



Project File Memorandum

From: Tom Gruis

12/4/2019

**Subject: Iowa Watershed Approach: Iowa County Program Area—CDBG 13-NDRI-006  
Environmental Review/Floodplain and Wetlands (8-Step Process)**

This Eight-Step Decision Making Process for floodplain and wetlands evaluation is prepared for 176 agricultural best management practices proposed within the English River Watershed as part of the Iowa Watershed Approach project, funded through the U.S. Department of Housing and Urban Development's (HUD) National Disaster Resilience Competition. The practices implemented will restore wetlands, mitigate flood hazard risk, and provide other environmental benefits.

The Eight-Step Decision Making Process is comprised of the following actions:

1. Determine if the proposal is located in a wetland or the 100-year floodplain (or in the 500-year floodplain for a critical action, i.e. actions for which even a slight chance of flooding would be too great). If the proposal will not be conducted in these areas, then no further compliance with this part is required.
2. Notify the public of the intent to locate the proposed action in the floodplain or wetland. The notice must be published at least once in a local newspaper of general circulation (in cities where there is no newspaper of general circulation, notices must be displayed in the local post office and its substations). The public must be given at least fifteen days to comment. The notice is titled *Notice of Proposed Project to be Located in a Floodplain or Wetland*.
3. Identify and evaluate practicable alternatives to locating in the floodplain. This requires the applicant to consider whether the floodplain or wetland can be avoided either through selecting alternative sites, choosing alternative actions to serve the identical project objective, or taking no action. Note that specific, actual alternative site must be identified and evaluated.
4. Identify potential direct or indirect impacts associated with the occupancy or modification of the floodplain or wetland.
5. Identify methods where practicable, to design or modify the proposal to minimize the potential adverse impacts within the floodplain or wetland and restore and preserve its natural and beneficial value.
6. Reevaluate the alternatives, taking into account the identified impacts, the steps necessary to minimize these impacts and the opportunities to restore and preserve floodplain values.

7. If the recipient determines the only practicable alternative is locating in the floodplain or wetland, a final public notice shall be published. This public notice MUST be published at least 8 days before the Notice of Intent to Request Release of Funds (NOI/RROF) or Concurrent Notice whichever is applicable. A sample notice that is titled Notice of a Decision Regarding Project to be Located in a Floodplain or Wetland can be found on the following pages. The notice will include the reason for locating the project in a floodplain or wetland, the alternatives that were considered, and any mitigation measures that are planned.
8. The proposed action can be implemented after steps 1 through 7 have been completed and all other requirements are met. There is a continuing responsibility to ensure that any mitigation measures identified in Step 7 are implemented.

**Proposal**

Table 1 shows the proposed best management practices (BMP) that comprise a construction bid packet, including practice type and a description of the sites. Locations of the proposed practices are shown in Map 1. Site maps are shown for each site containing a 100-year floodplain or wetland in Map 2 through Map 15.

**Table 1: Proposed BMP Structures**

**DIVISION V.**

<b>Name</b>	<b>Project BMP IDs</b>	<b>Description</b>
E-015-01 Jay O'Rourke	ER-098-OROURKE (WASCOB); ER-099-OROURKE (WASCOB); ER-100-OROURKE (GRASSED WATERWAY); ER-101- OROURKE (TERRACE); ER- 102-OROURKE (TERRACE); ER-103-OROURKE (WASCOB); ER-104-OROURKE (WASCOB); ER-105-OROURKE (WASCOB); ER-106-OROURKE (WASCOB); ER-107-OROURKE (WASCOB); ER-108-OROURKE (WASCOB); ER-109-OROURKE (WASCOB)	Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 9 WASCOBs, 2 terraces, and 1 grassed waterway to control gully erosion, improve water quality, and reduce flood risk in the Middle English subwatershed.

<p>E-015-02 Jay O'Rourke</p>	<p>ER-110-OROURKE (WASCOB); ER-111-OROURKE (WASCOB); ER-112-OROURKE (WASCOB); ER-113-OROURKE (WASCOB); ER-114-OROURKE (WASCOB); ER-115-OROURKE (WASCOB); ER-116-OROURKE (WASCOB); ER-117-OROURKE (WASCOB); ER-159-OROURKE (GRASSED WATERWAY);</p>	<p>Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 8 WASCOBs, and 1 grassed waterway to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.</p>
<p>E-015-03 Jay O'Rourke</p>	<p>ER-118-OROURKE (WASCOB); ER-119-OROURKE (WASCOB); ER-120-OROURKE (WASCOB); ER-121-OROURKE (WASCOB); ER-122-OROURKE (WASCOB); ER-123-OROURKE (WASCOB); ER-124-OROURKE (WASCOB); ER-125-OROURKE (WASCOB); ER-126-OROURKE (WASCOB); ER-127-OROURKE (WASCOB); ER-128-OROURKE (WASCOB); ER-129-OROURKE (WASCOB); ER-130-OROURKE (WASCOB); ER-131-OROURKE (WASCOB); ER-132-OROURKE (WASCOB); ER-133-OROURKE (WASCOB); ER-134-OROURKE (WASCOB); ER-135-OROURKE (WASCOB); ER-136-OROURKE (WASCOB); ER-137-OROURKE (WASCOB); ER-138-OROURKE (WASCOB); ER-139-OROURKE (WASCOB); ER-140-OROURKE (WASCOB); ER-141-OROURKE (WASCOB); ER-142-OROURKE (WASCOB); ER-143-OROURKE (WASCOB); ER-144-OROURKE (WASCOB); ER-145-OROURKE (WASCOB); ER-146-OROURKE (WASCOB)</p>	<p>Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 29 WASCOBs to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.</p>

<p>E-015-04 Jay O'Rourke</p>	<p>ER-147-OROURKE (TERRACE); ER-148-OROURKE (TERRACE); ER-149-OROURKE (TERRACE); ER-150-OROURKE (WASCOB); ER-151-OROURKE (WASCOB); ER-152-OROURKE (WASCOB); ER-153-OROURKE (WASCOB); ER-154-OROURKE (WASCOB); ER-155-OROURKE (WASCOB); ER-156-OROURKE (WASCOB); ER-157-OROURKE (WASCOB); ER-158-OROURKE (WASCOB);</p>	<p>Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 9 WASCOBs and 3 terraces to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.</p>
<p>E-022-02 John O'Rourke</p>	<p>ER-543-OROURKE (STORM WATER DETENTION BASIN); ER-544-OROURKE (WASCOB); ER-545-OROURKE (WASCOB); ER-546-OROURKE (WASCOB); ER-547-OROURKE (WASCOB); ER-548-OROURKE (WASCOB); ER-549-OROURKE (GRASSED WATERWAY); ER-550-OROURKE (GRASSED WATERWAY)</p>	<p>Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 5 WASCOBs, 1 stormwater detention basin, and 2 grassed waterways to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.</p>
<p><b>ESTIMATED COSTS \$227,757.50</b></p>		

**DIVISION VI.**

Name	Project BMP IDs	Description
E-004 Glenn Knipfer	ER-223-KNIPFER (WASCOB); ER-224-KNIPFER (WASCOB); ER-225-KNIPFER (WASCOB); ER-226-KNIPFER (WASCOB); ER-227-KNIPFER (WASCOB); ER-228-KNIPFER (WASCOB); ER-229-KNIPFER (WASCOB); ER-230-KNIPFER (WASCOB); ER-231-KNIPFER (WASCOB); ER-232-KNIPFER (WASCOB); ER-233-KNIPFER (WASCOB); ER-234-KNIPFER (WASCOB); ER-235-KNIPFER (WASCOB); ER-236-KNIPFER (WASCOB); ER-237-KNIPFER (WASCOB); ER-238-KNIPFER (WASCOB); ER-239-KNIPFER (WASCOB); ER-240-KNIPFER (WASCOB); ER-241-KNIPFER (WASCOB); ER-300-KNIPFER (STORM WATER DETENTION BASIN); ER-301-KNIPFER (WASCOB); ER-302-KNIPFER (WASCOB); ER-303-KNIPFER (WASCOB); ER-304-KNIPFER (WASCOB); ER-305-KNIPFER (WASCOB); ER-306-KNIPFER (WASCOB); ER-307-KNIPFER (WASCOB); ER-308-KNIPFER (WASCOB); ER-309-KNIPFER (WASCOB); ER-310-KNIPFER (WASCOB); ER-311-KNIPFER (WASCOB); ER-312-KNIPFER (WASCOB); ER-313-KNIPFER (WASCOB); ER-314-KNIPFER (WASCOB)	Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 33 WASCOBs and 1 stormwater detention basin to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.

