



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-SP

8 September 2010

MEMORANDUM FOR Commander, St. Louis District, ATTN: CEMVS-PM-N

SUBJECT: Upper Mississippi River System - Environmental Management Program (UMRS-EMP), West Alton Missouri Islands, RM 203 and 220.5, St. Charles County, Missouri, Habitat Rehabilitation and Enhancement Project (HREP), Fact Sheet Approval

1. Reference memorandum, CEMVS-PM-N, 2 June 2010, subject as above.
2. Subject fact sheet is approved for continued HREP planning (encl).
3. The MVD point of contact is Elizabeth Ivy, CEMVD-PD-SP, (601) 634-5310.

Encl

A handwritten signature in black ink that reads "Charles B. Barton".

CHARLES B. BARTON
Chief, District Support Team for
St. Louis, Rock Island, and
St. Paul



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

2 June 2010

CEMVS-PM-N

MEMORANDUM FOR: Commander, Mississippi Valley Division, ATTN: CEMVD-PD-SP
(Ms. Elizabeth Ivy), 1400 Walnut Street, P.O. Box 80, Vicksburg, MS 39180

SUBJECT: Upper Mississippi River System-Environmental Management Program (UMRS-EMP), West Alton Missouri Islands, RM 203 and 220.5, St. Charles County, Missouri, Habitat Rehabilitation and Enhancement Project (HREP), Fact Sheet Approval

1. We have attached one electronic copy of the fact sheet with project site map for the West Alton Missouri Islands, RM 203 and 220.5, St. Charles County, Missouri, an element of the UMRS-EMP.
2. All project features are on federally owned General Plan lands. Accordingly, this project is being pursued as 100% Federal. Operation, Maintenance, Repair, and Rehabilitation costs are the responsibility of the project's sponsors, USFWS and Missouri Department of Conservation.
3. This transmittal is consistent with standing program implementation guidance (see HQUSACE memoranda dated 1 August 1986 and 12 May 2000, regarding UMRS-EMP implementation).
4. A Definite Project Report will be generated for this project.
5. If you have any questions, or need additional information, please contact Mr. Brian Markert, MVS Environmental Management Program Manager, at (314) 331-8455.

FOR THE COMMANDER:

Attached (1 copy)

A handwritten signature in black ink, appearing to read "Bruce Munholland".

BRUCE MUNHOLLAND
Chief, Project Management Branch

Upper Mississippi River System Environmental Management Program Fact Sheet

West Alton Missouri Islands Rehabilitation, Pool 26, Mississippi River Missouri, USACE, St. Louis District

Location: The project is located in Pool 26 on the right descending bank of the Mississippi River between river miles 203 and 220.5 and the towns of West Alton, Missouri and Grafton, Illinois. The areas are included in certain lands acquired for the navigation project and were identified in a General Plan and made available to the Department of Interior and States, through a cooperative agreement. These properties include West Alton Bay, Brickhouse Slough, Mile 215 Tract (Luesse Lake), Mason's Island, and Island No. 526 totaling 1,226 acres and which are collectively managed as part of the Missouri Department of Conservation's (MDC) Upper Mississippi River State Conservation Area. It also includes the 230 acre Portage Island Division of the Two Rivers National Wildlife Refuge managed by the U.S. Fish and Wildlife Service (USFWS). It is comprised of one large (Portage Island) and three smaller islands at river mile 213-214. These forested islands lie just northeast of Portage Des Sioux, Missouri.

Existing Resources: The area consists of an open water bay, remnant sloughs, degraded wetlands, and islands. Conditions are shallow throughout the bay during normal pool levels, < 3 feet deep, and the site is almost entirely dewatered when Pool 26 is tilted, leaving a mud flat consisting of fine substrate (mostly silt). The sloughs and wetlands experience some dewatering and have filled in with silt over time. Boat access to all the areas is limited to only portions of the year due to their shallowness. The construction of the lock and dam also raised the water table in the area and permanently inundated many smaller islands in the area. These islands once permanent and seasonal have eroded over time and are now completely under the pooled water surface.

Problem Identification: The existing habitat conditions, future habitat needs and proposed general actions required for habitat restoration on the Upper Mississippi River (UMR) are addressed in the Upper Mississippi River System (UMRS) Habitat Needs Assessment (HNA) Report (COE, 2000). That report estimates that there is a need to create or restore 5,000 acres of isolated backwater habitat along the lower impounded reach of the Upper Mississippi River.

On a more site-specific level, sedimentation in the West Alton Bay, and other off-channel areas, has led to a loss of desirable fisheries habitat, e.g. fish spawning and nursery areas and winter thermal refuges. During the spring when fish, especially centrarchid species such as largemouth bass, bluegill, green sunfish, and crappie, are seeking stable, off-channel spawning areas, the problem is exacerbated due to the tilting of Pool 26 which causes dramatic dewatering of the West Alton Bay and some of the remnant sloughs as extra runoff is released through the Mel Price Dam. The area also has not supported submergent and/or emergent aquatic vegetation since prior to the Flood of 1993.

