

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): August 16, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Best Sand Corporation, Spencer Lotusdale Site, 2015-01193 Stream 1 (2473 lf -Intermittent) and Abutting Wetlands (WD) A2-A (0.015 ac), A2-B (0.015 ac), A2-C (0.01 ac), A3-A (0.01 ac), A3-B (0.005 ac), A3-C (0.005 ac), A3-E (0.01 ac), A3-D (0.01 ac), G1-B (0.015 ac), G1-A (0.005 ac), G2 (0.1 ac), G3 (0.06 ac), G4 (0.14 ac), and G5 (0.02 ac) and Adjacent Wetland (WD) A1 (0.14 ac), H1 (0.02), H2-B (0.01 ac), H2-D (0.01 ac), H2-C (0.01 ac), H2-A (0.01 ac), I1-A (0.01), I1-B (0.01 ac), I1-C (0.01 ac), I1-D (0.03 ac), I2-B (0.01 ac), I2-A (0.01 ac), I3-B (0.02 ac), I3-A (0.16 ac), D3-A (0.25 ac), D3-B (0.02 ac), D2 (1.6 ac)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Geauga City: Chardon
Center coordinates of site (lat/long in degree decimal format): Lat. 41.54237 °, Long. -81.19532 °
Universal Transverse Mercator: 17

Name of nearest waterbody: Chagrin River

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

Name of watershed or Hydrologic Unit Code (HUC): 04110003

- 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: January 20, 2017
 Field Determination. Date(s): November 1, 2016, [Click here to enter a date.](#)

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: [Click here to enter text.](#)

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: 2473 linear feet: 5 width (ft) and/or # acres.
Wetlands: 2.75 acres.

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).

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c. **Limits (boundaries) of jurisdiction** based on: 1987 Delineation Manual and Established by OHWM

Elevation of established OHWM (if known): [Click here to enter text.](#)

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: [Click here to enter text.](#)

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: [Click here to enter text.](#)

Summarize rationale supporting determination: [Click here to enter text.](#)

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: [Click here to enter text.](#)

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.

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

(i) **General Area Conditions:**

Watershed size: 0.45 square miles

Drainage area: 0.45 square miles

Average annual rainfall: 46 inches

Average annual snowfall: 113 inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 15-20 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: Project waters do not cross state boundaries

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.

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Identify flow route to TNW⁵: Stream 1 flows into the Chagrin River. The Chagrin River becomes a Section 10 water further downstream at its confluence with Lake Erie.

Tributary stream order, if known: [Click here to enter text.](#)

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

- Tributary is:**
- Natural
 - Artificial (man-made). Explain: [Click here to enter text.](#)
 - Manipulated (man-altered). Explain: [Click here to enter text.](#)

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

Average width: # feet

Average depth: # feet

Average side slopes: [Choose an item.](#)

Primary tributary substrate composition (check all that apply):

- Silts
- Sands
- Concrete
- Cobbles
- Gravel
- Muck
- Bedrock
- Vegetation. Type/% cover: [Click here to enter text.](#)
- Other. Explain: Leaf pack / Woody Debris

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable

Presence of run/riffle/pool complexes. Explain: Run/riffle/pool complexes were not observed.

Tributary geometry: Meandering

Tributary gradient (approximate average slope): 1.1%

(c) Flow:

Tributary provides for: Intermittent but not Seasonal Flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: Intermittent

Other information on duration and volume: [Click here to enter text.](#)

Surface flow is: Confined Characteristics: Water flows within a confined stream channel.

Subsurface flow: Unknown Explain findings: [Click here to enter text.](#)

Dye (or other) test performed: [Click here to enter text.](#)

Tributary has (check all that apply):

- Bed and banks
- OHWM⁶ (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): [Click here to enter text.](#)
 - 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 [Click here to enter text.](#)
- Discontinuous OHWM.⁷ Explain: [Click here to enter text.](#)

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;

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.

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- fine shell or debris deposits (foreshore) physical markings;
- physical markings/characteristics vegetation lines/changes in vegetation types.
- tidal gauges
- other (list): [Click here to enter text.](#)

(iii) Chemical Characteristics:

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

Explain: Water color appeared clear during the site visit.

Identify specific pollutants, if known: Unknown

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor is wooded. The riparian corridor is greater than 30 feet wide on both sides of the banks.
- Wetland fringe. Characteristics: Wetlands composed primarily of emergent hydrophytes fringe sections of Stream 1.
- Habitat for:
 - Federally Listed species. Explain findings: [Click here to enter text.](#)
 - Fish/spawn areas. Explain findings: [Click here to enter text.](#)
 - Other environmentally-sensitive species. Explain findings: [Click here to enter text.](#)
 - Aquatic/wildlife diversity. Explain findings: Wetlands provide for food chain production and habitat for spawning, rearing, and resting sites for aquatic land species.

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: 2.75 acres

Wetland type. Explain: The wetlands consist of emergent vegetation in a wooded area. With regards to wetland classification, the United States Army Corps of Engineers 1987 Wetland Delineation Manual (Manual) states that consideration should be given to the relationship between the technical guidelines for wetlands and the classification system developed for the United States Fish and Wildlife Services, United States Department of Interior, by Cowardin et al. (Cowardin Classification). According to the Cowardin et al. classification of a wetland system, the system is based on the plants that constitute the uppermost layer of vegetation that possess an aerial coverage of 30% or greater. It is important to note that the Cowardin methodology refers to areal coverage not basal or rooting coverage. Therefore, the manual and the applicable regional supplement provide the technical guidelines for documenting wetland areas and the Cowardin Classification is used to assess the wetland type or system. Given this, the wetland classification type would be determined based on the uppermost layer of vegetation providing areal coverage. Since wetlands on-site were observed as having an aerial coverage of greater than 30%, wetlands on-site were determined to be forested wetland.

Wetland quality. Explain: The wetlands are located within a wooded undeveloped area.

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

(b) General Flow Relationship with Non-TNW:

Flow is: Ephemeral Flow Explain: Wetlands A1, H1, H2-B, H2-D, H2-C, H2-A, I1-A, I1-B, I1-C, I1-D, I2-B, I2-A, I3-B, I3-A, D3-A, D3-B, D2 receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 1 via sheet flow. All adjacent wetlands are less than 500 linear feet from Stream 1. Stream 1 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 1. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Surface flow is: Overland Sheetflow

Characteristics: Wetlands A1, H1, H2-B, H2-D, H2-C, H2-A, I1-A, I1-B, I1-C, I1-D, I2-B, I2-A, I3-B, I3-A, D3-A, D3-B, D2 receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 1. Small drainage swales were observed during the site review that indicate water sheet flows toward and into Stream 1. Wetlands A2-A, A2-B, A2-C, A3-A, A3-B, A3-C, A3-E, A3-D, G1-B, G1-A, G2, G3, G4 and G5. All adjacent wetlands are less than 500 linear feet from Stream 1. Stream 1 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight

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line miles to the west of Stream 1. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Subsurface flow: Unknown Explain findings: Subsurface flow was not analyzed.

Dye (or other) test performed: [Click here to enter text.](#)

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: Some wetlands directly abut Stream 1. Site topography indicates that adjacent wetlands overland sheet flow and drains towards non-TNW Stream 1. Stream 1 flows directly into the Chagrin River. The Chagrin River becomes a TNW further downstream with its confluence with Lake Erie.

Ecological connection. Explain: [Click here to enter text.](#)

Separated by berm/barrier. Explain: [Click here to enter text.](#)

(d) Proximity (Relationship) to TNW

Project wetlands are 20-25 river miles from TNW.

Project waters are 15-20 aerial (straight) miles from TNW.

Flow is from: Wetland to Navigable Waters

Estimate approximate location of wetland as within the 5 - 10-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: The wetlands are located in an undeveloped wooded area. Wetlands were either saturated or inundated. This observation is consistent with the seasonal conditions of northeast Ohio in November. Groundwater still has not yet had a chance to recharge after the summer growing season. Because of this, standing water was not observed in the wetlands.

According to the National Weather Service, Chardon, Ohio had above average precipitation amounts in the months of August, September and October, 2016 (National Weather Service:www.weather.gov).

Identify specific pollutants, if known: Unknown.

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

Riparian buffer. Characteristics (type, average width): [Click here to enter text.](#)

Vegetation type/percent cover. Explain: Emergent vegetation.

Habitat for:

Federally Listed species. Explain findings: [Click here to enter text.](#)

Fish/spawn areas. Explain findings: [Click here to enter text.](#)

Other environmentally-sensitive species. Explain findings: [Click here to enter text.](#)

Aquatic/wildlife diversity. Explain findings: Wetlands support breeding habitat for amphibians.