<p>E-022-01 John O'Rourke</p>	<p>ER-512-OROURKE (WASCOB); ER-513-OROURKE (WASCOB); ER-514-OROURKE (WASCOB); ER-515-OROURKE (WASCOB); ER-516-OROURKE (WASCOB); ER-517-OROURKE (WASCOB); ER-518-OROURKE (GRASSED WATERWAY); ER-519- OROURKE (STORM WATER DETENTION BASIN); ER-520- OROURKE (WASCOB); ER- 521-OROURKE (WASCOB); ER-522-OROURKE (WASCOB); ER-523-OROURKE (WASCOB); ER-524-OROURKE (WASCOB); ER-525-OROURKE (WASCOB); ER-526-OROURKE (WASCOB); ER-527-OROURKE (WASCOB); ER-528-OROURKE (WASCOB); ER-529-OROURKE (WASCOB); ER-530-OROURKE (WASCOB); ER-531-OROURKE (WASCOB); ER-532-OROURKE (WASCOB); ER-533-OROURKE (WASCOB); ER-534-OROURKE (WASCOB); ER-535-OROURKE (WASCOB); ER-536-OROURKE (WASCOB); ER-537-OROURKE (WASCOB); ER-538-OROURKE (WASCOB); ER-539-OROURKE (WASCOB); ER-540-OROURKE (GRASSED WATERWAY); ER-541- OROURKE (WASCOB); ER- 542-OROURKE (WASCOB)</p>	<p>Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 28 WASCOBs, 1 stormwater detention basin, and 2 grassed waterways to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek and Middle English River subwatersheds.</p>
<p>E-028 James Kruse</p>	<p>ER-500-KRUSE (TERRACE); ER-501-KRUSE (WASCOB); ER-502-KRUSE (WASCOB); ER-503-KRUSE (WASCOB); ER-504-KRUSE (WASCOB); ER-505-KRUSE (GRASSED WATERWAY); ER-506-KRUSE (TERRACE); ER-507-KRUSE (GRADE STABILIZATION); ER- 508-KRUSE (POND); ER-509- KRUSE (GRASSED WATERWAY); ER-510-KRUSE (GRASSED WATERWAY); ER- 511-KRUSE (WASCOB)</p>	<p>Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 5 WASCOBs 2 terraces, 3 grassed waterways, 1 grade stabilization structure and 1 pond to control gully erosion, improve water quality, and reduce flood risk in the Middle North English River subwatershed.</p>

E-030 Dan O'Rourke	ER-269-OROURKE (WASCOB) (formerly known as ER-055-OROURKE); ER-056-OROURKE (POND); ER-057-OROURKE (TERRACE)	Project description: The proposed area of project effect (APE) is currently agricultural land. The proposed project consists of constructing 1 WASCOB, 1 pond, and 1 terrace to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.
<b>ESTIMATED COSTS \$431,695.50</b>		

**DIVISION VII.**

Name	Project BMP IDs	Description
E-005 John Conner	ER-196-CONNER (BUFFER STRIP); ER-197-CONNER (POND)	Project description: The proposed area of project effect (APE) is currently partial grassland and woodlands. The proposed project consists of constructing 1 pond and 1 buffer strip to control gully erosion, improve water quality, and reduce flood risk in the Middle North English River subwatershed.
E-020 Steve Banes	ER-186-BANES (Grassed Waterway); ER-187-BANES (Grade Stabilization); ER-188-BANES (Grade Stabilization); ER-189-BANES (POND); ER-190-BANES (Grade Stabilization)	Project description: The proposed area of project effect (APE) is currently residential, grassland, and wooded property. The proposed project consists of constructing 1 grassed waterway, 3 grade stabilization structures, and 1 pond to control gully erosion, improve water quality, and reduce flood risk in the Gritter Creek subwatershed.
E-024 Ron Amelon	ER-194-AMELON (POND); ER-195-AMELON (Grade Stabilization)	Project description: The proposed area of project effect (APE) is currently partially agricultural, wooded, and grassland. The proposed project consists of constructing 1 pond and 1 grade stabilization structure to control gully erosion, improve water quality, and reduce flood risk in the Devil's Run subwatershed.

E-031 John Gent	ER-071-GENT (WASCOB); ER-072-GENT (WASCOB); ER-074-GENT (WASCOB); ER-075-GENT (WASCOB); ER-078-GENT (WASCOB); ER-079-GENT (TERRACE); ER-080-GENT (WASCOB); ER-081-GENT (WASCOB); ER-082-GENT (WASCOB); ER-083-GENT (WASCOB); ER-084-GENT (WASCOB); ER-086-GENT (WASCOB); ER-087-GENT (WASCOB); ER-089-GENT (WASCOB); ER-090-GENT (WASCOB); ER-091-GENT (WASCOB); ER-092-GENT (WASCOB); ER-097-GENT (WASCOB)	Project description: The proposed area of project effect (APE) is currently partially agricultural and grassland. The proposed project consists of constructing 17 WASCOBs and 1 terrace to control gully erosion, improve water quality, and reduce flood risk in the Middle English River and Gritter Creek subwatersheds.
<b>ESTIMATED COSTS \$286,055.00</b>		

### Determination (Step 1)

Using Geographic Information System (GIS) data provided by the Federal Emergency Management Agency (FEMA) and the U.S. Fish and Wildlife Service (FWS), it has been determined a 100-year floodplain or National Wetland Inventory-designated wetland is present in the following sites (units are in acres):