Project Goals: The project, if implemented, would begin to meet the goals set forth in the HNA report. The project is also consistent with the goals developed for the region under the NESP program. The restoration and rehabilitation of these wetland and aquatic habitats would provide resting, feeding, nesting, breeding, and weather and predator-escape cover for many forms of migrating water birds and resident wetland wildlife. It will improve aquatic habitat for fishes and reptiles/amphibians, improve woody and herbaceous plant diversity, and improve water management capabilities.

By rehabilitating physical habitat, it is anticipated that desirable breeding, nesting, nursery, and deep water habitat would be available for a number of animals including fish, waterfowl, shorebirds, and mammals. It would improve water quality conditions that support aquatic plant growth, including *Typha spp.*, *Sagittaria spp.*, and *Eleocharis spp.*

Proposed Project: The proposed restoration features would be based on input from the existing literature, an optimized hydraulic configuration (using environmental floodplain modeling) and best scientific judgment. Tentatively, the project includes the following general features:

West Alton

- Rehabilitate off-channel aquatic habitat in West Alton Bay by dredging an 8,300 foot long pilot channel a minimum of 5 feet deep and 20 feet wide, totaling 30,740 cubic yards. This dredging will open a connection to the river at the upper end of the bay. A 200 foot notch in an existing dike at river mile 204.4 would also help maintain the rehabilitated Alton Slough.
- Construct a minimum of 5 small rock chevrons needed to create bathymetric diversity, including self maintaining deep holes that could be overwintering habitat for fish, during overtopping events.
- Use dredged material to create an “outer barrier island” by placing the material on an existing submerged bar located along the east margin of West Alton bay. This would partially rehabilitate the presence of the historic West Alton Slough. The island may need to be armored with rock to maintain it.
- Build a minimum of 3 large chevrons to maintain a channel and promote/maintain the island created with the dredge material.

Brickhouse Slough

- Dredge a 11,500 feet long pilot channel of the lower end of Brickhouse Slough to a depth of 5 feet and a width of 20 feet, totaling 42,600 cubic yards
- Redirect flow from the power plant towards Brickhouse slough to provide more flow needed to maintain slough alignment. The warm effluent from the power plant provides a unique habitat.

- The dredge material will be used to create an island by placing the material on an existing shallow area located along the west margin of Dresser Island. The island may need to be armored with rock to maintain it.

Mile 215 Tract (Luesse Lake)

- Dredge a 5,500 feet pilot channel of Mile 215 Tract backwaters to a depth of 5 feet and a width of 20 feet, totaling 20,400 cubic yards. Three scouring structures will be added to maintain channel diversity.
- The dredge material will be used to create an island downstream of Slim Island by placing the material on an existing shallow area. . The island may need to be armored with rock to maintain it.

Portage Island Division:

- Connect the smaller interior channel on Portage Island to the river by dredging a channel 2,500 feet long pilot channel to a minimum depth of 5 feet and minimum width of 20 feet, totaling 9,300 cubic yards. Two scouring structures will be added to maintain channel diversity.
- Install woody structure in some areas of the rehabilitated backwaters

Mason's Island Complex

- Connect the larger interior channel on Mason's Island to the river. Dredge a pilot channel 4,600 feet long to a minimum depth 5 feet and a minimum width of 20 feet, totaling 17,000 cubic yards. Four scouring structures will be added to maintain channel diversity.
- Install woody structure in some areas of the rehabilitated backwaters

Implementation Considerations: It is assumed that dredged material can be used for the islands' construction or can be disposed of at a pre-determined site. Longevity of the deep water areas is contingent upon scouring and/or water diverting structures and the variety of flows that occur on lower Pool 26. Flooding to the extent of that in 1993 could quickly jeopardize the project.

Installation of the islands and chevrons will be contingent upon the absence of mussels at that site. The high cost of mitigation for mussel displacement could jeopardize the project. An added benefit of the island at West Alton bay is that it will reduce wind and waves that have caused serious problems for boaters using the Lincoln Shields Access, especially in winter. In addition, the project could be constructed in a way that will allow duck hunters to access their blinds from a slough access as used in previous years before the slough filled in.

The project has been endorsed by the River Resource Action Team as an EMP project. A transition plan has been developed for EMP and the Navigation and Ecosystem Sustainability Program (NESP). Ecosystem Restoration projects are being formulated for compatibility

between the two programs. It is anticipated that this project could easily transition between the two programs if directed by Congress to do so.

A Value Engineering Analysis will be conducted early on in the study in an attempt to find innovative ways to reduce the total cost of the project without sacrificing key project objectives.

