APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 13-Dec-2011

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Tulsa District, SWT-2011-00758-JD2

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State :	OK - Oklahoma
County/parish/borough:	Payne
City:	Stillwater
Lat:	36.130488
Long:	-97.033681
Universal Transverse Mercator	Folder UTM List *UTM list determined by folder location* ● NAD83 / UTM zone 14N Waters UTM List *UTM list determined by waters location* ● NAD83 / UTM zone 14N
Name of nearest waterbody:	West Branch Creek
Name of nearest Traditional Navigable Water (TNW):	Arkansas River
Name of watershed or Hydrologic Unit Code (HUC):	1105003

☑ 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 the action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION:

☐ Office Determination Date:

☑ Field Determination Date(s): ☐ 23-Nov-2011

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION

There "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

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

1. Waters of the U.S.
a. Indicate presence of waters of U.S. in review area:[1]

Water Name	Water Type(s) Present
SWT-2011-758-2	Non-RPWs that flow directly or indirectly into TNWs

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

Area: (m²)
Linear: (m)

c. Limits (boundaries) of jurisdiction:

based on:
OHWM Elevation: (if known)

2. Non-regulated waters/wetlands:[3]

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

1.TNW
Not Applicable.

2. Wetland Adjacent to TNW
Not Applicable.

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

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

(i) General Area Conditions:

Watershed size:	206 acres
Drainage area:	150 acres
Average annual rainfall:	36 inches
Average annual snowfall:	9 inches

(ii) Physical Characteristics
(a) Relationship with TNW:

☐ Tributary flows directly into TNW.
☑ Tributary flows through [ ] tributaries before entering TNW.
:Number of tributaries

Project waters are 30 (or more) river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project Waters are 30 (or more) 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:
NA

Identify flow route to TNW:[5]
unnamed tributary to West Branch Creek to Branch Creek to Stillwater Creek to the Cimarron River to the Arkansas River

Tributary Stream Order, if known:

Order	Tributary Name
1	SWT-2011-758-2

(b) General Tributary Characteristics:
Tributary is:

Tributary Name	Natural	Artificial	Explain	Manipulated	Explain
SWT-2011-758-2	-	-	-	X	the upperheadwaters have been impacted by stream crossings. Immediately upstream and offsite an urban residential development has been constructed. A portion of the runnoff from the development has been diverted to this segment of stream

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

Tributary Name	Width (ft)	Depth (ft)	Side Slopes
SWT-2011-758-2	5	3	Vertical (1:1 or less)

Primary tributary substrate composition:

Tributary Name	Silt	Sands	Concrete	Cobble	Gravel	Muck	Bedrock	Vegetation	Other
SWT-2011-758-2	X	X	-	X	-	-	-	-	-

Tributary (conditions, stability, presence, geometry, gradient):

Tributary Name	Condition\Stability	Run\Riffle\Pool Complexes	Geometry	Gradient (%)
SWT-2011-758-2	eroding due to additional runnoff being diverted to this stream. Increased impermiable materials in watershed increassed runnoff or lessened infiltration of rainwater	non-existent	Meandering	2

(c) Flow:

Tributary Name	Provides for	Events Per Year	Flow Regime	Duration & Volume
SWT-2011-758-2	Ephemeral flow	6-10	Flows start in the headwaters of this unnamed tributary and flow to West Branch Creek then to Branch Creek to Stillwater Creek to the Cimarron River to the Arkansas River	this information has not been calculated but would be conversely related to number of rain events that fall on this area.

Surface Flow is:

Tributary Name	Surface Flow	Characteristics
SWT-2011-758-2	Confined	the strean is definately defined to in between the bed and banks

Subsurface Flow:

Tributary Name	Subsurface Flow	Explain Findings	Dye (or other) Test
SWT-2011-758-2	Unknown	-	-

Tributary has:

Tributary Name	Bed & Banks	OHWM	Discontinuous OHWM[7]	Explain
SWT-2011-758-2	X	X	-	-

Tributaries with OHWM[6] - (as indicated above)

Tributary Name	OHWM	Clear	Litter	Changes in Soil	Destruction Vegetation	Shelving	Wrack Line	Matted\Absent Vegetation	Sediment Sorting	Leaf Litter	Scour	Sediment Deposition	Flow Events	Water Staining	Changes Plant	Other
SWT-2011-758-2	X	-	-	-	-	X	-	-	-	-	X	-	-	-	-	-

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction:

High Tide Line indicated by:
Not Applicable.

Mean High Water Mark indicated by:
Not Applicable.

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

Tributary Name	Explain	Identify specific pollutants, if known
SWT-2011-758-2	water chemistry was not observed	polluntants would be what is most commonly found in watersheds surrounded by urbanized lands. Including petrochemicals, herbicides, pesticides, excess nitrogen and phosphorus and leach agents from asphalts.

(iv) Biological Characteristics. Channel supports:

Tributary Name	Riparian Corridor	Characteristics	Wetland Fringe	Characteristics	Habitat
SWT-2011-758-2	X	intact approximately 75 ft wide	-	-	X

Habitat for: (as indicated above)

Tributary Name	Habitat	Federally Listed Species	Explain Findings	Fish\Spawn Areas	Explain Findings	Other Environmentally Sensitive Species	Explain Findings	Aquatic\Wildlife Diversity	Explain Findings
SWT-2011-758-2	X	-	-	-	-	-	-	X	aquatic invertibrates survive within the stream and likewise downstream invertibrates are supported from this stream

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

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Not Applicable.