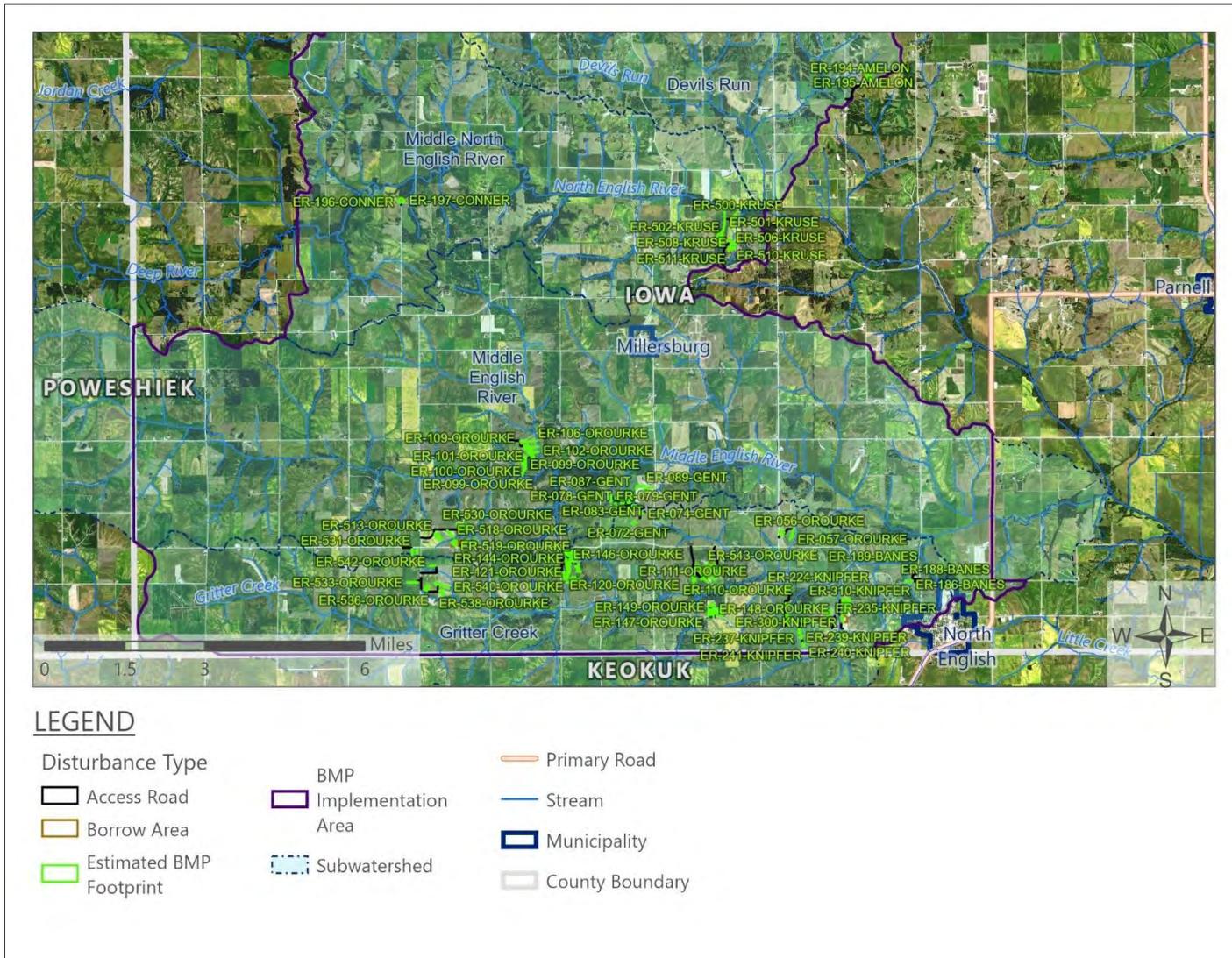
Practice ID	Floodplain	Wetland
ER-099-OROURKE	0.22	<0.01
ER-102-OROURKE	0.17	0.01
ER-106-OROURKE	0.15	0.01
ER-111-OROURKE	0.12	0.00
ER-121-OROURKE	0.00	0.06
ER-135-OROURKE	0.00	0.01
ER-137-OROURKE	0.00	0.01
ER-186-BANES	<0.01	0.00
ER-187-BANES	0.12	0.01
ER-188-BANES	0.03	0.01
ER-189-BANES	0.00	0.19
ER-194-AMELON	0.00	<0.01
ER-195-AMELON	0.00	0.01
ER-197-CONNER	0.00	0.41
ER-224-KNIPFER	0.00	0.11
ER-300-KNIPFER	0.12	0.00
ER-301-KNIPFER	0.00	0.11
ER-500-KRUSE	0.45	0.00

ER-501-KRUSE	0.14	0.00
ER-507-KRUSE	0.00	0.02
ER-508-KRUSE	0.00	0.31
ER-509-KRUSE	0.00	0.02
ER-511-KRUSE	0.00	0.20
ER-540-OROURKE	0.00	0.24
Total	1.52	1.74

### **Preliminary Notice (Step 2)**

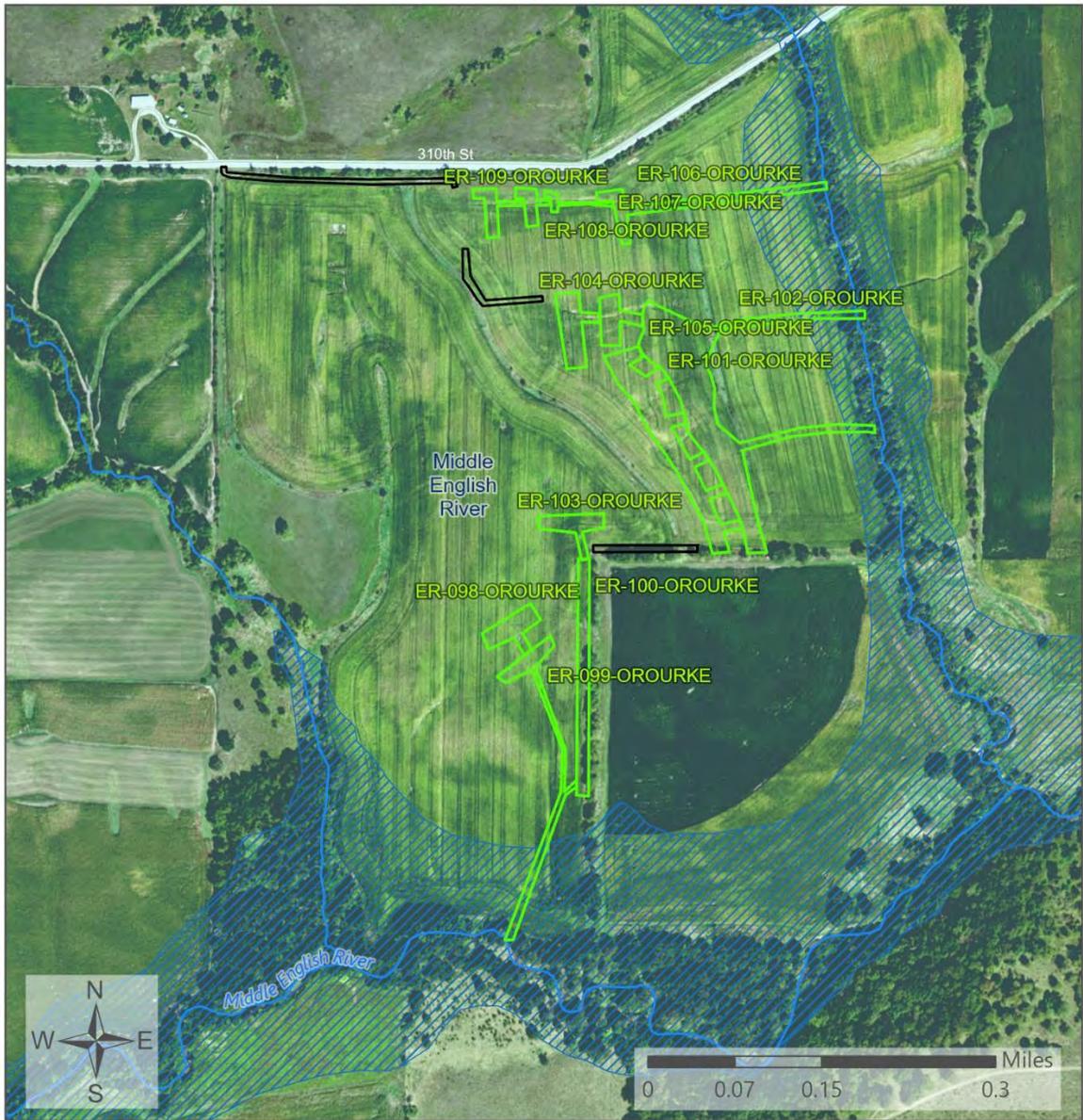
*Early Notice and Public Review of a Proposed Activity in a Wetland* was published December 4, 2019 providing local opportunity for 15-day review and comment, to end December 20, 2019.

Map 1: Project Map



Not all practices are labeled in this map.

