

**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): 12/14/2021**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Rock Island District, Nagel Drainage District, MVR-2021-1315**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Iowa County/parish/borough: Monona City: N/A

Center coordinates of site (lat/long in degree decimal format): Lat. 42.20333° N, Long. -95.933009° W.

Universal Transverse Mercator: NAD 83

Name of nearest waterbody: Little Sioux River

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

Name of watershed or Hydrologic Unit Code (HUC): HUC\_12 - Barber Creek-Little Sioux River

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: 12/14/2021

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "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):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

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

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

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

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

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

Wetlands: acres.

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

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: . (See Section IV.B for more information)..

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

<sup>3</sup> 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: n/a.

Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: n/a.

#### 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 waterbody<sup>4</sup> 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 **acres**

Drainage area: 0 **acres**

Average annual rainfall: 50 inches

Average annual snowfall: 0 inches

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: .

Tributary stream order, if known: .

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

<sup>5</sup> 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.

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

**Tributary is:**  Natural  
 Artificial (man-made). Explain: \_\_\_\_\_  
 Manipulated (man-altered). Explain: \_\_\_\_\_

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

Average width: 3 feet  
Average depth: 1 feet  
Average side slopes: **Pick List**.

**Primary tributary substrate composition (check all that apply):**

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

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

**Presence of run/riffle/pool complexes. Explain:** \_\_\_\_\_

**Tributary geometry: Pick List**

**Tributary gradient (approximate average slope):** \_\_\_\_\_ %

(c) Flow:

**Tributary provides for: Pick List**

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

Describe flow regime: Mostly in-bank but subject to out-of-bank flow following heavy precipitation events.

**Other information on duration and volume:** \_\_\_\_\_

**Surface flow is: Pick List. Characteristics:** \_\_\_\_\_

**Subsurface flow: Pick List. Explain findings:** \_\_\_\_\_

Dye (or other) test performed: \_\_\_\_\_

**Tributary has (check all that apply):**

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list): \_\_\_\_\_  
 Discontinuous OHWM.<sup>7</sup> Explain: \_\_\_\_\_

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

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

(iii) **Chemical Characteristics:**

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

Explain: \_\_\_\_\_

Identify specific pollutants, if known: \_\_\_\_\_

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

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

- Riparian corridor. Characteristics (type, average width): .  
zone..  
 Wetland fringe. Characteristics: Typical wetland hydric soils meeting upland non-hydric soil causing vegetative transition
- Habitat for:  
 Federally Listed species. Explain findings: .  
 Fish/spawn areas. Explain findings: .  
 Other environmentally-sensitive species. Explain findings: .  
 Aquatic/wildlife diversity. Explain findings: .

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: Saturated soils present at intervals in draw leading to RPWs.

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

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

Identify specific pollutants, if known: .

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

- Riparian buffer. Characteristics (type, average width): .  
 Vegetation type/percent cover. Explain:Hydrophytic vegetation 100%, emergent wetland.  
 Habitat for:  
 Federally Listed species. Explain findings: .  
 Fish/spawn areas. Explain findings: .  
 Other environmentally-sensitive species. Explain findings: .  
 Aquatic/wildlife diversity. Explain findings: .

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

All wetland(s) being considered in the cumulative analysis: **Pick List**

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

For each wetland, specify the following:

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

Summarize overall biological, chemical and physical functions being performed: Wetland area collects water in a depression. There is subsurface flow after periods with rain rainfall levels. After poll levels recede slightly, most water is lost via evaporation.

### C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs:      linear feet      width (ft), Or,      acres.
  - Wetlands adjacent to TNWs:      acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
  - Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

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

- Tributary waters: linear feet width (ft).
  - Other non-wetland waters: acres.
- Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> 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: .

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

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

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

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: 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.<sup>9</sup>**

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):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

<sup>8</sup>See Footnote # 3.

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

<sup>10</sup> 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.

**Identify water body and summarize rationale supporting determination:**

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

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: **See IV. B below.**
- Other: (explain, if not covered above): **Johnson Pit is an old gravel pit, and was dug in uplands.**

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: 15.09 acres. List type of aquatic resource: Johnson Pit, an old gravel pit.
- Wetlands: acres.