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

All wetland(s) being considered in the cumulative analysis: 15-20

Approximately (2.33) 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>
No	0.14 WD A1	No	0.03 WD I1-D
No	0.02 WD H1	No	0.01 WD I2-B
No	0.01 WD H2-B	No	0.01 WD I2-A
No	0.01 WD H2-D	No	0.02 WD I3-B
No	0.01 WD H2-C	No	0.16 WD I3-A
No	0.01 WD H2-A	No	0.25 WD D3-A
No	0.01 WD I1-A	No	0.02 WD D3-B
No	0.01 WD I1-B	No	1.60 WD D2

Summarize overall biological, chemical and physical functions being performed: Wildlife habitat, pollutant and sediment attenuation, floodwater attenuation, groundwater recharge.

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

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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: [Click here to enter text.](#)
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: Wetlands A1, H1, H2-B, H2-D, H2-C, H2-A, I1-A, I1-B, I1-C, I1-D, I2-B, I2-A, I3-B, I3-A, D3-A, D3-B, D2 surface sheet flow into Stream 1. Stream 1 is an unnamed intermittent tributary that flows to the north outside of the project area directly into the Chagrin River. National Wetland Inventory Mapping indicate that there are several wetlands located adjacent to Stream 1 further downstream of the site before flowing into the Chagrin River. The Chagrin River is designated Warmwater Habitat (WWH) ¹ by the Ohio Environmental Protection Agency (OEPA). According to the OEPA's Maximum Daily Loads for the Chagrin River Watershed ², the project is located at the headwater of the Chagrin River near Chardon, Ohio. The headwater of the Chagrin River (headwaters to downstream Aurora Branch), and where these wetlands are located, has water quality that appears to indicate moderate human influence from land use impacts and waste water discharges. The majority of the Chagrin River retains its riparian forests and 50% of the watershed is zoned for low density large lot residential uses. The river valley offers a diversity of terrestrial and aquatic plant communities, wildlife, unique outcroppings, and extensive headwater wetlands. The Chagrin River is listed on Ohio 303 (d) list of Ohio's impaired water listings based on findings from Ohio EPA's monitoring program. These findings indicate that organic enrichment, nutrients, flow alterations and degraded habitats as the primary causes of impairment. Major sources of impairment include land development/suburbanization, sewage treatment plants, wetland fillings, removal of riparian vegetation, urban storm water and non-point sources. According to a United States Environmental Protection Agency Fact Sheet No. 2 (Values and Functions of Wetlands) ³ wetlands store runoff, filter pollutants and settle sediment that would otherwise be transported to the downstream. Wetlands help to maintain and improve water quality by intercepting pollutants before the water enters open water. OEPA Fact Sheet on The Importance and Benefits of Primary Headwater Habitat Streams (January 2003), which includes intermittent streams, states that ephemeral streams provide important ecological benefits such as sediment control, nutrient control, flood control, wildlife habitat corridors, and provide a source of water and food supply during drier times of the year. Degraded habitat was noted as one of the primary causes of impairment in the Chagrin River watershed. Intermittent Stream 1 and Wetlands A1, H1, H2-B, H2-D, H2-C, H2-A, I1-A, I1-B, I1-C, I1-D, I2-B, I2-A, I3-B, I3-A, D3-A, D3-B, D2 store water runoff which filters pollutants, nutrients and sediment that would otherwise be transported to the Chagrin River, which can further degrade habitat. Wetland fillings was also noted as being a major source of water impairment in the Chagrin River watershed. Because of the loss of wetland in the Chagrin River watershed, Wetlands A1, H1, H2-B, H2-D, H2-C, H2-A, I1-A, I1-B, I1-C, I1-D, I2-B, I2-A, I3-B, I3-A, D3-A, D3-B, D2 provide beneficial ecological services that help to maintain the biological, chemical and physical integrity of the Chagrin River, which is listed on Ohio's 303 (d) list of impaired waters. Because of this, it has been determined that intermittent Stream 1 and Wetlands A1, H1, H2-B, H2-D, H2-C, H2-A, I1-A, I1-B, I1-C, I1-D, I2-B, I2-A, I3-B, I3-A, D3-A, D3-B, D2 have a significant nexus with the downstream TNW.

1. Ohio Administrative Code 3745-1-22 <http://epa.ohio.gov/portals/35/rules/01-22.pdf>
2. OEPA's Maximum Daily Loads for the Chagrin River (2007) http://epa.ohio.gov/portals/35/tmdl/ChagrinRiverTMDL_final_may07.pdf
3. <http://nepis.epa.gov>

Buffalo District, Best Sand Corporation, Spencer Lotusdale Site, 2015-01193 Stream 1 (2473 lf -Intermittent) and Abutting Wetlands (WD) A2-A (0.015 ac), A2-B (0.015 ac), A2-C (0.01 ac), A3-A (0.01 ac), A3-B (0.005 ac), A3-C (0.005 ac), A3-E (0.01 ac), A3-D (0.01 ac), G1-B (0.015 ac), G1-A (0.005 ac), G2 (0.1 ac), G3 (0.06 ac), G4 (0.14 ac), and G5 (0.02 ac) and Adjacent Wetland (WD) A1 (0.14 ac), H1 (0.02), H2-B (0.01 ac), H2-D (0.01 ac), H2-C (0.01 ac), H2-A (0.01 ac), I1-A (0.01), I1-B (0.01 ac), I1-C (0.01 ac), I1-D (0.03 ac), I2-B (0.01 ac), I2-A (0.01 ac), I3-B (0.02 ac), I3-A (0.16 ac), D3-A (0.25 ac), D3-B (0.02 ac), D2 (1.6 ac)

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: Water was observed flowing in Stream 1 during the initial site review on April 20, 2016 the on-site review on November 01, 2016. The USGS topographic map depicts this stream as the headwater of an intermittent stream channel. A storm water pond located off-site to the south on the adjacent property contributes water flow to Stream 1. Historical aerial photographs show that the storm water pond been in existence since 1994.

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

- Tributary waters: 2473 linear feet 4 width (ft).
 - Other non-wetland waters: # acres.
- Identify type(s) of waters: [Click here to enter text.](#)

3. Non-RPWs⁸ 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: [Click here to enter text.](#)

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: [Click here to enter text.](#)

Provide acreage estimates for jurisdictional wetlands in the review area: 0.42 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: 2.33 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

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

Buffalo District, Best Sand Corporation, Spencer Lotusdale Site, 2015-01193 Stream 1 (2473 lf -Intermittent) and Abutting Wetlands (WD) A2-A (0.015 ac), A2-B (0.015 ac), A2-C (0.01 ac), A3-A (0.01 ac), A3-B (0.005 ac), A3-C (0.005 ac), A3-E (0.01 ac), A3-D (0.01 ac), G1-B (0.015 ac), G1-A (0.005 ac), G2 (0.1 ac), G3 (0.06 ac), G4 (0.14 ac), and G5 (0.02 ac) and Adjacent Wetland (WD) A1 (0.14 ac), H1 (0.02), H2-B (0.01 ac), H2-D (0.01 ac), H2-C (0.01 ac), H2-A (0.01 ac), I1-A (0.01), I1-B (0.01 ac), I1-C (0.01 ac), I1-D (0.03 ac), I2-B (0.01 ac), I2-A (0.01 ac), I3-B (0.02 ac), I3-A (0.16 ac), D3-A (0.25 ac), D3-B (0.02 ac), D2 (1.6 ac)

- 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: [Click here to enter text.](#)
- Other factors. Explain: [Click here to enter text.](#)

Identify water body and summarize rationale supporting determination: [Click here to enter text.](#)

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: [Click here to enter text.](#)
- 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: [Click here to enter text.](#)
- Other: (explain, if not covered above): [Click here to enter text.](#)

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: [Click here to enter text.](#)
- 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: [Click here to enter text.](#)
- 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: Preliminary Jurisdictional Determination Report for Best Sands Corporation-Spencer Lotusdale Site Munson and Claridon Township, Geauga County, Ohio August 06, 2016 and Revised November 07, 2016.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.

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.