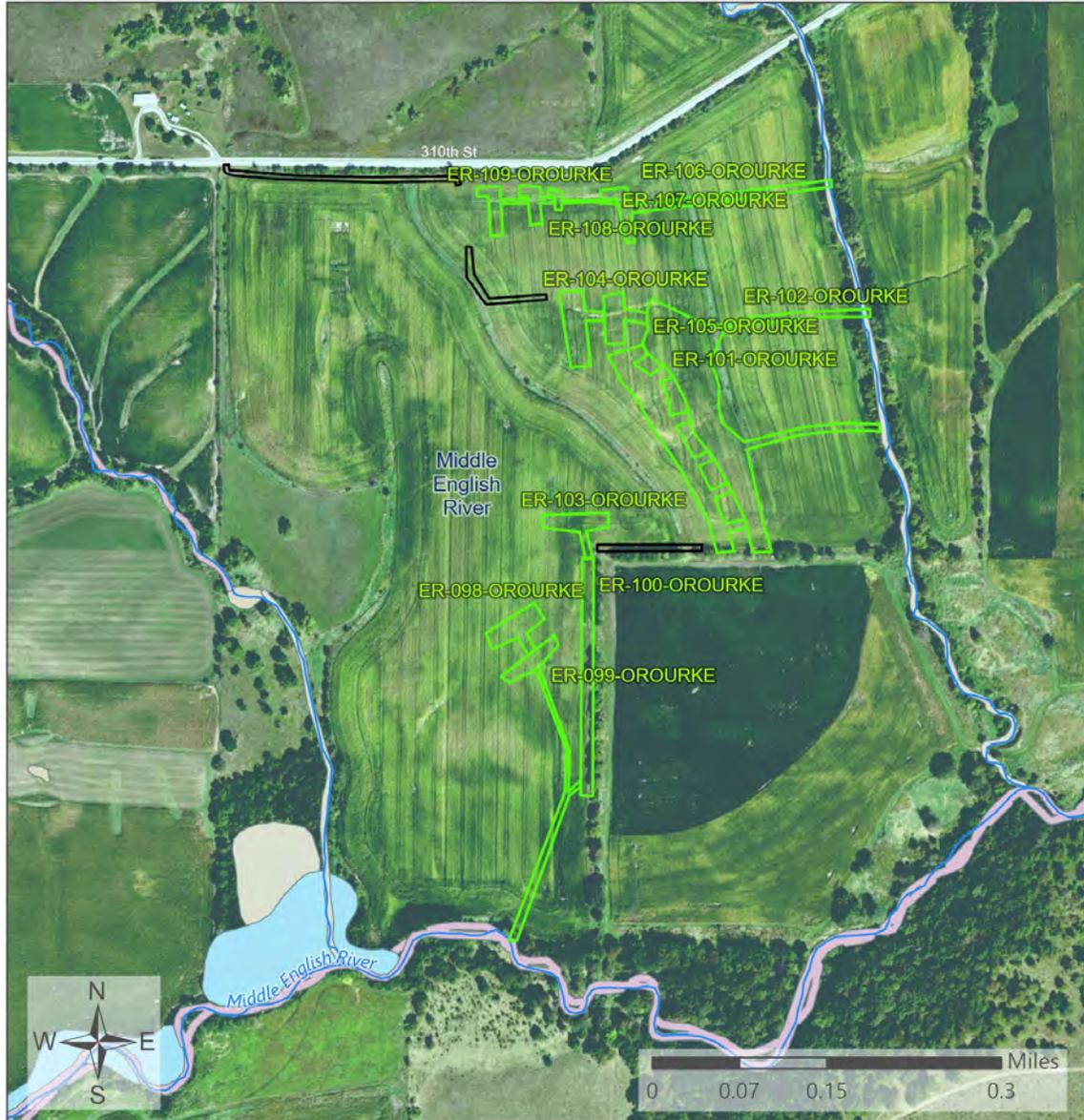
Map 2: ER-099/102/106-OROURKE Floodplain Map



**LEGEND**

- |  |  |   |
|--|--|---|
| <p>Disturbance Type</p> <ul style="list-style-type: none"> <li> Access Road</li> <li> Estimated BMP Footprint</li> <li> Subwatershed</li> </ul> | <p>BMP</p> <ul style="list-style-type: none"> <li> Implementation Area</li> <li> Stream</li> <li> Road</li> </ul> | <p>County Boundary</p> <ul style="list-style-type: none"> <li> County Boundary</li> </ul> <p>Flood Zone</p> <ul style="list-style-type: none"> <li> 1.0 PCT ANNUAL CHANCE FLOOD HAZARD</li> </ul> |
|--|--|---|

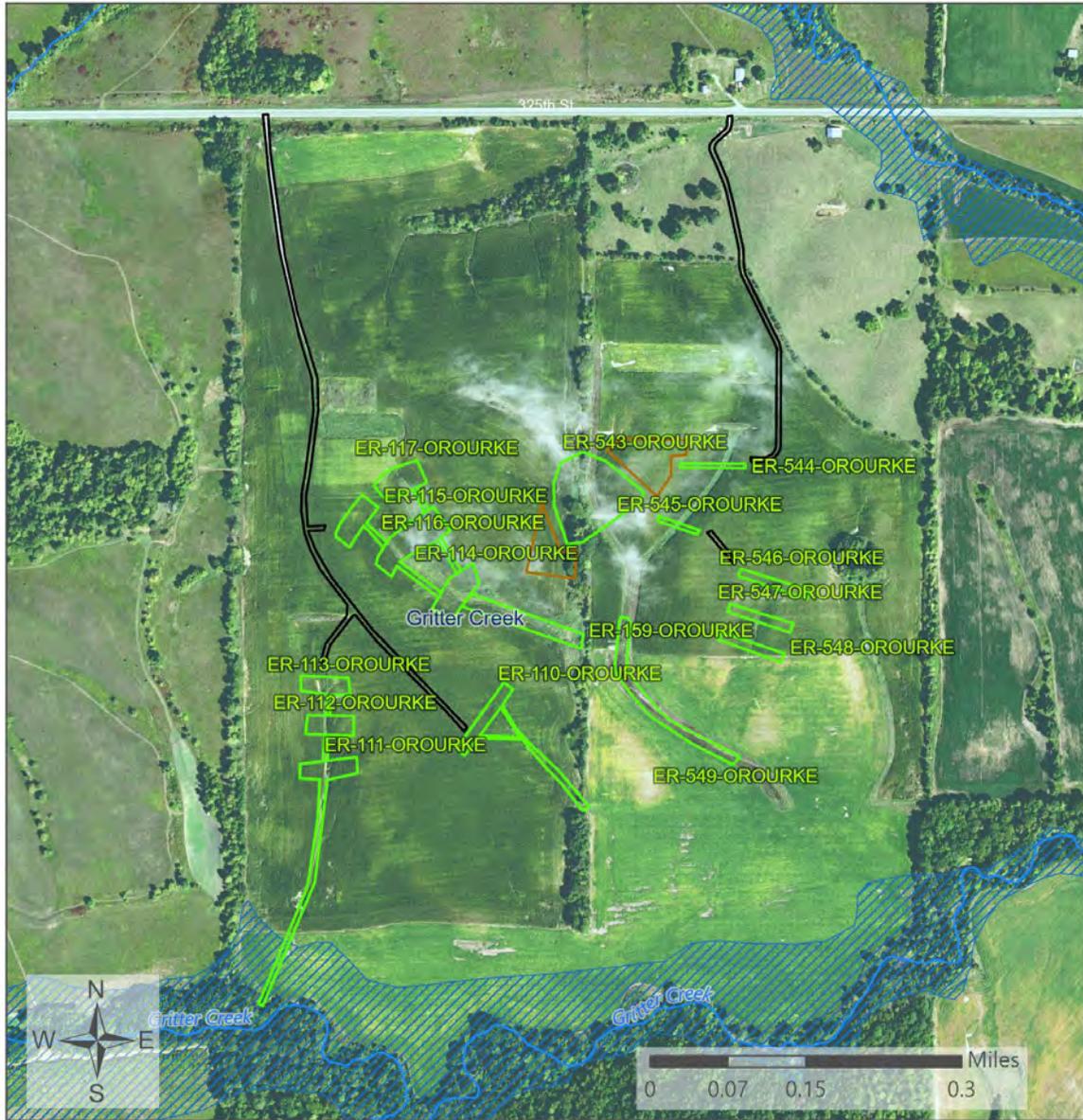
Map 3: ER-099/102/106-OROURKE Wetland Map



