



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 12/16/2020
 ORM Number: MVS-2019-510 Expand Defiance Quarry
 Associated JDs: MVS-1999-5920 (Historical Rapanos ORM JD)
 Review Area Location¹: State/Territory: MO City: Defiance County/Parish/Borough: St. Charles County
 Center Coordinates of Review Area: Latitude 38.66495859 Longitude -90.7734906864

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size		§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³				
(a)(1) Name	(a)(1) Size		(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
Unnamed Tributary to Little Femme Osage Creek	3,678	linear feet	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	The unnamed tributary is subject to intermittent flow within a typical year, with flows transitioning to perennial just downstream of the review area. Flows are contributed from rainfall in the 350 acre watershed and from groundwater influence. The tributary is depicted as a solid blue line tributary within the review area in USGS Topographical maps. Dye tracking to the north shows that the geology in the area supports channel surface water in upper watershed into subterranean flows that generally resurface lower in the watershed, these

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District’s list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



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Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
				conditions would likely also occur in this area and would result in groundwater contributions lower in the watershed. No fish were observed within the channel, but this may be a result of an unsuitable crossing structure currently used by the quarry that does not sever jurisdiction but does not that allows for aquatic organism passage due to the constricted flow passage through the structure. The tributary contributes regular surface water flows into Little Femme Osage Creek, which then shortly downstream, flows into the Femme Osage Creek, a primary tributary to the a(1) navigable Missouri River. From the downstream most point of the tributary in the review area the flow path to the Missouri River is 2.89 river miles.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):				
(a)(3) Name	(a)(3) Size		(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
Ephemeral Tributary (E-1)	1,232	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	An ephemeral stream, which at its lowest end drains a 42 acre watershed, conveys water in response to storm events in a typical year. In USGS Topographical map this feature is present within a drainage area of topographic relief but with no stream mapped. The tributary drains an undeveloped forested watershed where there is a high rate of rainfall interception. Separate site visits conducted by agent and by the Corps found no flow present within the channel at the time of the site visit.
Erosive Drainage (ED-1)	2,491	linear feet	(b)(3) Ephemeral feature, including an ephemeral	An ephemeral stream, which at its terminus drains a 50 acre watershed, conveys water only in response to storm events in a typical year. In USGS Topographical map this feature is present

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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Excluded waters ((b)(1) – (b)(12)): ⁴			
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
		stream, swale, gully, rill, or pool.	within a drainage area of topographic relief but with no stream mapped. The tributary drains an undeveloped forested watershed where there is a high rate of rainfall interception. The stream channel also has segments where the stream channel loses definition and flows appears to be subterranean for short segments. The channel will discontinue for a short extent and then pickup in a well-defined segment down gradient. These features were found to be associated with the physiographic features of the ecological site description for Deep Loess Upland Backslope Woodland & Forest (USDA 2019) and the subterranean channel found in the Dye Tracing just to the north in Weldon Springs Conservation Area. In the defined stream segments (which constitute the majority of the reach) the stream channel had defined bed and banks with stream channel meanders and gravel bars present. Separate site visits conducted by agent and by the Corps found no flow present within the channel at the time of the site visit.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

Information submitted by, or on behalf of, the applicant/consultant: [Jurisdictional Evaluation and Wetland Delineation—Defiance Quarry—BMC Stone, LLC—St. Charles County, MO. Habitat Architects Project 130-19.](#)

This information is sufficient for purposes of this AJD.

Rationale: [The report is sufficient however was prepared prior to the Navigable Waters Protection Rule and therefore the site documentation is adequate for review but suggestion jurisdictional determinations proposed reviewed under the new NWPR’s definition of “waters of the U.S.”](#)

- Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\).](#)
- Photographs: [Aerial: Google Earth Pro aerial photos 9/25/2019, 2/24/2018, 4/2/2016, 1/1/2016, & 11/12/2013](#)
- Corps site visit(s) conducted on: [2019 October 1](#)
- Previous Jurisdictional Determinations (AJDs or PJDs): [ORM Number\(s\) and date\(s\).](#)
- Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)
- USDA NRCS Soil Survey: [Web Soil Survey – KML layer](#)
- USFWS NWI maps: [NWI – KML layer](#)
- USGS topographic maps: [USGS.gov/topoview/viewer – 2017 Defiance Quadrangle; 1:24,000 scale](#)

Other data sources used to aid in this determination:



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Data Source (select)	Name and/or date and other relevant information
USGS Flood inundation mapping	N/A.
Other USDA data (specify)	Ecological Site Description: Deep Loess Upland Woodland
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	Dye Tracking Maps – Missouri Geological Survey - MDNR
FEMA/FIRM maps	FEMA flood zones layers imbedded in ORM Map
EPA sources (specify)	My Waters weblayer - Watershed Report & Detailed Facility Report

B. Typical year assessment(s): The Antecedent Precipitation Tool was queried for the site visit dates below for the consultant’s site visit and the Corps site visit and was used to characterize the conditions in relation to that of a typical year.

The site delineation report prepared by the consultant was completed in early August, which within a normal year is during the more dry periods of the summer months in Missouri. The conditions observed during the agent’s site visit were transition from a period within the normal range in July and early August. At the time of the agent’s site visit the Palmer Index found the conditions to be of extreme wetness due to a few large quantity rainfall events.

The Corps’ site visit approximately two months later, in October 2019, was during end of summer leading to the beginning of fall is a dryer time of year. The data found that the timeframe proceeding the site visit was one of severe wetness but that normal conditions were present at the time of the site visit after a sharp decline in precipitation with a period of extreme dryness shortly after the site visit.

C. Additional comments to support AJD: Upper portion of the watershed is primarily undeveloped in a highly natural state, with 500+ foot mixed-aged Oak Hickory forested riparian along the stream channel. Towards the downstream length of the tributary (the lower 1,000 linear feet of stream) previous fill placement from the mining operation has reduced the riparian corridor and increased the infiltration of invasive bush honeysuckle.

There has been limited development in the watershed, so there has not been any significant additions of flow as a result of impervious surface. In addition the existing quarry operations has impacted the intermittent tributaries hydrology. The quarry pit runs along the tributary’s southern banks for the entire length within the review area. The limestone quarries pit alter the natural hydrology through fissures in the limestone bedrock material, in addition this intercepts water that directly falls on the pit area and from areas that slope into the tributary. The balance of the natural landscape to the north (within the proposed pit expansion area) contributes enough flow through several ephemeral branches to support continuously flowing surface water during certain times of year. Also the intermittent tributary’s location at a lower elevation of the landscape with adjacent hillslopes ending at the intermittent tributary receives ground water influence that contributes to flow in addition to flows in response to rainfall events.