Buffalo District, Best Sand Corporation, Spencer Lotusdale Site, 2015-01193 Stream 1 (2473 lf -Intermittent) and Abutting Wetlands (WD) A2-A (0.015 ac), A2-B (0.015 ac), A2-C (0.01 ac), A3-A (0.01 ac), A3-B (0.005 ac), A3-C (0.005 ac), A3-E (0.01 ac), A3-D (0.01 ac), G1-B (0.015 ac), G1-A (0.005 ac), G2 (0.1 ac), G3 (0.06 ac), G4 (0.14 ac), and G5 (0.02 ac) and Adjacent Wetland (WD) A1 (0.14 ac), H1 (0.02), H2-B (0.01 ac), H2-D (0.01 ac), H2-C (0.01 ac), H2-A (0.01 ac), I1-A (0.01), I1-B (0.01 ac), I1-C (0.01 ac), I1-D (0.03 ac), I2-B (0.01 ac), I2-A (0.01 ac), I3-B (0.02 ac), I3-A (0.16 ac), D3-A (0.25 ac), D3-B (0.02 ac), D2 (1.6 ac)

- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: [Click here to enter text.](#)
- Corps navigable waters' study: [Click here to enter text.](#)
- U.S. Geological Survey Hydrologic Atlas: USACE ORM2 Database
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: OH-Chardon
- USDA Natural Resources Conservation Service Soil Survey. Citation: [Click here to enter text.](#)
- National wetlands inventory map(s). Cite name: USACE ORM2 Database
- State/Local wetland inventory map(s): [Click here to enter text.](#)
- FEMA/FIRM maps: [Click here to enter text.](#)
- 100-year Floodplain Elevation is: [Click here to enter text.](#) (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro 2017, Bing Aerial Imagery
 - or Other (Name & Date): Photos provided in the delineation report (August 6, 2016) and USACE site photos
- Previous determination(s). File no. and date of response letter: [Click here to enter text.](#)
- Applicable/supporting case law: [Click here to enter text.](#)
- Applicable/supporting scientific literature: [Click here to enter text.](#)
- Other information (please specify): USGS Stream Stats Version: Alpha 4.1.3. <https://streamstats.usgs.gov/ss/>

B. ADDITIONAL COMMENTS TO SUPPORT JD

Buffalo District, Best Sand Corporation, Spencer Lotusdale Site, 2015-01193 Stream 1 (2473 lf -Intermittent) and Abutting Wetlands (WD) A2-A (0.015 ac), A2-B (0.015 ac), A2-C (0.01 ac), A3-A (0.01 ac), A3-B (0.005 ac), A3-C (0.005 ac), A3-E (0.01 ac), A3-D (0.01 ac), G1-B (0.015 ac), G1-A (0.005 ac), G2 (0.1 ac), G3 (0.06 ac), G4 (0.14 ac), and G5 (0.02 ac) and Adjacent Wetland (WD) A1 (0.14 ac), H1 (0.02), H2-B (0.01 ac), H2-D (0.01 ac), H2-C (0.01 ac), H2-A (0.01 ac), I1-A (0.01), I1-B (0.01 ac), I1-C (0.01 ac), I1-D (0.03 ac), I2-B (0.01 ac), I2-A (0.01 ac), I3-B (0.02 ac), I3-A (0.16 ac), D3-A (0.25 ac), D3-B (0.02 ac), D2 (1.6 ac)

Shawn Blohm
Regulatory Specialist

August 16, 2017
Date

Buffalo District, Best Sand Corporation, Spencer Lotusdale Site, 2015-01193 Stream 1 (2473 lf -Intermittent) and Abutting Wetlands (WD) A2-A (0.015 ac), A2-B (0.015 ac), A2-C (0.01 ac), A3-A (0.01 ac), A3-B (0.005 ac), A3-C (0.005 ac), A3-E (0.01 ac), A3-D (0.01 ac), G1-B (0.015 ac), G1-A (0.005 ac), G2 (0.1 ac), G3 (0.06 ac), G4 (0.14 ac), and G5 (0.02 ac) and Adjacent Wetland (WD) A1 (0.14 ac), H1 (0.02), H2-B (0.01 ac), H2-D (0.01 ac), H2-C (0.01 ac), H2-A (0.01 ac), I1-A (0.01), I1-B (0.01 ac), I1-C (0.01 ac), I1-D (0.03 ac), I2-B (0.01 ac), I2-A (0.01 ac), I3-B (0.02 ac), I3-A (0.16 ac), D3-A (0.25 ac), D3-B (0.02 ac), D2 (1.6 ac)

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): August 16, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Geauga City: Chardon
Center coordinates of site (lat/long in degree decimal format): Lat. 41.54237 °, Long. -81.19532 °
Universal Transverse Mercator: 17

Name of nearest waterbody: Chagrin River

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

Name of watershed or Hydrologic Unit Code (HUC): 04110003

- 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: January 20, 2017
 Field Determination. Date(s): October 19, 2016, *Click here to enter a date.*

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: *Click here to enter text.*

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: 225 linear feet: 3 width (ft) and/or # acres.

Wetlands: 0.44 acres.

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

Elevation of established OHWM (if known): Unknown

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).

Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

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: *Click here to enter text.*

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: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: *Click here to enter text.*

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.

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

(i) General Area Conditions:

Watershed size: 0.00116 square miles

Drainage area: 0.00116 square miles

Average annual rainfall: 46 inches

Average annual snowfall: 113 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 15-20 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: No

Identify flow route to TNW⁵: Stream 2 flows into Stream 1. Stream 1 flows into the Chagrin River. The Chagrin River becomes a Section 10 water further downstream at its confluence with Lake Erie.

Tributary stream order, if known: *Click here to enter text.*

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

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.

- Tributary is:** Natural
 Artificial (man-made). Explain: *Click here to enter text.*
 Manipulated (man-altered). Explain: *Click here to enter text.*

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

Average width: 3 feet
Average depth: 0.5 feet
Average side slopes: Vertical (1:1 or less)

Primary tributary substrate composition (check all that apply):

- Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover: *Click here to enter text.*
 Other. Explain: Leaf Pack

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable

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

Tributary geometry: Meandering

Tributary gradient (approximate average slope): %

(c) **Flow:**

Tributary provides for: Ephemeral Flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: Stream 2 has ephemeral flow. Stream 2 has a very small drainage area 0.00116square miles.

Evidence of surface water sheet flows was observed during the site review (drift lines and small leaf and woody debris racking) from the adjacent wetlands WD-C1, WD-2A, WD C2-B, WD C3-B, WD C3-A, WD C4, WD-B1, WD B2-D, WD B2-C, WD B2-B, WD B2-A, WD B3, WD B4, WD B5-A, WD B5-B, WD D1 to Stream 2. Topographic lines also indicate that water flows from the adjacent wetlands towards the general direction of Stream 2.

Other information on duration and volume: *Click here to enter text.*

Surface flow is: Confined Characteristics: Water flows within a confined stream channel.

Subsurface flow: Unknown Explain findings: *Click here to enter text.*

- Dye (or other) test performed: *Click here to enter text.*

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 *Click here to enter text.*
 other (list): *Click here to enter text.*
 Discontinuous OHWM.⁷ Explain: *Click here to enter text.*

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

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.

⁷Tbid.

other (list): *Click here to enter text.*

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water color appeared clear during the site visit. Identify specific pollutants, if known: Unknown

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor is a wooded area that lack a significant herbaceous vegetation layer and shrub layer. The riparian width is greater than 33 feet on each bank of the stream.
- Wetland fringe. Characteristics: *Click here to enter text.*
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text.*
 - Fish/spawn areas. Explain findings: *Click here to enter text.*
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
 - Aquatic/wildlife diversity. Explain findings: Wetlands provide for food chain production and habitat for spawning, rearing, and resting sites for aquatic land species.

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: 0.44 acres

Wetland type. Explain: The wetlands consist of emergent vegetation in a wooded area. With regards to wetland classification, the United States Army Corps of Engineers 1987 Wetland Delineation Manual (Manual) states that consideration should be given to the relationship between the technical guidelines for wetlands and the classification system developed for the United States Fish and Wildlife Services, United States Department of Interior, by Cowardin et al. (Cowardin Classification). According to the Cowardin et al. classification of a wetland system, the system is based on the plants that constitute the uppermost layer of vegetation that possess an aerial coverage of 30% or greater. It is important to note that the Cowardin methodology refers to areal coverage not basal or rooting coverage. Therefore, the manual and the applicable regional supplement provide the technical guidelines for documenting wetland areas and the Cowardin Classification is used to assess the wetland type or system. Given this, the wetland classification type would be determined based on the uppermost layer of vegetation providing areal coverage. Since wetlands on-site were observed as having an aerial coverage of greater than 30%, wetlands on-site were determined to be forested wetland.