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

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

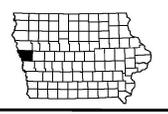
**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Application package, application received 9/2/2021.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters’ study: .
- U.S. Geological Survey Hydrologic Atlas: Regulatory Viewer with NHD layer, map created 12/14/2021.
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Regulatory Veiwier with topo layer (MVR Quad), map created 12/14/2021.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey, created 12/14/2021.
- National wetlands inventory map(s). Cite name: USFWS NWI Mapper, map created 12/14/2021.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Regulatory Viewer with historic aerials, dated: 1930, 1960, and 1980.  
or  Other (Name & Date): Regulatory Viewer with LIDAR and Hillshade layers, map created 12/14/2021.
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** Johnson Pit is an old gravel pit, dug in uplands. There are no indicators, from historic aerials that there were wetlands, streams, or other aquatic resources in this area covered by this AJD. There are no mapped hydric soils and the NWI shows mapped open water, which is Johnson Pit. There does not appear to be a connection from Johnson Pit to the nearest water body, the Little Sioux River. Johnson Pit appears to be an isolated feature as well.

MVR-2021-1315 AJD Map, Dated: December 14, 2021



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**PROJECT**  
**NAGEL DRAINAGE DISTRICT**  
**JOHNSTON PIT**  
**LEVEE REPAIR**

MONONA COUNTY IOWA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

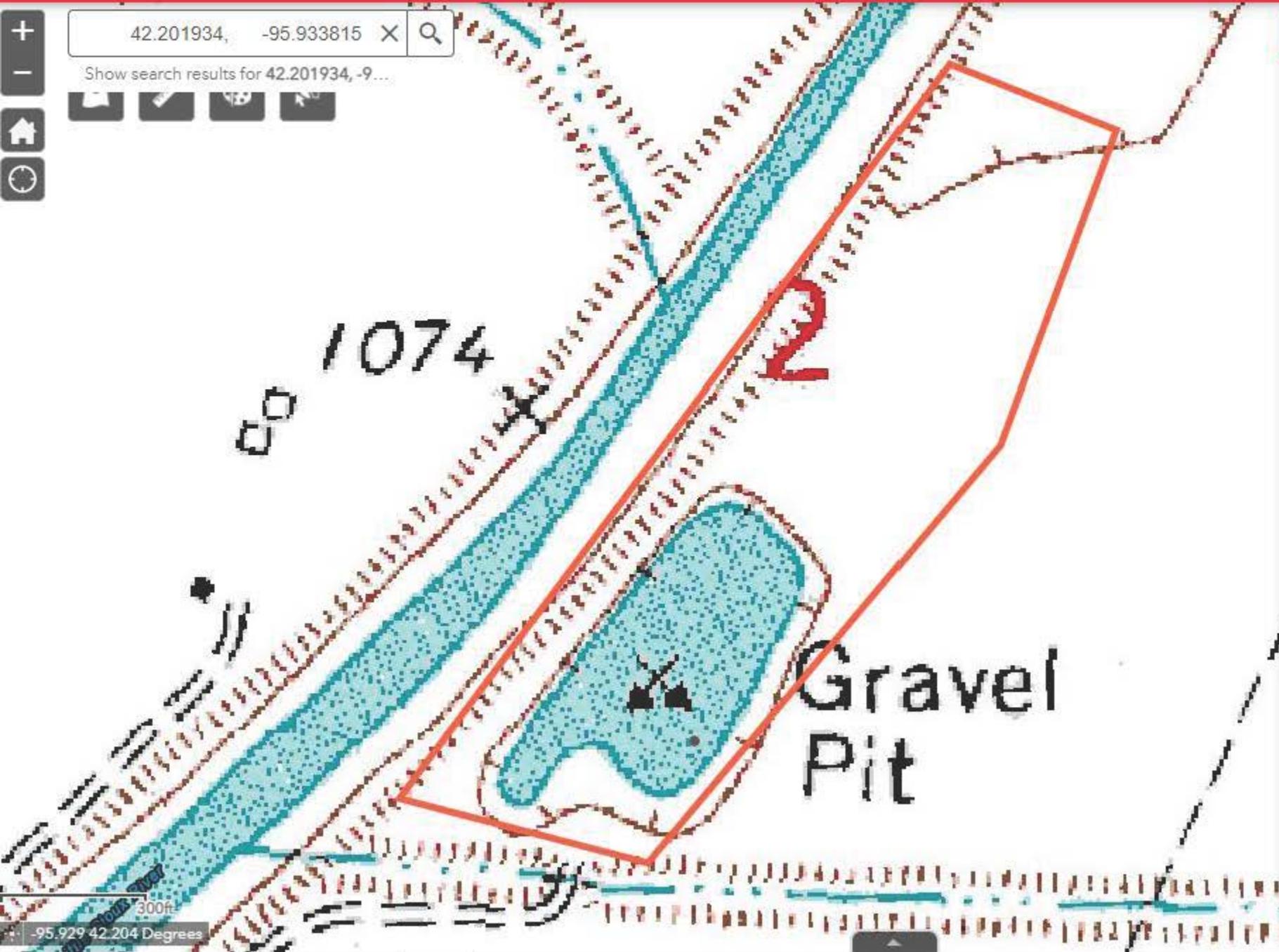
PROJECT NO.	15-18459
FILE NAME	18459 2021 PLAN & CROSS SECTION
DRAWN BY	CMB
DESIGNED BY	CMB
REVIEWED BY	IDD
ORIGINAL ISSUE DATE	
CLIENT PROJECT NO.	