**LEGEND**

<b>Disturbance Type</b>		<b>BMP</b>		<b>Wetland Type</b>	
	Access Road		Implementation Area		Freshwater Emergent Wetland
	Estimated BMP Footprint		Stream		Freshwater Forested/Shrub Wetland
	Subwatershed		Road		Freshwater Pond
			County Boundary		Riverine

Map 4: ER-111-OROURKE Floodplain Map



**LEGEND**

**Disturbance Type**

-  Access Road
-  Borrow Area
-  Estimated BMP Footprint

 Subwatershed

-  BMP Implementation Area
-  Stream

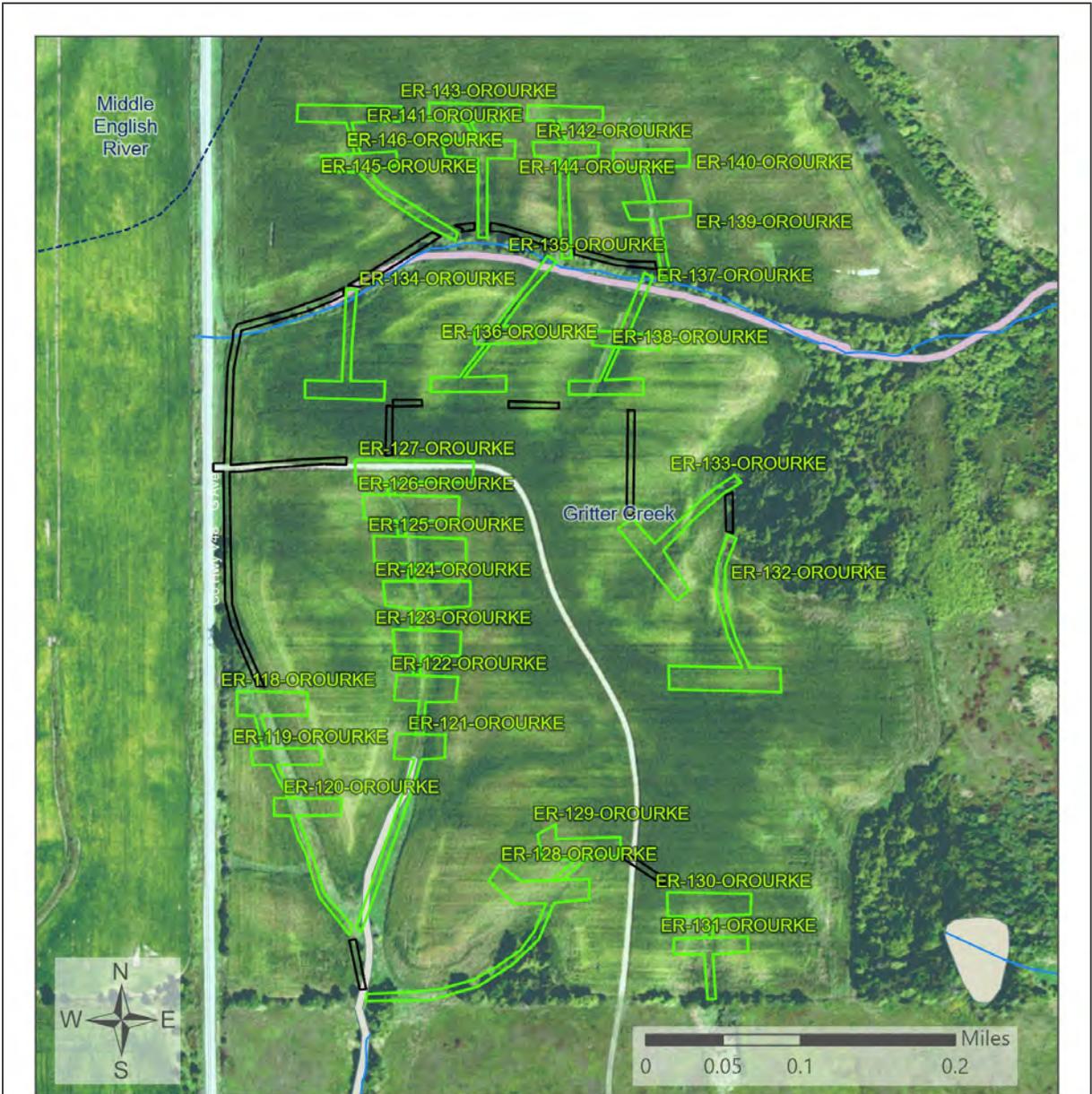
 Road

 County Boundary

**Flood Zone**

 1.0 PCT ANNUAL CHANCE FLOOD HAZARD

Map 5: ER-121/135/137-OROURKE Wetland Map



**LEGEND**

Disturbance Type

-  Access Road
-  Estimated BMP Footprint
-  Subwatershed

-  BMP Implementation Area
-  Stream
-  Road
-  County Boundary

Wetland Type

-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Riverine

Map 6: ER-186/187/188-BANES Floodplain Map



**LEGEND**

**Disturbance Type**

- Access Road
- Borrow Area
- Estimated BMP Footprint
- Subwatershed
- BMP Implementation Area
- Stream
- Road

**Flood Zone**

- 1.0 PCT ANNUAL CHANCE FLOOD HAZARD
- County Boundary

**Wetland Type**

- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Map 7: ER-187/188/189-BANES Wetland Map



**LEGEND**

**Disturbance Type**

- Access Road
- Borrow Area
- Estimated BMP Footprint
- Subwatershed

**BMP Implementation Area**

- BMP Implementation Area
- Stream
- Road
- County Boundary

**Wetland Type**

- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Map 8: ER-194/195-AMELON Wetland Map