Wetland quality. Explain: The wetlands are located within a wooded undeveloped area.
Project wetlands cross or serve as state boundaries. Explain: No

(b) General Flow Relationship with Non-TNW:

Flow is: Ephemeral Flow Explain: Wetlands WD-C1, WD-2A, WD C2-B, WD C3-B, WD C3-A, WD C4, WD-B1, WD B2-D, WD B2-C, WD B2-B, WD B2-A, WD B3, WD B4, WD B5-A, WD B5-B, WD D1 receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 2 via sheet flow. All adjacent wetlands are less than 500 linear feet from Stream 2. Stream 1 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 2. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Surface flow is: Overland Sheetflow

Characteristics: Wetlands WD-C1, WD-2A, WD C2-B, WD C3-B, WD C3-A, WD C4, WD-B1, WD B2-D, WD B2-C, WD B2-B, WD B2-A, WD B3, WD B4, WD B5-A, WD B5-B, WD D1 receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 2. Small drainage swales were observed during the site review that indicate water sheet flows toward and into Stream 2. All adjacent wetlands are less than 500 linear feet from Stream 2. Stream 2 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 2. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Subsurface flow: Unknown Explain findings: Subsurface flow was not analyzed

Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

- Not directly abutting
 - Discrete wetland hydrologic connection. Explain: Site topography indicates that adjacent wetlands overland sheet flow and drains towards non-TNW Stream 2. Stream 2 flows directly into the Chagrin River. The Chagrin River becomes a TNW further downstream with its confluence with Lake Erie.
 - Ecological connection. Explain: *Click here to enter text.*
 - Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW

Project wetlands are 15-20 river miles from TNW.
 Project waters are 1-2 aerial (straight) miles from TNW.
 Flow is from: Wetland to/from Navigable Waters
 Estimate approximate location of wetland as within the *Choose an item.* 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: The wetlands are located in an undeveloped wooded area. Wetlands were either saturated or inundated. This observation is consistent with the seasonal conditions of northeast Ohio in November. Groundwater still has not yet had a chance to recharge after the summer growing season. Because of this, standing water was not observed in the wetlands. According to the National Weather Service, Chardon, Ohio had above average precipitation amounts in the months of August, September and October, 2016 (National Weather Service:www.weather.gov).

Identify specific pollutants, if known: Unknown.

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

- Riparian buffer. Characteristics (type, average width): *Click here to enter text.*
- Vegetation type/percent cover. Explain: Sparsely emergent vegetation.
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text.*
 - Fish/spawn areas. Explain findings: *Click here to enter text.*
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
 - Aquatic/wildlife diversity. Explain findings: Wetlands provide food chain production and habitat for spawning, rearing, and resting sites for aquatic land species.

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

All wetland(s) being considered in the cumulative analysis: 15-20
 Approximately () 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>
No	0.03 WD C1	No	0.005 WD B2-C
No	0.03 WD C2-A	No	0.005 WD B2-B
No	0.04 WD C2-B	No	0.035 WD B2-A
No	0.01 WD C3-B	No	0.01 WD B-3
No	0.01 WD C3-A	No	0.01 WD B4
No	0.02 WD-C4	No	0.01 WD B5-A
No	0.14 WD-B1	No	0.03 WD B5-B
No	0.005 WD-B2-D	No	0.05 WD-D1

Summarize overall biological, chemical and physical functions being performed: Wildlife habitat, pollutant and sediment attenuation, floodwater attenuation, groundwater recharge.

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.

Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

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: *Click here to enter text.*
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: Wetlands WD-C1, WD-2A, WD C2-B, WD C3-B, WD C3-A, WD C4, WD-B1, WD B2-D, WD B2-C, WD B2-B, WD B2-A, WD B3, WD B4, WD B5-A, WD B5-B, WD D1 surface sheet flow into Stream 2. Stream 2 is an unnamed ephemeral tributary that flows into Stream 1. Stream 1 flows to the north outside of the project area directly into the Chagrin River. National Wetland Inventory Mapping indicate that there are several wetlands located adjacent to Stream 1 further downstream of the site before flowing into the Chagrin River. The Chagrin River is designated Warmwater Habitat (WWH) ¹ by the Ohio Environmental Protection Agency (OEPA). According to the OEPA's Maximum Daily Loads for the Chagrin River Watershed ², the project is located at the headwater of the Chagrin River near Chardon, Ohio. The headwater of the Chagrin River (headwaters to downstream Aurora Branch), and where these wetlands are located, has water quality that appears to indicate moderate human influence from land use impacts and waste water discharges. The majority of the Chagrin River retains its riparian forests and 50% of the watershed is zoned for low density large lot residential uses. The river valley offers a diversity of terrestrial and aquatic plant communities, wildlife, unique outcroppings, and extensive headwater wetlands. The Chagrin River is listed on Ohio 303 (d) list of Ohio's impaired water listings based on findings from Ohio EPA's monitoring program. These findings indicate that organic enrichment, nutrients, flow alterations and degraded habitats as the primary causes of impairment. Major sources of impairment include land development/suburbanization, sewage treatment plants, wetland fillings, removal of riparian vegetation, urban storm water and non-point sources. According to a United States Environmental Protection Agency Fact Sheet No. 2 (Values and Functions of Wetlands) ³ wetlands store runoff, filter pollutants and settle sediment that would otherwise be transported to the downstream. Wetlands help to maintain and improve water quality by intercepting pollutants before the water enters open water. OEPA Fact Sheet on The Importance and Benefits of Primary Headwater Habitat Streams (January 2003), which includes ephemeral streams, states that ephemeral streams provide important ecological benefits such as sediment control, nutrient control, flood control, wildlife habitat corridors, and provide a source of water and food supply during drier times of the year. Degraded habitat was noted as one of the primary causes of impairment in the Chagrin River watershed. Ephemeral Stream 2, WD-C1, WD-2A, WD C2-B, WD C3-B, WD C3-A, WD C4, WD-B1, WD B2-D, WD B2-C, WD B2-B, WD B2-A, WD B3, WD B4, WD B5-A, WD B5-B, WD D1 store water runoff which filters pollutants, nutrients and sediment that would otherwise be transported to the Chagrin River, which can further degrade habitat. Wetland fillings was also noted as being a major source of water impairment in the Chagrin River watershed. Because of the loss of wetland in the Chagrin River watershed, WD-J1 provides beneficial ecological services that help to maintain the biological, chemical and physical integrity of the Chagrin River, which is listed on Ohio's 303 (d) list of impaired waters. Because of this, it has been determined that ephemeral Stream 2 and Wetlands WD-C1, WD-2A, WD C2-B, WD C3-B, WD C3-A, WD C4, WD-B1, WD B2-D, WD B2-C, WD B2-B, WD B2-A, WD B3, WD B4, WD B5-A, WD B5-B, WD D1 have a significant nexus with the downstream TNW.

1. Ohio Administrative Code 3745-1-22 <http://epa.ohio.gov/portals/35/rules/01-22.pdf>

2. OEPA's Maximum Daily Loads for the Chagrin River (2007)
http://epa.ohio.gov/portals/35/tmdl/ChagrinRiverTMDL_final_may07.pdf

3. <http://nepis.epa.gov>

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.**

Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: *Click here to enter text.*
- 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: *Click here to enter text.*

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: *Click here to enter text.*

3. Non-RPW⁸ 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: 225 linear feet 3 width (ft).
- Other non-wetland waters: # acres.

Identify type(s) of waters: *Click here to enter text.*

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: *Click here to enter text.*
 - 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: *Click here to enter text.*

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: # 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: 0.44 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: *Click here to enter text.*
- Other factors. Explain: *Click here to enter text.*

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior 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*.

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*
- Other: (explain, if not covered above): *Click here to enter text.*

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: *Click here to enter text.*
- 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: *Click here to enter text.*
- 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: Preliminary Jurisdictional Determination Report for Best Sands Corporation-Spencer Lotusdale Site Munson and Claridon Township, Geauga County, Ohio August 06, 2016 and Revised November 07, 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: *Click here to enter text.*
- Corps navigable waters’ study: *Click here to enter text.*
- U.S. Geological Survey Hydrologic Atlas: USACE ORM2 Database
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: OH-Chardon Database
- USDA Natural Resources Conservation Service Soil Survey. Citation: *Click here to enter text.*
- National wetlands inventory map(s). Cite name: USACE ORM2 Database
- State/Local wetland inventory map(s): *Click here to enter text.*
- FEMA/FIRM maps: *Click here to enter text.*
- 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro 2017, Bing Aerial Imager
 - or Other (Name & Date): Photos submitted with delineation (August 06, 2016) and USACE sites photos
- Previous determination(s). File no. and date of response letter: *Click here to enter text.*
- Applicable/supporting case law: *Click here to enter text.*
- Applicable/supporting scientific literature: *Click here to enter text.*
- Other information (please specify): USGS Stream Stats Version: Alpha 4.1.3. <https://streamstats.usgs.gov/ss/>

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*

Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

Shawn Blohm
Regulatory Specialist

August 16, 2017

Date

Buffalo District, Best Sand Corporation - Spencer Lotusdale Site, 2015-01193 Stream 2 (225 l.f. – Ephemeral) and Adjacent Wetland (WD) C1 (0.03 ac), C2-A (0.03), C2-B (0.04 ac), C3-B (0.01 ac), C3-A (0.01 ac), C4 (0.02 ac), B1 (0.14 ac), B2-D (0.005 ac), B2-C (0.005 ac), B2-B (0.005 ac), B2-A (0.035 ac), B3 (0.01 ac), B4 (0.01 ac), B5-A (0.01 ac), B5-B (0.03 ac), D1 (0.05 ac).