(b) General Flow Relationship with Non-TNW:

Flow is:
Not Applicable.

Surface flow is:
Not Applicable.

Subsurface flow:
Not Applicable.

(c) Wetland Adjacency Determination with Non-TNW:
Not Applicable.

(d) Proximity (Relationship) to TNW:
Not Applicable.

(ii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Not Applicable.

(iii) Biological Characteristics. Wetland supports:
Not Applicable.

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

All wetlands being considered in the cumulative analysis:
Not Applicable.

Summarize overall biological, chemical and physical functions being performed:
Not Applicable.

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.

Findings for: SWT-2011-758-2
This stream channel and its intact floodplain function to absorb water from storm events and slow the delivery of runoff water to downstream waters. In addition, the intact woodland riparian buffer functions to trap sediments, nutrients, and pollutants and reduce their transport to downstream TNWs. Some of the nutrients are utilized in primary production in the riparian corridor and some contaminants are taken up in the vegetation. Nitrogen uptake and conversion in a watershed is greatest in small streams where there is a large benthic surface available for biological activity relative to the small volume of water in the stream. The potential for nitrogen uptake and conversion decreases downstream as the volume of water grows larger relative to the available benthic surfaces. This nutrient uptake and conversion in the small stream functions to reduce the levels of nutrients and contaminants in downstream RPWs and TNWs. Without this channel and riparian floodplain, runoff from storm events would drain off of the landscape quicker and be delivered downstream sooner producing higher peak and shorter duration storm flows, which is a contributing factor to flooding at points downstream. The woodland buffer around this channel provides wildlife habitat in the form of a protective travel corridor, feeding grounds, resting sites, nesting sites, and refuge sites. Pools of water remaining for short duration after storm events provides watering sources for avian species and terrestrial wildlife.

Additionally, the woodland contributes natural levels of large woody debris (LWD), coarse woody debris (CWD), and particulate organic matter (POM) to downstream RPWs. Sources of this contribution occur through natural limb shed and seasonal leaf shed, and deadfall and livefall of standing trees. Appropriate contribution levels of these components support healthy aquatic ecosystems at downstream locations. The LWD contributes to aquatic habitat diversity in RPWs by providing surfaces for algal growth and colonization, and in deflection of flows which contributes to stable scour and sediment patterns in the RPWs which creates aquatic habitat diversity. The presence of system-appropriate LWD in a lotic (moving water) aquatic system provides 3 to 4 times the biological productivity of sediment substrate alone. The CWD and POM provide the base for primary production, a natural source of nutrients to RPWs, surfaces for colonization and algal growth, and detritus which is food for aquatic invertebrates and microorganisms in RPWs. This primary production and the associated aquatic invertebrate community provides prey and food source for other aquatic organisms in RPWs, ultimately reaching upper trophic levels in the aquatic ecosystem. This food base support to RPWs in turn is exported to downstream waters and, on a continuum, functions as food base support to TNWs located downstream. Loss of biological productivity (plant and animal) at this stream site would cascade into declines in populations of terrestrial vertebrates and invertebrates in all downstream waters.

Furthermore, in view of reasonably anticipated urban development in this reach, the quantity of nutrients and contaminants capable of being delivered to the waterway is expected in increase. Additional sources of nutrients and contaminants in this reach could include leached petrochemicals from asphalt surfaces, automotive oil and grease residues washing from streets and parking lots, excess nutrients from treated lawns, nutrients and contaminants from storage sites, wastewater, sanitary sewer leakage, etc. With a reduced capacity to utilize or uptake these nutrients and contaminants within this reach, these pollutants would be transported to downstream waters, ultimately reaching TNWs. Furthermore, when viewed in aggregate with cumulative function provided by all streams of this size in the TNW watershed, it is reasonable to conclude these effects (nutrient loading, flood flow alteration, impairment of biological productivity) would be transferred downstream to TNWs.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE:

1. TNWs and Adjacent Wetlands:
Not Applicable.

2. RPWs that flow directly or indirectly into TNWs:
Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

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

Not Applicable.

Provide estimates for jurisdictional waters in the review area:

Tributary Name	Type	Size (Linear) (m)	Size (Area) (m²)
SWT-2011-758-2	Non-RPWs that flow directly or indirectly into TNWs	121.92	-
Total:		**121.92**	**0**

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs:
Not Applicable.

Provide acreage estimates for jurisdictional wetlands in the review area:
Not Applicable.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs:
Not Applicable.

Provide estimates for jurisdictional wetlands in the review area:
Not Applicable.

7. Impoundments of jurisdictional waters:[9]
Not Applicable.

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:[10]
Not Applicable.

Identify water body and summarize rationale supporting determination:
Not Applicable.

Provide estimates for jurisdictional waters in the review area:
Not Applicable.

F. NON-JURISDICTIONAL WATERS. INCLUDING WETLANDS

- ☐ 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 soley 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):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (ie., presence of migratory birds, presence of endangered species, use of water for

irrigated agriculture), using best professional judgment:
Not Applicable.

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.
Not Applicable.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD
(listed items shall be included in case file and, where checked and requested, appropriately reference below):
Not Applicable.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Description
All data sources are the same as JD-1

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[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.

[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.

[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.

[8]-See Footnote #3.

[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.