**LEGEND**

**Disturbance Type**

-  Access Road
-  Borrow Area
-  Estimated BMP Footprint

-  Subwatershed

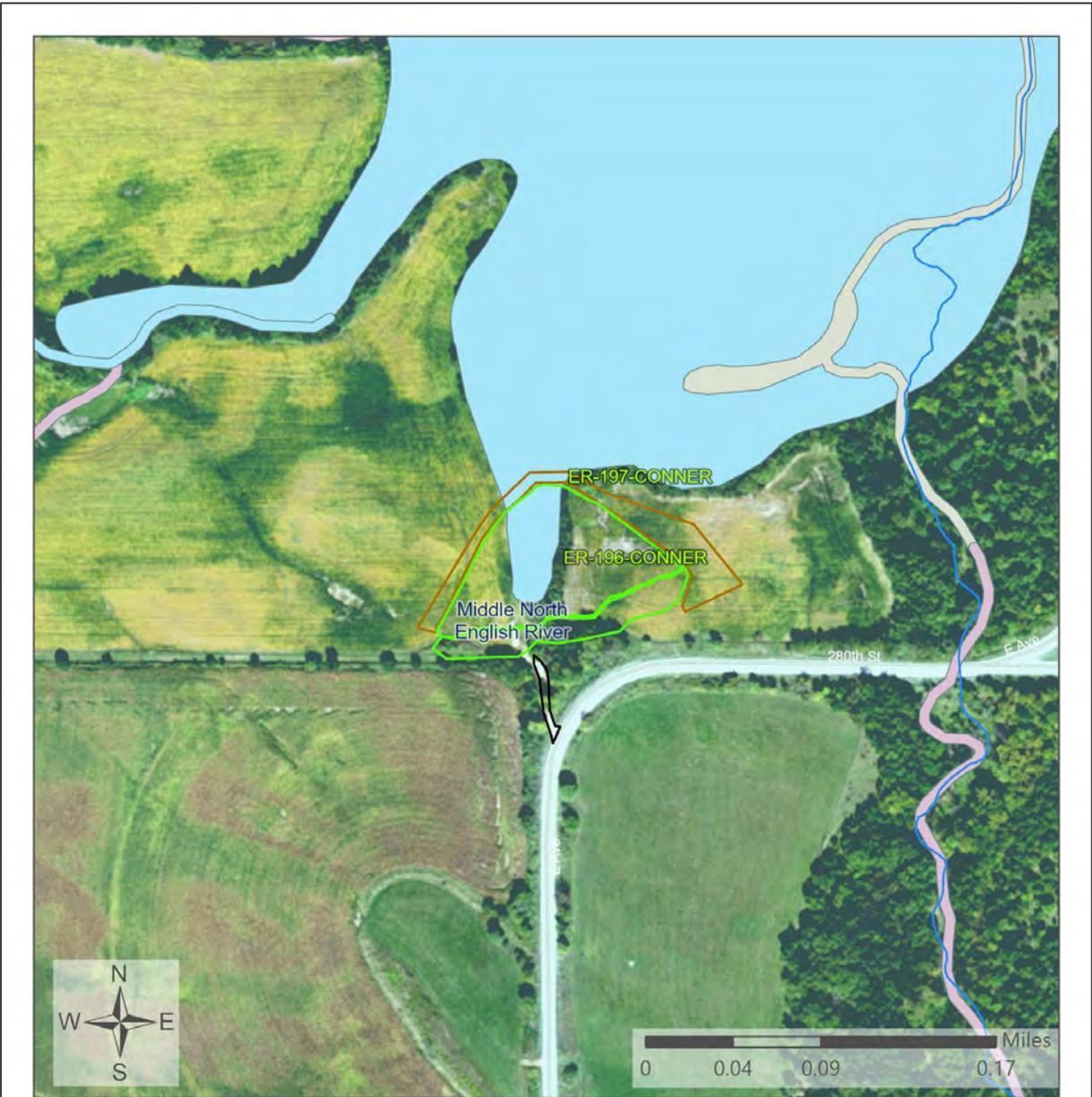
-  BMP Implementation Area
-  Stream
-  Road