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): August 16, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Best Sands Corporation – Spencer Lotusdale Site, 2015-01193 Stream 3 Ephemeral (1613 linear feet) and Adjacent Wetland D4-B (0.10 ac), D4-A (0.03 ac), D4-C (0.12 ac) and E (0.05 ac)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Geauga City: Chardon
Center coordinates of site (lat/long in degree decimal format): Lat. 41.54237 °, Long. -81.19523 °
Universal Transverse Mercator: 17

Name of nearest waterbody: Chagrin River

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

Name of watershed or Hydrologic Unit Code (HUC): 04110003

- 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: January 20, 2017
 Field Determination. Date(s): October 19, 2016, *Click here to enter a date.*

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: *Click here to enter text.*

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: 1613 linear feet: 3 width (ft) and/or # acres.
Wetlands: 0.30 acres.

c. Limits (boundaries) of jurisdiction based on: Choose an item.

Elevation of established OHWM (if known): *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": *Click here to enter text.*

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.

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

(i) General Area Conditions:

Watershed size: 0.00116 square miles

Drainage area: 0.00116 square miles

Average annual rainfall: 46 inches

Average annual snowfall: 113 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 15-20 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: No

Identify flow route to TNW⁵: Stream 3 flows into Stream 4 flows into Stream 1, Stream 1 flows into the Chagrin River, which becomes a Section 10 downstream.

Tributary stream order, if known: *Click here to enter text.*

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

Tributary is: Natural

Artificial (man-made). Explain: *Click here to enter text.*

Manipulated (man-altered). Explain: *Click here to enter text.*

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 properties with respect to top of bank (estimate):

Average width: 3 feet
Average depth: 0.5 feet
Average side slopes: Vertical (1:1 or less)

Primary tributary substrate composition (check all that apply):

- | | | |
|--|---|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input checked="" type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: <i>Click here to enter text.</i> | |
| <input checked="" type="checkbox"/> Other. Explain: Leaf pack and woody debris | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable

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

Tributary geometry: Meandering

Tributary gradient (approximate average slope): 1 #%

(c) Flow:

Tributary provides for: Ephemeral Flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: Describe flow regime: Stream 3 has ephemeral flow. Stream 3 has a very small drainage area 0.00116 square miles. Evidence of surface water sheet flows was observed during the site review (drift lines and small leaf and woody debris racking) from the adjacent wetlands D4-B, D4-A, D4-C and E. Topographic lines also indicate that water flows from the adjacent wetlands towards the general direction of Stream 3.

Other information on duration and volume: *Click here to enter text.*

Surface flow is: Discrete Characteristics: *Click here to enter text.*

Subsurface flow: Unknown Explain findings: *Click here to enter text.*

Dye (or other) test performed: *Click here to enter text.*

Tributary has (check all that apply):

- | | |
|---|--|
| <input checked="" type="checkbox"/> Bed and banks | |
| <input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply): | |
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input checked="" type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input checked="" type="checkbox"/> sediment sorting |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input checked="" type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community <i>Click here to enter text.</i> |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: <i>Click here to enter text.</i> | |

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

- | | |
|---|--|
| <input type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> | |

(iii) Chemical Characteristics:

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

Explain: Water color appeared clear during the site visit.

Identify specific pollutants, if known: *Click here to enter text.*

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.

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor is a wooded area that lack a significant herbaceous vegetation layer and shrub layer. The riparian width is greater than 33 feet on each bank of the stream.
- Wetland fringe. Characteristics: *Click here to enter text.*
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text.*
 - Fish/spawn areas. Explain findings: *Click here to enter text.*
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
 - 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: 0.30 acres

Wetland type. Explain: Sparsely emergent vegetation in a wooded area under a canopy of trees. The wetlands consist of emergent vegetation in a wooded area. With regards to wetland classification, the United States Army Corps of Engineers 1987 Wetland Delineation Manual (Manual) states that consideration should be given to the relationship between the technical guidelines for wetlands and the classification system developed for the United States Fish and Wildlife Services, United States Department of Interior, by Cowardin et al. (Cowardin Classification). According to the Cowardin et al. classification of a wetland system, the system is based on the plants that constitute the uppermost layer of vegetation that possess an aerial coverage of 30% or greater. It is important to note that the Cowardin methodology refers to areal coverage not basal or rooting coverage. Therefore, the manual and the applicable regional supplement provide the technical guidelines for documenting wetland areas and the Cowardin Classification is used to assess the wetland type or system. Given this, the wetland classification type would be determined based on the uppermost layer of vegetation providing areal coverage. Since wetlands on-site were observed as having an aerial coverage of greater than 30%, wetlands on-site were determined to be forested wetland.

Wetland quality. Explain: The wetlands are located within a wooded undeveloped area.

Project wetlands cross or serve as state boundaries. Explain: *Click here to enter text.*

(b) General Flow Relationship with Non-TNW:

Flow is: Ephemeral Flow Explain: Wetlands D4-B, D4-A, D4-C and E receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 3 via sheet flow. All adjacent wetlands are less than 500 linear feet from Stream 3. Stream 1 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 3. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Surface flow is: Overland Sheetflow

Characteristics: Wetlands D4-B, D4-A, D4-C and E receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 3. Small drainage swales were observed during the site review that indicate water sheet flows toward and into Stream 3. All adjacent wetlands are less than 500 linear feet from Stream 3. Stream 3 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 3. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

- Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain: Site topography indicates that adjacent wetlands overland sheet flow and drains towards non-TNW Stream 3. Stream 3 flows directly into the Chagrin River. The Chagrin River becomes a TNW further downstream with its confluence with Lake Erie.
 - Ecological connection. Explain: *Click here to enter text.*
 - Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW

Project wetlands are 15-20 river miles from TNW.

Project waters are 1-2 aerial (straight) miles from TNW.

Flow is from: Wetland to Navigable Waters
 Estimate approximate location of wetland as within the *Choose an item*. 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 was clear during the site visit
 Identify specific pollutants, if known: *Click here to enter text*.

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

- Riparian buffer. Characteristics (type, average width): *Click here to enter text*.
- Vegetation type/percent cover. Explain: Sparsely emergent vegetation
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text*.
 - Fish/spawn areas. Explain findings: *Click here to enter text*.
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text*.
 - Aquatic/wildlife diversity. Explain findings: Wetlands provide for Wetlands provide for food chain production and habitat for spawning, rearing, and resting sites for aquatic land species. food chain production and habitat for spawning, rearing, and resting sites for aquatic land species.

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

All wetland(s) being considered in the cumulative analysis: 4
 Approximately (0.3) 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>
No	0.10 WD D4-B	Y/N	#
No	0.03 WD D4-A	Y/N	#
No	0.12 WD D4-C	Y/N	#
No	0.05 WD-E	Y/N	#

Summarize overall biological, chemical and physical functions being performed: Wildlife habitat, pollutant and sediment attenuation, floodwater attenuation, groundwater recharge.

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: *Click here to enter text*.
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: Wetlands D4-B, D4-A, D4-C and E surface sheet flow into Stream 3. Stream 3 is an unnamed intermittent tributary that flows to the north outside of the project area directly into the Chagrin River. National Wetland Inventory Mapping indicate that there are several wetlands located adjacent to Stream 3 further downstream of the site before flowing into the

Chagrin River. The Chagrin River is designated Warmwater Habitat (WWH) ¹ by the Ohio Environmental Protection Agency (OEPA). According to the OEPA's Maximum Daily Loads for the Chagrin River Watershed ², the project is located at the headwater of the Chagrin River near Chardon, Ohio. The headwater of the Chagrin River (headwaters to downstream Aurora Branch), and where these wetlands are located, has water quality that appears to indicate moderate human influence from land use impacts and waste water discharges. The majority of the Chagrin River retains its riparian forests and 50% of the watershed is zoned for low density large lot residential uses. The river valley offers a diversity of terrestrial and aquatic plant communities, wildlife, unique outcroppings, and extensive headwater wetlands. The Chagrin River is listed on Ohio 303 (d) list of Ohio's impaired water listings based on findings from Ohio EPA's monitoring program. These findings indicate that organic enrichment, nutrients, flow alterations and degraded habitats as the primary causes of impairment. Major sources of impairment include land development/suburbanization, sewage treatment plants, wetland fillings, removal of riparian vegetation, urban storm water and non-point sources. According to a United States Environmental Protection Agency Fact Sheet No. 2 (Values and Functions of Wetlands) ³ wetlands store runoff, filter pollutants and settle sediment that would otherwise be transported to the downstream. Wetlands help to maintain and improve water quality by intercepting pollutants before the water enters open water. OEPA Fact Sheet on The Importance and Benefits of Primary Headwater Habitat Streams (January 2003), which includes ephemeral streams, states that ephemeral streams provide important ecological benefits such as sediment control, nutrient control, flood control, wildlife habitat corridors, and provide a source of water and food supply during drier times of the year. Degraded habitat was noted as one of the primary causes of impairment in the Chagrin River watershed. Ephemeral Stream 3 and Wetlands D4-B, D4-A, D4-C and E store water runoff which filters pollutants, nutrients and sediment that would otherwise be transported to the Chagrin River, which can further degrade habitat. Wetland fillings was also noted as being a major source of water impairment in the Chagrin River watershed. Because of the loss of wetland in the Chagrin River watershed, WD-J1 provides beneficial ecological services that help to maintain the biological, chemical and physical integrity of the Chagrin River, which is listed on Ohio's 303 (d) list of impaired waters. Because of this, it has been determined that ephemeral Stream 3 and Wetlands D4-B, D4-A, D4-C and E have a significant nexus with the downstream TNW.

