: .
			Project wetlands cross or serve as state boundaries. Explain:
		<i>a</i> >	
		(b)	General Flow Relationship with Non-TNW: Flow is: Pick List. Explain:
			Flow is. Tree List. Expidin.
			Surface flow is: Pick List
			Characteristics: .
			Cubanda a flam Pial Link Emplain findings
			Subsurface flow: Pick List. Explain findings: Dye (or other) test performed:
			by Continuer 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:
			Separated by berni/barrier. Explain.
		(d)	Proximity (Relationship) to TNW
			Project wetlands are Pick List river miles from TNW.
			Project waters are Pick List aerial (straight) miles from TNW.
			Flow is from: Pick List.
			Estimate approximate location of wetland as within the Pick List floodplain.
	(ii)	Che	mical Characteristics:
		Cha	racterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed
			characteristics; etc.). Explain: .
		Iden	tify specific pollutants, if known:
	(iii`) Biol	ogical Characteristics. Wetland supports (check all that apply):
	(,		Riparian buffer. Characteristics (type, average width):
			Vegetation type/percent cover. Explain: .
			Habitat for:
			Federally Listed species. Explain findings:
			Fish/spawn areas. Explain findings:
			☐ Other environmentally-sensitive species. Explain findings: ☐ Aquatic/wildlife diversity. Explain findings:
3.	Cha		eristics of all wetlands adjacent to the tributary (if any)
			wetland(s) being considered in the cumulative analysis: Pick List
		App	roximately () acres in total are being considered in the cumulative analysis.

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

Summarize overall biological, chemical and physical functions being performed:

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:

- 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 unnamed tributaries of North Groesbeck Creek, ES-1 and ES-2 contribute to the transport of dissolved and suspended organic materials (e.g. woody debris and leaf fragments) from terrestrial habitats vital to supporting food webs in downstream waters. This was determined by the OHWM indicators, adjacent riparian area, and observation of organic material within the stream channel. The same ability to convey dissolved and suspended organic materials also results in the potential to carry environmental pollutants (or nutrients in overabundance) to navigable waters. For example, "stream channels have a natural dendritic design that has an intrinsic role in transporting various pollutants from widely dispersed upstream sources and concentrating them in downstream waters. Hyporheic zones of streams also play a key role in nitrogen transformations (uptake and cycling) and permanent removal (i.e., denitrification) as nitrogen is exposed to reactive benthic surfaces during transport (Alexander et al., 2007.) The adjacent riparian area also assists in maintenance of natural stream temperatures, trapping and filtering potential pollutants, slowing/storing flood waters, and helps maintain water quality through nutrient and contaminant uptake. "The influence of headwaters on downstream systems emerges from their attributes that meet unique habitat requirements of residents and migrants by: offering a refuge from temperature and flow extremes, competitors, predators, and introduced species; serving as a source of colonists; providing spawning sites and rearing areas; being a rich source of food; and creating migration corridors throughout the landscape. Degradation and loss of headwaters and their connectivity to ecosystems downstream threaten the biological integrity of entire river networks," (Meyer et al., 2007). It has been determined that the unnamed tributaries of North Groesbeck Creek, ES-1 and ES-2, have more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of the Red River, a TNW.
- 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:

D.	DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):		
	1.	TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area: TNWs: linear feet width (ft), Or, acres. Wetlands adjacent to TNWs: acres.	
	2.	RPWs that flow directly or indirectly into TNWs. Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:	
		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-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: 5,972 linear feet 2.5 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 jurisidictional. Data supporting this conclusion is provided at Section III.C.	
		Provide acreage estimates for jurisdictional wetlands in the review area: 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.	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	

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

	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: Other factors. Explain:
	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):
	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.
SE	CTION IV: DATA SOURCES.
A.	SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:WATER RESOURCES EVALUATION Approximately 3,970 Acres MISAE II Solar Project. 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: 111301010102. USGS NHD data. USGS 8 and 12 digit HUC maps.

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

\boxtimes	U.S. Geological Survey map(s). Cite scale & quad name: USGS 7.5 Minute Kirkland South Quadrangle.
	USDA Natural Resources Conservation Service Soil Survey. Citation: .
\boxtimes	National wetlands inventory map(s). Cite name: USFWS NWI Wetlands Mapper.
	State/Local wetland inventory map(s): .
	FEMA/FIRM maps: .
	100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
\boxtimes	Photographs: 🛮 Aerial (Name & Date): Google Earth & Digital Globe 1995-2021.
	or 🖂 Other (Name & Date):Applicant's delineation September 2018.
	Previous determination(s). File no. and date of response letter: .
	Applicable/supporting case law: .
	Applicable/supporting scientific literature: .
	Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: The review area consists of two jurisdictional, non-RPWs. The unnamed tributaries are located in an area that has been manipulated by farming activity resulting in alterred drainage patterns effectively diverting normal flow paths and duration of innundation.