TITLE  
**SITE MAP**

SHEET  
**3**

- Regulatory Viewer
- Regulatory Map
- Compliance Viewer
- IPaC
- I-Sites
- Mitigation Banking
- IL IAS

## Rock Island District Regulatory Viewer



### Layer List

- IA naip 2014 cir (External Web GIS Service) ...
- IA naip 2014 nc (External Web GIS Service) ...
- IA naip 2017 cir (External Web GIS Service) ...
- IA naip 2017 nc (External Web GIS Service) ...
- MVR\_NAIP\_2017 ...
- Photo Dates (External Web GIS Service) ...
- MVR Quad Maps ...
- IA LiDAR DEM 1m NAVD88 ft ...
- IA LiDAR DEM 1m hillshade ...
- IA LiDAR DEM 3m NAVD88 ft ...
- IA LiDAR DEM 3m hillshade ...
- IL\_LiDAR\_DEM\_1m\_NAVD88\_ft ...
- IL\_LiDAR\_DEM\_1m\_hillshade ...
- IL NAIP 2004 (External Web GIS Service) ...
- IL NAIP 2005 (External Web GIS Service) ...
- IL NAIP 2006 (External Web GIS Service) ...

- Regulatory Viewer
- Regulatory Map
- Compliance Viewer
- IPaC
- I-Sites
- Mitigation Banking
- IL IAS

## Rock Island District Regulatory Viewer



42.201934, -95.933815

Show search results for 42.201934, -9...



### Layer List

- NLD - Rehabilitations (External Web GIS Service) ...
- NLD - Relief Wells - (External Web GIS Service) ...
- NLD - Toe Drains (External Web GIS Service) ...
- USACE\_Boundaries - USACE Districts ...
- MVR Counties ...
- Roads ...
- Localities for Reg Viewer ...
- PLSS ...
- PADUS (External Web GIS Service) ...
- Real Estate for Reg Viewer ...
- National Hydrography Dataset (NHD) (External Web GIS Service) ...
- Watersheds (External Web GIS Service) ...
- Section 10 Waters ...
- IA ortho 1930 (External Web GIS Service) ...
- IA ortho 1950 (External Web GIS Service) ...
- IA ortho 1960 (External Web GIS Service) ...

-95.928 42.206 Degrees

NHD - National Hydrography Dataset. Data

- Regulatory Viewer
- Regulatory Map
- Compliance Viewer
- IPaC
- I-Sites
- Mitigation Banking
- IL IAS

## Rock Island District Regulatory Viewer



42.201934, -95.933815 X Q

Show search results for 42.201934, -9...



- ### Layer List
- PLSS ...
  - PADUS (External Web GIS Service) ...
  - Real Estate for Reg Viewer ...
  - National Hydrography Dataset (NHD) (External Web GIS Service) ...
  - Watersheds (External Web GIS Service) ...
  - Section 10 Waters ...
  - IA ortho 1930 (External Web GIS Service) ...
  - IA ortho 1950 (External Web GIS Service) ...
  - IA ortho 1960 (External Web GIS Service) ...
  - IA ortho 1970 (External Web GIS Service) ...
  - IA ortho 1980 (External Web GIS Service) ...
  - IA ortho 1980 cir (External Web GIS Service) ...
  - IA ortho 1990 (External Web GIS Service) ...
  - IA ortho 2002 cir (External Web GIS Service) ...
  - IA naip 2004 nc (External Web GIS Service) ...
  - IA naip 2005 nc (External Web GIS Service) ...