1. Ohio Administrative Code 3745-1-22 <http://epa.ohio.gov/portals/35/rules/01-22.pdf>
2. OEPA's Maximum Daily Loads for the Chagrin River (2007) http://epa.ohio.gov/portals/35/tmdl/ChagrinRiverTMDL_final_may07.pdf
3. <http://nepis.epa.gov>

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: *Click here to enter text..*
- 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: *Click here to enter text..*

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.**

- 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: 1613 linear feet 3 width (ft).
- Other non-wetland waters: # acres.

Identify type(s) of waters: *Click here to enter text.*

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

⁸See Footnote # 3.

- 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: *Click here to enter text.*
 - 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: *Click here to enter text.*

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: 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: 0.30 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: *Click here to enter text.*
- Other factors. Explain: *Click here to enter text.*

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*
- 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: *Click here to enter text.*
- Other: (explain, if not covered above): *Click here to enter text.*

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):

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.

- Non-wetland waters (i.e., rivers, streams): # linear feet # width (ft).
- Lakes/ponds: # acres.
- Other non-wetland waters: # acres. List type of aquatic resource: *Click here to enter text.*
- 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: *Click here to enter text.*
- 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: Preliminary Jurisdictional Determination Report for Best Sands Corporation-Spencer Lotusdale Site Munson and Claridon Township, Geauga County, Ohio August 06, 2016 and Revised November 07, 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: *Click here to enter text.*
- Corps navigable waters’ study: *Click here to enter text.*
- U.S. Geological Survey Hydrologic Atlas: USACE ORM2 Database
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: OH-Chardon
- USDA Natural Resources Conservation Service Soil Survey. Citation: *Click here to enter text.*
- National wetlands inventory map(s). Cite name: USACE ORM2 Database
- State/Local wetland inventory map(s): *Click here to enter text.*
- FEMA/FIRM maps: *Click here to enter text.*
- 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro 2017, Bing Aerial Imagery
 - or Other (Name & Date): Photos provided in the delineation report (August 6, 2016) and USACE site photos
- Previous determination(s). File no. and date of response letter: *Click here to enter text.*
- Applicable/supporting case law: *Click here to enter text.*
- Applicable/supporting scientific literature: *Click here to enter text.*
- Other information (please specify): USGS Stream Stats Version: Alpha 4.1.3. <https://streamstats.usgs.gov/ss/>

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*

Shawn Blohm
Regulatory Specialist

August 16, 2017

Date

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): August 16, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Best Sands Corporation – Spencer Lotusdale Site, 2015-01193 Stream 4 (471 linear feet) Ephemeral and Abutting Wetland F (0.25 ac)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Geauga City: Chardon
Center coordinates of site (lat/long in degree decimal format): Lat. 41.54237 °, Long. -81.19532 °
Universal Transverse Mercator: 17

Name of nearest waterbody: Chagrin River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Chagrin River
Name of watershed or Hydrologic Unit Code (HUC): 04110003

- 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: January 20, 2017
- Field Determination. Date(s): October 19, 2016, *Click here to enter a date.*

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: *Click here to enter text.*

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: 471 linear feet: 3 width (ft) and/or # acres.
Wetlands: 0.25 acres.

c. Limits (boundaries) of jurisdiction based on: Choose an item.

Elevation of established OHWM (if known): *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": *Click here to enter text.*

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.

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

(i) General Area Conditions:

Watershed size: 0.00116 square miles

Drainage area: 0.00116 square miles

Average annual rainfall: 46 inches

Average annual snowfall: 113 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 15-20 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: No.

Identify flow route to TNW⁵: Stream 4 flows into Stream 3. Stream 3 flows into Steam 1. Stream 1 flows into the Chagrin River. The Chagrin River becomes a Section 10 water further downstream neat its confluence with Lake Erie

Tributary stream order, if known: *Click here to enter text.*

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

Tributary is: Natural

Artificial (man-made). Explain: *Click here to enter text.*

Manipulated (man-altered). Explain: *Click here to enter text.*

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 properties with respect to top of bank (estimate):

Average width: 3 feet
Average depth: 0.5 feet
Average side slopes: *Choose an item.*

Primary tributary substrate composition (check all that apply):

- Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover: *Click here to enter text.*
 Other. Explain: Leaf pack/woody debris

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable
Presence of run/riffle/pool complexes. Explain: None
Tributary geometry: Meandering
Tributary gradient (approximate average slope): #%

(c) Flow:

Tributary provides for: Ephemeral Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Stream 4 has ephemeral flow. Stream 4 has a very small drainage area 0.00116square miles. Evidence of surface water sheet flows was observed during the site review (drift lines and small leaf and woody debris racking) from the adjacent wetland F to Stream 4. Topographic lines also indicate that water flows from the adjacent wetlands towards the general direction of Stream 4.
Other information on duration and volume: *Click here to enter text.*

Surface flow is: Confined Characteristics: Water flows within a confined channel.

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

Dye (or other) test performed: *Click here to enter text.*

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 *Click here to enter text.*
 other (list): *Click here to enter text.*
 Discontinuous OHWM.⁷ Explain: *Click here to enter text.*

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): *Click here to enter text.*

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water appeared clear during the site visit
Identify specific pollutants, if known: Unknown

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.

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor is a wooded area that lack a significant herbaceous vegetation layer and shrub layer. The riparian width is greater than 33 feet on each bank of the stream.
- Wetland fringe. Characteristics: *Click here to enter text.*
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text.*
 - Fish/spawn areas. Explain findings: *Click here to enter text.*
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
 - Aquatic/wildlife diversity. Explain findings: *Click here to enter text.*

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: 0.25 acres

Wetland type. Explain: The wetlands consist of emergent vegetation in a wooded area. With regards to wetland classification, the United States Army Corps of Engineers 1987 Wetland Delineation Manual (Manual) states that consideration should be given to the relationship between the technical guidelines for wetlands and the classification system developed for the United States Fish and Wildlife Services, United States Department of Interior, by Cowardin et al. (Cowardin Classification). According to the Cowardin et al. classification of a wetland system, the system is based on the plants that constitute the uppermost layer of vegetation that possess an aerial coverage of 30% or greater. It is important to note that the Cowardin methodology refers to areal coverage not basal or rooting coverage. Therefore, the manual and the applicable regional supplement provide the technical guidelines for documenting wetland areas and the Cowardin Classification is used to assess the wetland type or system. Given this, the wetland classification type would be determined based on the uppermost layer of vegetation providing areal coverage. Since wetlands on-site were observed as having an aerial coverage of greater than 30%, wetlands on-site were determined to be forested wetland.

Wetland quality. Explain: The wetlands are located within a wooded undeveloped area.

Project wetlands cross or serve as state boundaries. Explain: No

(b) General Flow Relationship with Non-TNW:

Flow is: Ephemeral Flow Explain: Wetlands F receive water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 4 via sheet flow. All adjacent wetlands are less than 500 linear feet from Stream 4. Stream 4 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 4. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Surface flow is: Overland Sheetflow

Characteristics: Wetland F receives water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into Stream 4. Small drainage swales were observed during the site review that indicate water sheet flows toward and into Stream 4. All adjacent wetlands are less than 500 linear feet from Stream 4. Stream 4 flows to the north off-site and then to the west into the Chagrin River. The Chagrin River is 1.2 straight line miles to the west of Stream 4. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

- Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain:
 - Ecological connection. Explain: *Click here to enter text.*
 - Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW

Project wetlands are 15-20 river miles from TNW.

Project waters are 1-2 aerial (straight) miles from TNW.

Flow is from: Wetland to/from Navigable Waters

Estimate approximate location of wetland as within the *Choose an item.* 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: The wetlands are located in an undeveloped wooded area. Wetlands were either dry or saturated with no surface water present

Identify specific pollutants, if known: *Click here to enter text.*

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

Riparian buffer. Characteristics (type, average width): *Click here to enter text.*

Vegetation type/percent cover. Explain: Sparsely emergent vegetation.