-  County Boundary

**Wetland Type**

-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Riverine

Map 9: ER-197-CONNER Wetland Map



**LEGEND**

**Disturbance Type**

-  Access Road
-  Borrow Area
-  Estimated BMP Footprint
-  Subwatershed

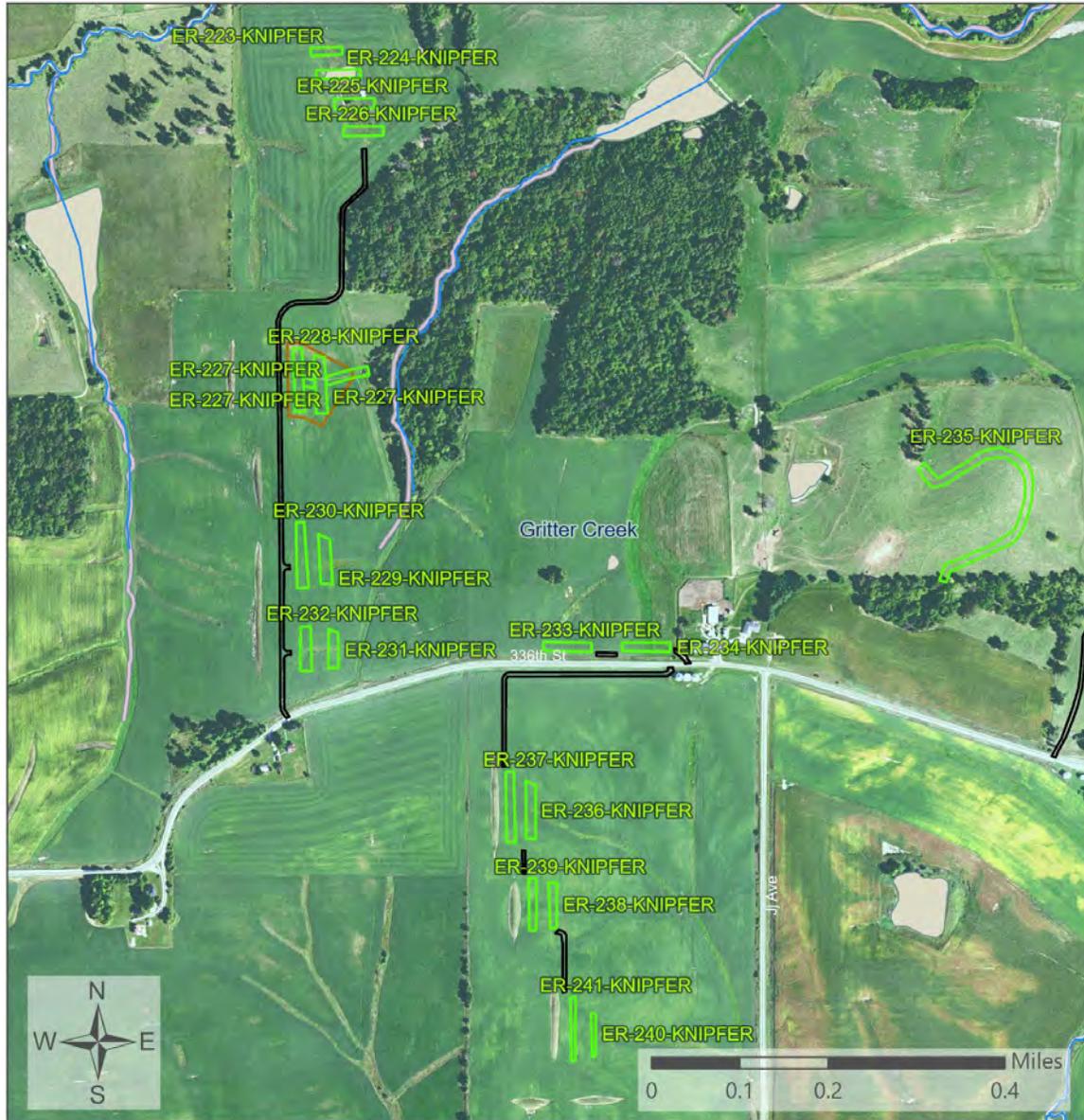
**BMP Implementation Area**

-  Implementation Area
-  Stream
-  Road
-  County Boundary

**Wetland Type**

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Riverine

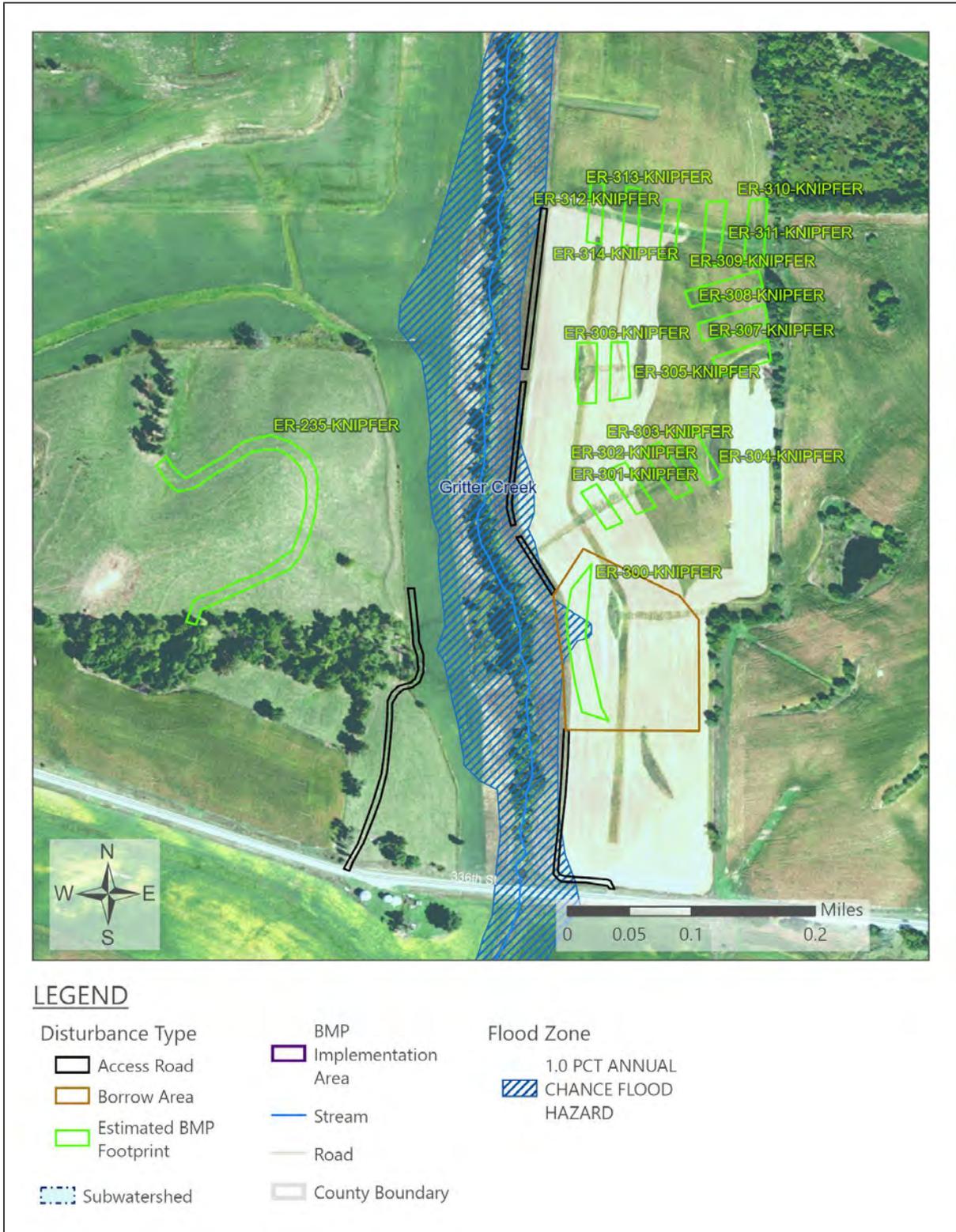
Map 10: ER-224-KNIPFER Wetland Map



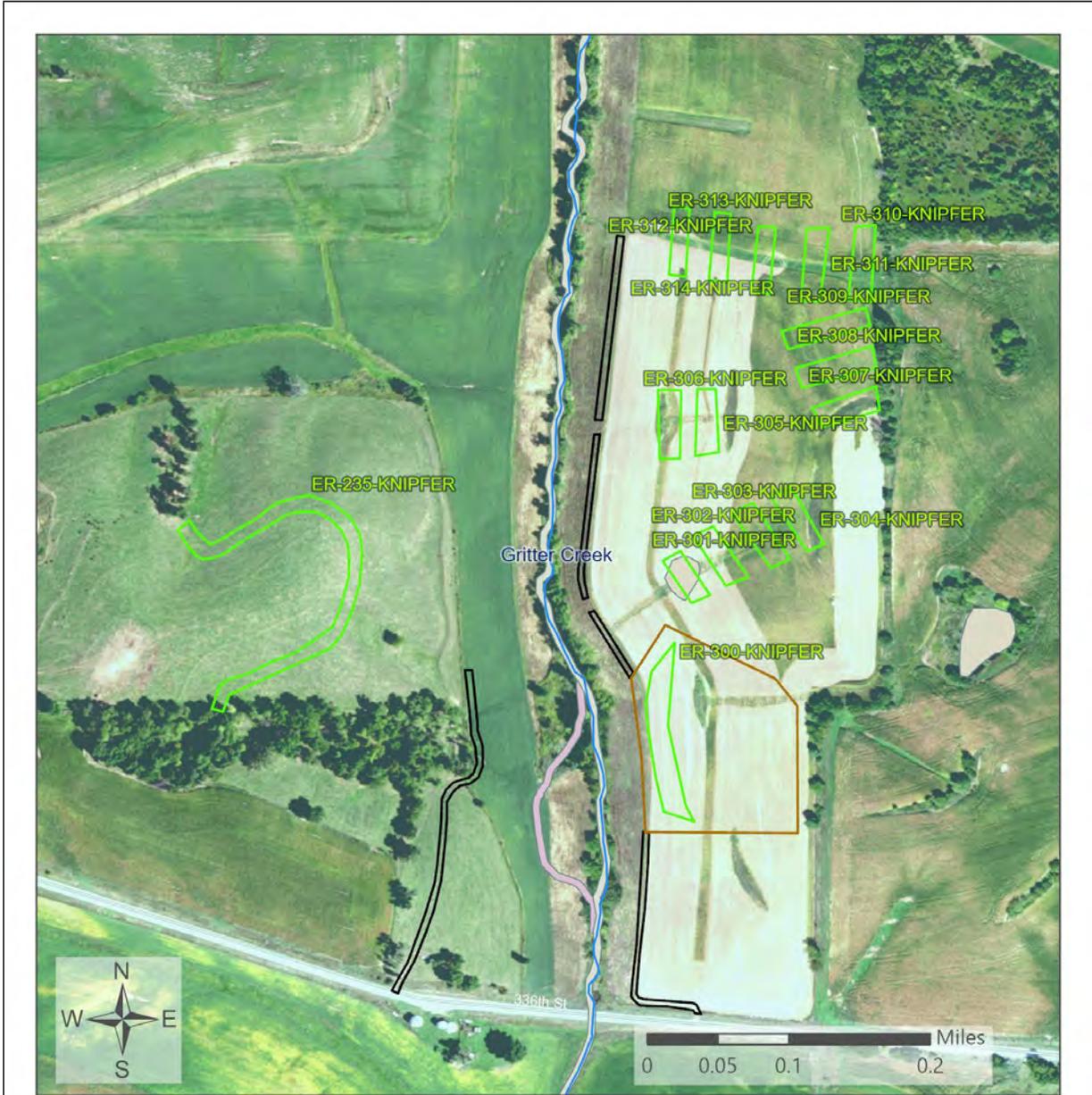
**LEGEND**

Disturbance Type	Subwatershed	County Boundary
Access Road	BMP	Wetland Type
Borrow Area	Implementation Area	Freshwater Emergent Wetland
Estimated BMP Footprint	Stream	Freshwater Pond
	Road	Riverine