Financial Data: The total estimated base year cost for this project is \$ \$6,500,000. All of the project features are on Corps owned GP lands. Accordingly under the provisions of Section 906 (e) of WRDA 1986, as amended, the project's first costs are 100 percent Federal. Operation Maintenance, Repair, and Rehabilitation costs are the responsibility of the project's Sponsor (s). The estimated annual operations and maintenance costs is \$ \$15,000.

Status of Project: The project has been endorsed by the River Resource Action Team. MDC is the project sponsor for West Alton Bay, Brickhouse Slough, Mile 215 Tract (Luesse Lake), Mason's Island, and Island No. 526 portions. USFWS is the project sponsor for the Portage Island portion.

Points of Contact: Brian Markert, Project Manager, St. Louis District, U.S. Army Corps of Engineers, 314-331-8455, brian.j.markert@usace.army.mil

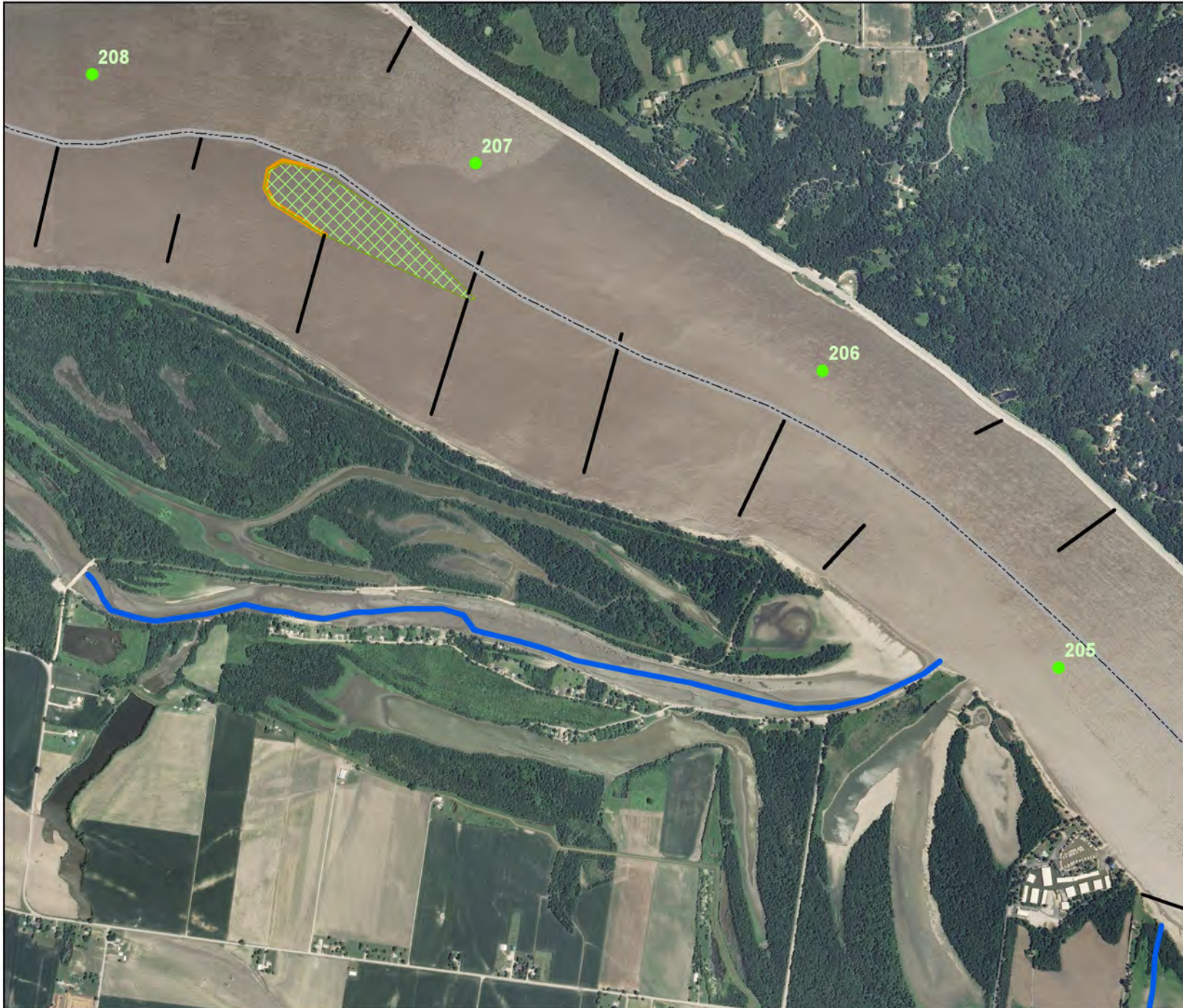
John Mabery, Refuge Manager, Two Rivers National Wildlife Refuge, U.S. Fish and Wildlife Service, 618-883-2524 John_Mabery@fws.gov