Habitat for:

Federally Listed species. Explain findings: *Click here to enter text.*

Fish/spawn areas. Explain findings: *Click here to enter text.*

Other environmentally-sensitive species. Explain findings: *Click here to enter text.*

Aquatic/wildlife diversity. Explain findings: Wetlands provide for food chain production and habitat for spawning, rearing, and resting sites for aquatic land species.

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

All wetland(s) being considered in the cumulative analysis: 1

Approximately (0.25) 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>
F4	Yes	0.25 WD F	Y/N	#
	Y/N	#	Y/N	#
	Y/N	#	Y/N	#
	Y/N	#	Y/N	#

Summarize overall biological, chemical and physical functions being performed: Wildlife habitat, pollutant and sediment attenuation, floodwater attenuation, groundwater recharge.

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: *Click here to enter text.*
- 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: Wetlands F sheet flows into and directly abuts Stream 4. Stream 4 is an unnamed ephemeral tributary that flows into Stream 1. Stream 1 flows to the north outside of the project area directly into the Chagrin River. National Wetland Inventory Mapping indicate that there are several wetlands located adjacent to Stream 1 further downstream of the site before flowing into the Chagrin River. The Chagrin River is designated Warmwater Habitat (WWH) ¹ by the Ohio Environmental Protection Agency (OEPA). According to the OEPA's Maximum Daily Loads for the Chagrin River Watershed ², the project is located at the headwater of the Chagrin River near Chardon, Ohio. The headwater of the Chagrin River (headwaters to downstream Aurora Branch), and where these wetlands are located, has water quality that appears to indicate moderate human influence from land use impacts and

waste water discharges. The majority of the Chagrin River retains its riparian forests and 50% of the watershed is zoned for low density large lot residential uses. The river valley offers a diversity of terrestrial and aquatic plant communities, wildlife, unique outcroppings, and extensive headwater wetlands. The Chagrin River is listed on Ohio 303 (d) list of Ohio's impaired water listings based on findings from Ohio EPA's monitoring program. These findings indicate that organic enrichment, nutrients, flow alterations and degraded habitats as the primary causes of impairment. Major sources of impairment include land development/suburbanization, sewage treatment plants, wetland fillings, removal of riparian vegetation, urban storm water and non-point sources. According to a United States Environmental Protection Agency Fact Sheet No. 2 (Values and Functions of Wetlands)³ wetlands store runoff, filter pollutants and settle sediment that would otherwise be transported to the downstream. Wetlands help to maintain and improve water quality by intercepting pollutants before the water enters open water. OEPA Fact Sheet on The Importance and Benefits of Primary Headwater Habitat Streams (January 2003), which includes ephemeral streams, states that ephemeral streams provide important ecological benefits such as sediment control, nutrient control, flood control, wildlife habitat corridors, and provide a source of water and food supply during drier times of the year. Degraded habitat was noted as one of the primary causes of impairment in the Chagrin River watershed. Ephemeral Stream 4 and Wetland F store water runoff which filters pollutants, nutrients and sediment that would otherwise be transported to the Chagrin River, which can further degrade habitat. Wetland fillings was also noted as being a major source of water impairment in the Chagrin River watershed. Because of the loss of wetland in the Chagrin River watershed, Wetland F provides beneficial ecological services that help to maintain the biological, chemical and physical integrity of the Chagrin River, which is listed on Ohio's 303 (d) list of impaired waters. Because of this, it has been determined that ephemeral Stream 4 and Wetland F has a significant nexus with the downstream TNW.

1. Ohio Administrative Code 3745-1-22 <http://epa.ohio.gov/portals/35/rules/01-22.pdf>
2. OEPA's Maximum Daily Loads for the Chagrin River (2007) http://epa.ohio.gov/portals/35/tmdl/ChagrinRiverTMDL_final_may07.pdf
3. <http://nepis.epa.gov>

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: *Click here to enter text.*
- 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: *Click here to enter text.*

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.**

- 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: 471 linear feet 3 width (ft).
- Other non-wetland waters: # acres.

Identify type(s) of waters: *Click here to enter text.*

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: *Click here to enter text.*
- 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: *Click here to enter text.*

⁸See Footnote # 3.

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: # 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: 0.25 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: *Click here to enter text.*
- Other factors. Explain: *Click here to enter text.*

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*
- 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: *Click here to enter text.*
- Other: (explain, if not covered above): *Click here to enter text.*

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: *Click here to enter text.*
- 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).

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.

- Lakes/ponds: # acres.
- Other non-wetland waters: # acres. List type of aquatic resource: *Click here to enter text.*
- 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: Preliminary Jurisdictional Determination Report for Best Sands Corporation-Spencer Lotusdale Site Munson and Claridon Township, Geauga County, Ohio August 06, 2016 and Revised November 07, 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: *Click here to enter text.*
- Corps navigable waters' study: *Click here to enter text.*
- U.S. Geological Survey Hydrologic Atlas: USACE ORM2 Database
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: OH-Cardon
- USDA Natural Resources Conservation Service Soil Survey. Citation: *Click here to enter text.*
- National wetlands inventory map(s). Cite name: USACE ORM2 Database
- State/Local wetland inventory map(s): *Click here to enter text.*
- FEMA/FIRM maps: *Click here to enter text.*
- 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro 2017, Bing Aerial Imagery
 - or Other (Name & Date): Photos provided in the delineation report (August 6, 2016) and USACE site photos
- Previous determination(s). File no. and date of response letter: *Click here to enter text.*
- Applicable/supporting case law: *Click here to enter text.*
- Applicable/supporting scientific literature: *Click here to enter text.*
- Other information (please specify): USGS Stream Stats Version: Alpha 4.1.3. <https://streamstats.usgs.gov/ss/>

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*

Shawn Blohm
<<*Duty Title*>>

August 16, 2017
Date

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): August 16, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Best Sand Corporation Spencer Lotusdale Site, 2015-01193 – Adjacent Wetland (WD) WD-J1 (0.03 ac)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Geauga City: Chardon
Center coordinates of site (lat/long in degree decimal format): Lat. 41.54237 °, Long. -81.19532 °
Universal Transverse Mercator: 17

Name of nearest waterbody: Chagrin River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Chagrin River
Name of watershed or Hydrologic Unit Code (HUC): 04110003

- 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: January 20, 2017
- Field Determination. Date(s): October 19, 2016, *Click here to enter a date.*

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: *Click here to enter text.*

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: 0 linear feet: 0 width (ft) and/or 0 acres.
Wetlands: 0.03 acres.

c. Limits (boundaries) of jurisdiction based on: Choose an item.

Elevation of established OHWM (if known): *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: *Click here to enter text.*

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.

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

(i) General Area Conditions:

Watershed size: 0.45 square miles

Drainage area: 0.45 square miles

Average annual rainfall: # inches

Average annual snowfall: # inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through *Choose an item.* tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 15-20 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: Project waters do not cross state boundaries

Identify flow route to TNW⁵: *Click here to enter text.*

Tributary stream order, if known: *Click here to enter text.*

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

Tributary is: Natural

Artificial (man-made). Explain: *Click here to enter text.*

Manipulated (man-altered). Explain: *Click here to enter text.*

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 properties with respect to top of bank (estimate):

Average width: # feet

Average depth: # feet

Average side slopes: *Choose an item.*

Primary tributary substrate composition (check all that apply):

- | | | |
|--|---|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input checked="" type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input checked="" type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: <i>Click here to enter text.</i> | |
| <input checked="" type="checkbox"/> Other. Explain: leaf pack/woody debris | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable

Presence of run/riffle/pool complexes. Explain: Riffle/pool complexes were not observed

Tributary geometry: Meandering

Tributary gradient (approximate average slope): 1.1%

(c) **Flow:**

Tributary provides for: Intermittent but not Seasonal Flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: *Click here to enter text.*

Other information on duration and volume: *Click here to enter text.*

Surface flow is: Confined Characteristics: Water flows within a defined stream channel

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

Dye (or other) test performed: *Click here to enter text.*

Tributary has (check all that apply):

- | | |
|---|--|
| <input checked="" type="checkbox"/> Bed and banks | |
| <input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply): | |
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input checked="" type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input checked="" type="checkbox"/> sediment sorting |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input checked="" type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community <i>Click here to enter text.</i> |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: <i>Click here to enter text.</i> | |

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

- | | |
|---|--|
| <input type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> | |

(iii) Chemical Characteristics:

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

Explain: Water appeared clear during the site visit.

Identify specific pollutants, if known: *Click here to enter text.*

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.