Iowa 1930s aerial photos from U

- Regulatory Viewer
- Regulatory Map
- Compliance Viewer
- IPaC
- I-Sites
- Mitigation Banking
- IL IAS

## Rock Island District Regulatory Viewer



- ### Layer List
- PLSS
  - PADUS (External Web GIS Service)
  - Real Estate for Reg Viewer
  - National Hydrography Dataset (NHD) (External Web GIS Service)
  - Watersheds (External Web GIS Service)
  - Section 10 Waters
  - IA ortho 1930 (External Web GIS Service)
  - IA ortho 1950 (External Web GIS Service)
  - IA ortho 1960 (External Web GIS Service)
  - IA ortho 1970 (External Web GIS Service)
  - IA ortho 1980 (External Web GIS Service)
  - IA ortho 1980 cir (External Web GIS Service)
  - IA ortho 1990 (External Web GIS Service)
  - IA ortho 2002 cir (External Web GIS Service)
  - IA naip 2004 nc (External Web GIS Service)
  - IA naip 2005 nc (External Web GIS Service)

- Regulatory Viewer
- Regulatory Map
- Compliance Viewer
- IPaC
- I-Sites
- Mitigation Banking
- IL IAS

## Rock Island District Regulatory Viewer



42.201934, -95.933815

Show search results for 42.201934, -9...



### Layer List

- PLSS
- PADUS (External Web GIS Service)
- Real Estate for Reg Viewer
- National Hydrography Dataset (NHD) (External Web GIS Service)
- Watersheds (External Web GIS Service)
- Section 10 Waters
- IA ortho 1930 (External Web GIS Service)
- IA ortho 1950 (External Web GIS Service)
- IA ortho 1960 (External Web GIS Service)
- IA ortho 1970 (External Web GIS Service)
- IA ortho 1980 (External Web GIS Service)
- IA ortho 1980 cir (External Web GIS Service)
- IA ortho 1990 (External Web GIS Service)
- IA ortho 2002 cir (External Web GIS Service)
- IA naip 2004 nc (External Web GIS Service)
- IA naip 2005 nc (External Web GIS Service)

Regulatory Viewer

Regulatory Map

Compliance Viewer

IPaC

I-Sites

Mitigation Banking

IL IAS

## Rock Island District Regulatory Viewer



42.201934, -95.933815 X Q

Show search results for 42.201934, -9...



### Layer List

- PLSS ...
- PADUS (External Web GIS Service) ...
- Real Estate for Reg Viewer ...
- National Hydrography Dataset (NHD) (External Web GIS Service) ...
- Watersheds (External Web GIS Service) ...
- Section 10 Waters ...
- IA ortho 1930 (External Web GIS Service) ...
- IA ortho 1950 (External Web GIS Service) ...
- IA ortho 1960 (External Web GIS Service) ...
- IA ortho 1970 (External Web GIS Service) ...
- IA ortho 1980 (External Web GIS Service) ...
- IA ortho 1980 cir (External Web GIS Service) ...
- IA ortho 1990 (External Web GIS Service) ...
- IA ortho 2002 cir (External Web GIS Service) ...
- IA naip 2004 nc (External Web GIS Service) ...
- IA naip 2005 nc (External Web GIS Service) ...