Map 11: ER-300-KNIPFER Floodplain Map



Map 12: ER-301-KNIPFER Wetland Map



**LEGEND**

**Disturbance Type**

-  Access Road
-  Borrow Area
-  Estimated BMP Footprint
-  Subwatershed

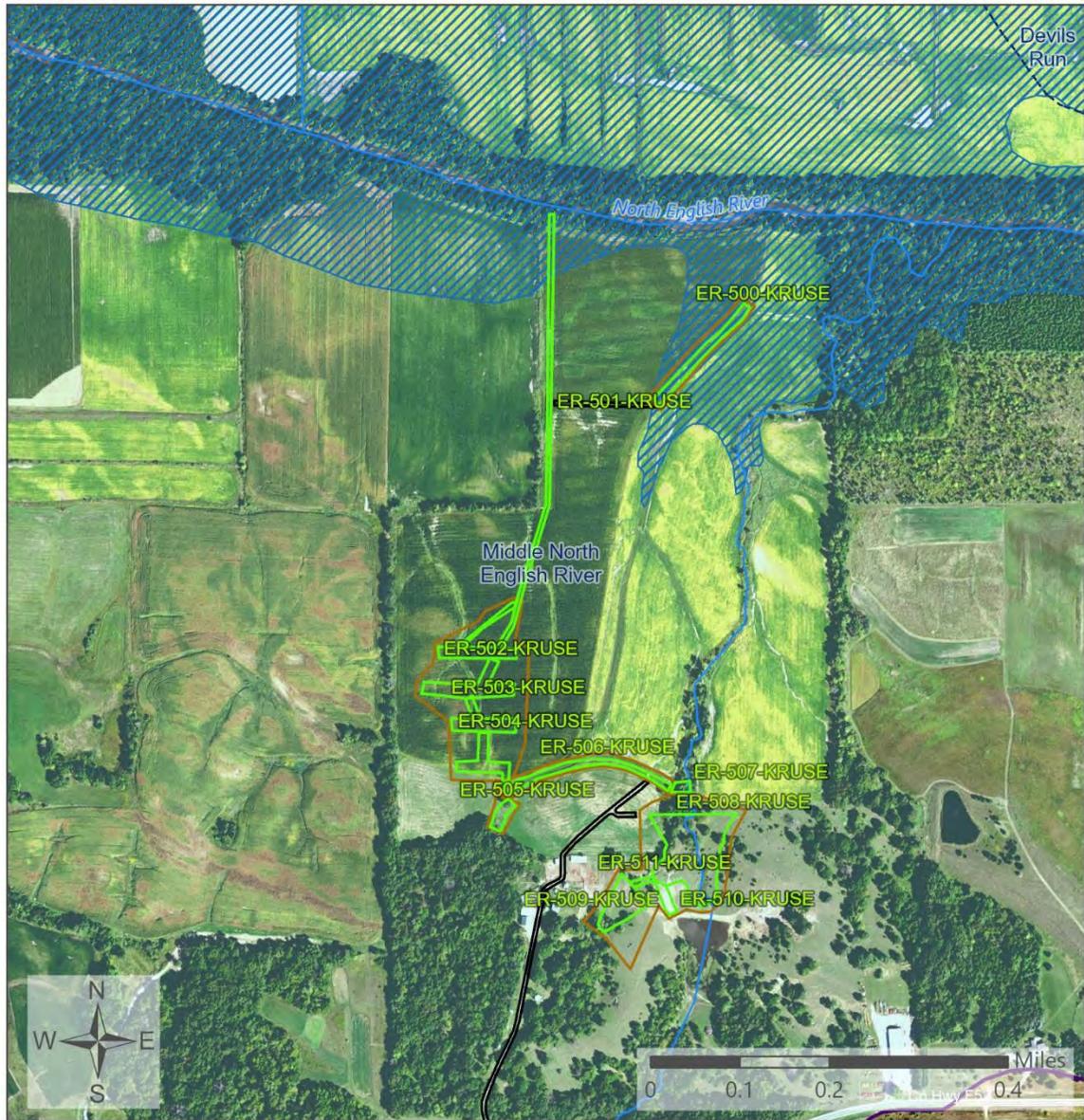
**BMP Implementation Area**

-  Implementation Area
-  Stream
-  Road
-  County Boundary

**Wetland Type**

-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Riverine

Map 13: ER-500/501-KRUSE Floodplain Map



**LEGEND**

**Disturbance Type**

-  Access Road
-  Borrow Area
-  Estimated BMP Footprint

-  Subwatershed

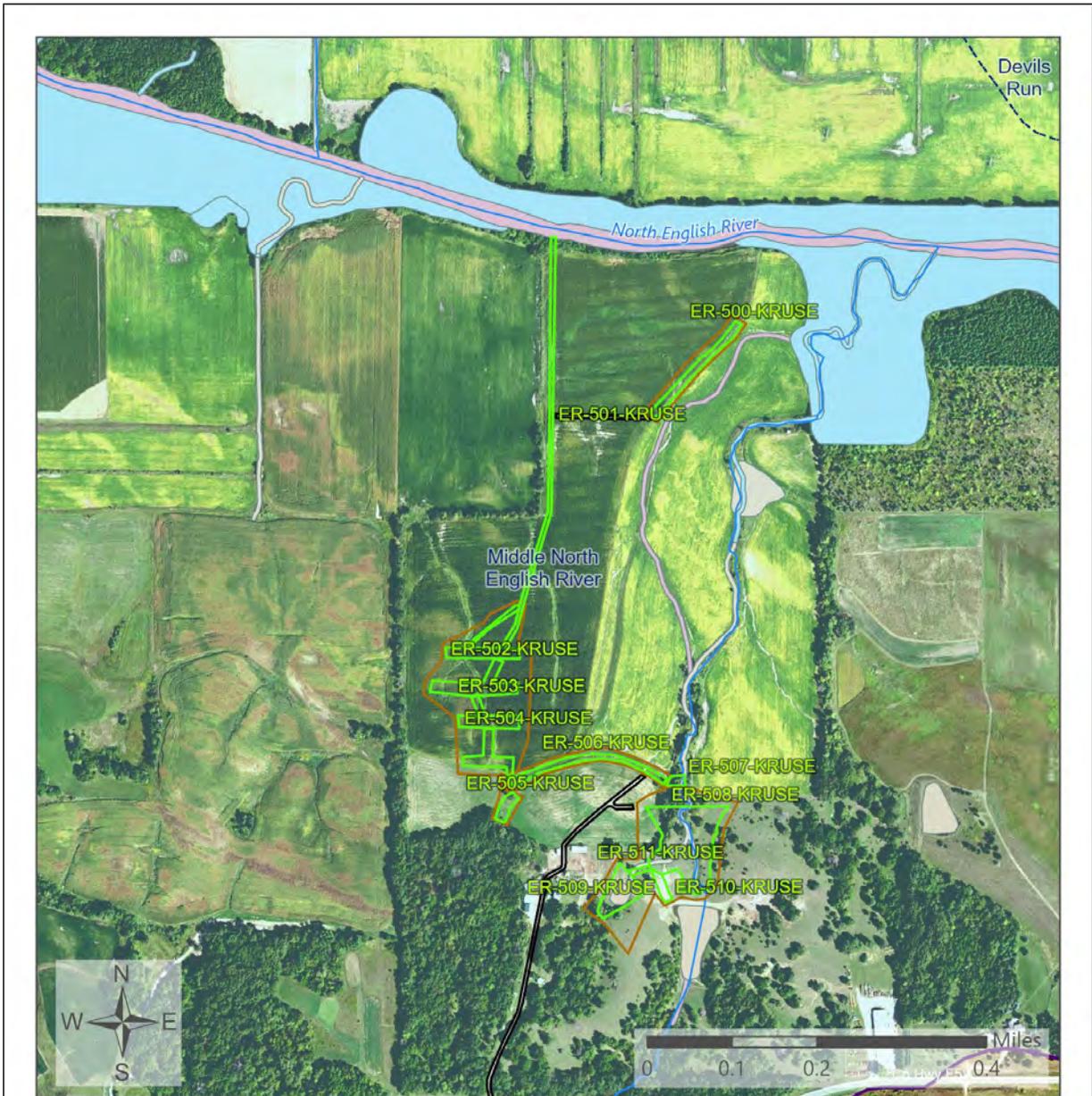
**BMP**

-  Implementation Area
-  Stream
-  Road
-  County Boundary

**Flood Zone**

-  1.0 PCT ANNUAL CHANCE FLOOD HAZARD

Map 14: ER-507/508/509/511-KRUSE Wetland Map



**LEGEND**

<b>Disturbance Type</b>	<b>BMP Implementation Area</b>	<b>Wetland Type</b>
Access Road	BMP Implementation Area	Freshwater Emergent Wetland
Borrow Area	Stream	Freshwater Forested/Shrub Wetland
Estimated BMP Footprint	Road	Freshwater Pond
Subwatershed	County Boundary	Riverine

Map 15: ER-540-OROURKE Wetland Map



**LEGEND**

<b>Disturbance Type</b>	<b>BMP</b>	<b>Wetland Type</b>
Access Road	Implementation Area	Freshwater Emergent Wetland
Borrow Area	Stream	Freshwater Forested/Shrub Wetland
Estimated BMP Footprint	Road	Freshwater Pond
Subwatershed	County Boundary	Riverine