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor is wooded. The riparian corridor is greater than 30 feet on both sides of the banks.
- Wetland fringe. Characteristics: USACE ORM2 Database indicate that the USFWS National Wetland Inventory Maps show one large PFO wetland located along the lower portion of the Unnamed tributary to the Chagrin River.
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text.*
 - Fish/spawn areas. Explain findings: *Click here to enter text.*
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
 - Aquatic/wildlife diversity. Explain findings: *Click here to enter text.*

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: According to USACE ORM2 Database USFWS National Wetland Inventory Map, 36 acres of wetland are located along the Unnamed Tributary to the Chagrin River. 2.75 acre of forested wetland is located along the upper portion of the Unammed Tributary of the Chagrin River located in the Best Sands Delineation area. This is designated as Stream 1 in the Best Sands delineation area.

Wetland type. Explain: According to USACE PRM2 Database USFWS National Wetland Inventory Map, the wetlands are mapped as PFO. The 2.75 acre of forested located along the upper portion of the Unnamed Tributary of the Chagrin River located in the Best Sands delineation area are PFO.

Wetland quality. Explain: The wetland is located within a wooded undeveloped area.

Project wetlands cross or serve as state boundaries. Explain: Wetlands do not cross state boundaries.

(b) General Flow Relationship with Non-TNW:

Flow is: Ephemeral Flow Explain: Wetland-J1 receives water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that Wetland-J1 flow into an off-site UT of Chagrin River via sheet flow. This adjacent wetland is less than 1000 linear feet from the off-site Unnamed Tributary to Chagrin River. The off-site Unnamed Tributary to Chagrin River is actually the downstream portion of Stream 1 that is located in the Best Sands Delineation area. The Unnamed Tributary to Chagrin River flows to the west into the Chagrin River. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Surface flow is: Overland Sheetflow

Characteristics: Wetland-J1 receives water from rainfall and snowmelt, although groundwater seeps may contribute water to wetlands as well. USGS and Geauga County GIS topographical mapping show that mentioned wetlands flow into off-site Unnamed Tributary to Chagrin River. Small drainage swales were observed during the site review that indicate water sheet flows toward Unnamed Tributary to Chagrin River. This adjacent wetland is less than 1000 linear feet from Stream Unnamed Tributary to Chagrin River. Unnamed Tributary to Chagrin River flows to the west into the Chagrin River. The off-site Unnamed Tributary to Chagrin River is actually the downstream portion of Stream 1 that is located in the project area. Unnamed Tributary to Chagrin River flows west into the Chagrin River. The Chagrin River becomes a TNW further downstream near its confluence with Lake Erie

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

- Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain: Site topography indicates that adjacent wetland WD-J1 overland sheet flow and drains towards non-TNW UT to Chagrin River. UT to Chagrin River flows directly into the Chagrin River. The Chagrin River becomes a TNW further downstream with its confluence with Lake Erie.
 - Ecological connection. Explain: *Click here to enter text.*
 - Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW

Project wetlands are 15-20 river miles from TNW.

Project waters are 1-2 aerial (straight) miles from TNW.

Flow is from: Wetland to Navigable Waters

Estimate approximate location of wetland as within the *Choose an item.* 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 color appeared clear during the site visit.

Identify specific pollutants, if known: *Click here to enter text.*

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

- Riparian buffer. Characteristics (type, average width): PFO wetlands are greater than 30 feet .
- Vegetation type/percent cover. Explain: PFO wetland
- Habitat for:
 - Federally Listed species. Explain findings: *Click here to enter text.*
 - Fish/spawn areas. Explain findings: *Click here to enter text.*
 - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
 - Aquatic/wildlife diversity. Explain findings: Wetlands support breeding habitat for amphibians

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

All wetland(s) being considered in the cumulative analysis: 15-20
Approximately (38.36) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following: Here

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
No	0.03 WD-J1		
Yes	36 Off-site Wetland		
No	0.14 WD A1	No	0.03 WD I1-D
No	0.02 WD H1	No	0.01 WD I2-B
No	0.01 WD H2-B	No	0.01 WD I2-A
No	0.01 WD H2-D	No	0.02 WD I3-B
No	0.01 WD H2-C	No	0.16 WD I3-A
No	0.01 WD H2-A	No	0.25 WD D3-A
No	0.01 WD I1-A	No	0.02 WD D3-B
No	0.01 WD I1-B	No	1.60 WD D2

Summarize overall biological, chemical and physical functions being performed: *Click here to enter text.*

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: *Click here to enter text.*
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: *Click here to enter text.*
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: Wetland WD-J1 sheet flows into UT to Chagrin River. UT Chagrin River is the downstream portion of Stream 1 that was identified in

the project area. UT Chagrin River flows outside of the project area directly into the Chagrin River. National Wetland Inventory Mapping indicate that there are several wetlands located adjacent to UT Chagrin River further downstream of the site before flowing into the Chagrin River. The Chagrin River is designated Warmwater Habitat (WWH) ¹ by the Ohio Environmental Protection Agency (OEPA). According to the OEPA's Maximum Daily Loads for the Chagrin River Watershed ², the project is located at the headwater of the Chagrin River near Chardon, Ohio. The headwater of the Chagrin River (headwaters to downstream Aurora Branch), and where these wetlands are located, has water quality that appears to indicate moderate human influence from land use impacts and waste water discharges. The majority of the Chagrin River retains its riparian forests and 50% of the watershed is zoned for low density large lot residential uses. The river valley offers a diversity of terrestrial and aquatic plant communities, wildlife, unique outcroppings, and extensive headwater wetlands. The Chagrin River is listed on Ohio 303 (d) list of Ohio's impaired water listings based on findings from Ohio EPA's monitoring program. These findings indicate that organic enrichment, nutrients, flow alterations and degraded habitats as the primary causes of impairment. Major sources of impairment include land development/suburbanization, sewage treatment plants, wetland fillings, removal of riparian vegetation, urban storm water and non-point sources. According to a United States Environmental Protection Agency Fact Sheet No. 2 (Values and Functions of Wetlands) ³ wetlands store runoff, filter pollutants and settle sediment that would otherwise be transported to the downstream. Wetlands help to maintain and improve water quality by intercepting pollutants before the water enters open water. Degraded habitat was noted as one of the primary causes of impairment in the Chagrin River watershed. WD-J1 stores water runoff which filters pollutants, nutrients and sediment that would otherwise be transported to the Chagrin River, which can further degrade habitat. Wetland fillings was also noted as being a major source of water impairment in the Chagrin River watershed. Because of the loss of wetland in the Chagrin River watershed, WD-J1 provides beneficial ecological services that help to maintain the biological, chemical and physical integrity of the Chagrin River, which is listed on Ohio's 303 (d) list of impaired waters. Because of this, it has been determined that Wetland WD-J1 has a significant nexus with the downstream TNW.

1. Ohio Administrative Code 3745-1-22 <http://epa.ohio.gov/portals/35/rules/01-22.pdf>
2. OEPA's Maximum Daily Loads for the Chagrin River (2007) http://epa.ohio.gov/portals/35/tmdl/ChagrinRiverTMDL_final_may07.pdf
3. <http://nepis.epa.gov>

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: *Click here to enter text..*
- 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: *Click here to enter text..*

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.

- 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: *Click here to enter text.*

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: *Click here to enter text.*

⁸See 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: *Click here to enter text.*

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: 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: *Click here to enter text.*
 Other factors. Explain: *Click here to enter text.*

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*
 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: *Click here to enter text.*
 Other: (explain, if not covered above): *Click here to enter text.*

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: *Click here to enter text.*
 Wetlands: # acres.

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 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: *Click here to enter text.*
- 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: Preliminary Jurisdictional Determination Report for Best Sands Corporation-Spencer Lotusdale Site Munson and Claridon Township, Geauga County, Ohio August 06, 2016 and Revised November 07, 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: *Click here to enter text.*
- Corps navigable waters’ study: *Click here to enter text.*
- U.S. Geological Survey Hydrologic Atlas: USACE ORM 2 Database
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: USACE ORM 2 Database
- USDA Natural Resources Conservation Service Soil Survey. Citation: *Click here to enter text.*
- National wetlands inventory map(s). Cite name: OH-Chardon
- State/Local wetland inventory map(s): *Click here to enter text.*
- FEMA/FIRM maps: *Click here to enter text.*
- 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro 2017, Bing Aerial Imagery
 - or Other (Name & Date): Photos provided in the delineation report (August 6, 2016) and USACE Site Photos
- Previous determination(s). File no. and date of response letter: *Click here to enter text.*
- Applicable/supporting case law: *Click here to enter text.*
- Applicable/supporting scientific literature: *Click here to enter text.*
- Other information (please specify): USGS Stream Stats Version: Alpha 4.1.3. <https://streamstats.usgs.gov/ss/>

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*

Shawn Blohm
<<*Duty Title*>>

August 16, 2017
Date