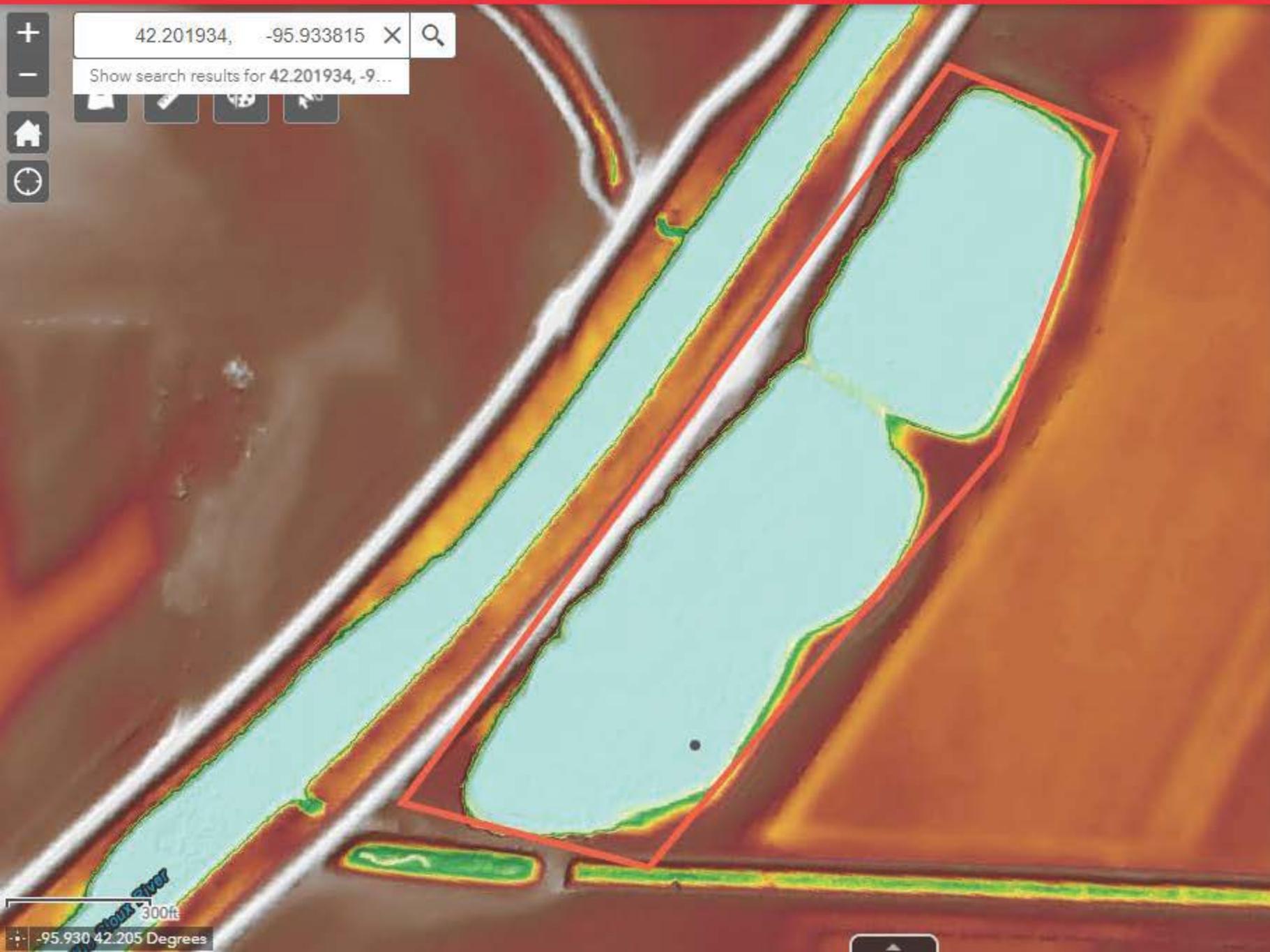
- Regulatory Viewer
- Regulatory Map
- Compliance Viewer
- IPaC
- I-Sites
- Mitigation Banking
- IL IAS

## Rock Island District Regulatory Viewer



42.201934, -95.933815

Show search results for 42.201934, -9...



### Layer List

- IA naip 2014 nc (External Web GIS Service) ...
- IA naip 2017 cir (External Web GIS Service) ...
- IA naip 2017 nc (External Web GIS Service) ...
- MVR\_NAIP\_2017 ...
- Photo Dates (External Web GIS Service) ...
- MVR Quad Maps ...
- IA LiDAR DEM 1m NAVD88 ft ...
- IA LiDAR DEM 1m hillshade ...
- IA LiDAR DEM 3m NAVD88 ft ...
- IA LiDAR DEM 3m hillshade ...
- IL\_LiDAR\_DEM\_1m\_NAVD88\_ft ...
- IL\_LiDAR\_DEM\_1m\_hillshade ...
- IL NAIP 2004 (External Web GIS Service) ...
- IL NAIP 2005 (External Web GIS Service) ...
- IL NAIP 2006 (External Web GIS Service) ...
- IL NAIP 2010 (External Web GIS Service) ...

Hydric Rating by Map Unit—Monona County, Iowa



Soil Map may not be valid at this scale.

Map Scale: 1:3,490 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monona County, Iowa  
 Survey Area Data: Version 33, Sep 15, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 1, 2014—Nov 25, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
133	Colo silty clay loam, deep loess, 0 to 2 percent slopes, occasionally flooded	95	0.0	0.1%
212	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	5	3.7	15.8%
5010	Pits, sand and gravel	0	6.0	26.0%
W	Water	0	13.5	58.2%
<b>Totals for Area of Interest</b>			<b>23.2</b>	<b>100.0%</b>

## Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

## **Rating Options**

*Aggregation Method: Percent Present*

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Lower*