Tom Leifield, Site Manager, Columbia Bottoms Conservation Area, Missouri Department of Conservation, 314-877-6019, Tom.Leifield@mdc.mo.gov



**US Army Corps
of Engineers**
St. Louis District

Brickhouse Slough



Location Map



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- Existing Dike
- Island/Sand bar
- Armoring
- Channel Excavation



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St. Louis District

Mason's Island



Location Map



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- Rock Structure
- Existing Dike



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St. Louis District

Mile 215 Tract (Luesse Lake) Portage Island



Location Map







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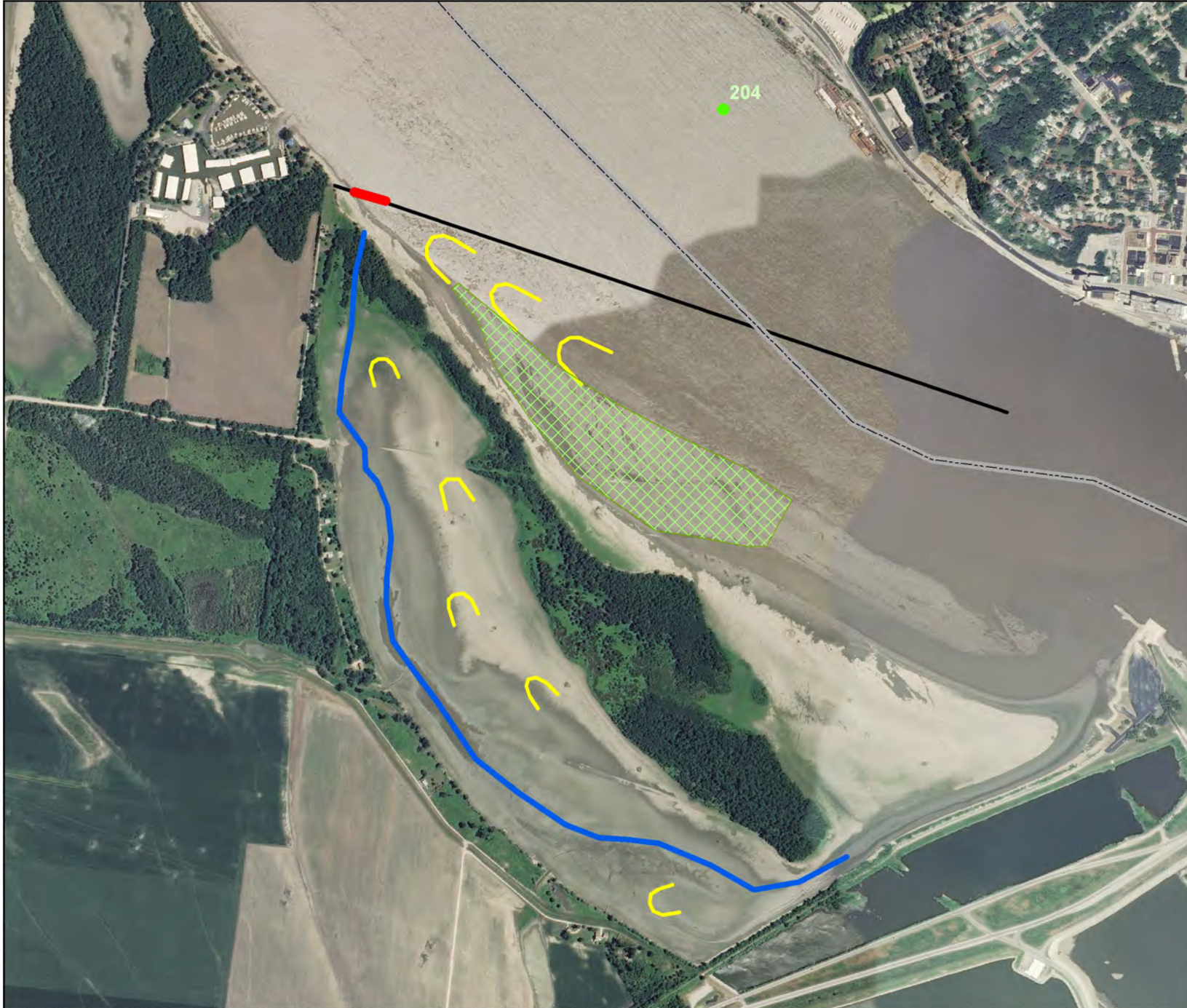


-  Island/Sand bar
-  Armoring
-  Rock Structure
-  Existing Dike



**US Army Corps
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St. Louis District

West Alton Bay



Location Map



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-  Island/Sand bar
-  Notch
-  Chevron
-  Existing Dike