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), Piasa and Eagles Nest Island, Madison and Jersey Counties, Illinois, 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 was resubmitted on 26 July 2010 incorporating MVD comments. The subject revised 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

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

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

REPLY TO
ATTENTION OF:

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), Piasa and Eagles Nest Island, Madison and Jersey Counties, Illinois, Habitat Rehabilitation and Enhancement Project (HREP), Fact Sheet Approval

1. We have attached one copy of the fact sheet with project site map and Illinois Department of Natural Resources (IDNR) Letter of Intent for the Piasa and Eagles Nest Island, Madison and Jersey Counties, Illinois, HREP 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 sponsor, IDNR.

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)

BRUCE MUNHOLAND
Chief, Project Management Branch

EAGLES NEST AND PIASA ISLANDS
HABITAT REHABILITATION AND ENHANCEMENT PROJECT
MADISON AND JERSEY COUNTIES, ILLINOIS
ENVIRONMENTAL MANAGEMENT PROGRAM
ST. LOUIS DISTRICT

FACT SHEET

I. LOCATION

The proposed project includes Eagles Nest and Piasa Islands and the surrounding channel in Madison and Jersey counties, Illinois (Fig. 1). The project area is in Upper Mississippi River Pool 26 near Alton, IL. These islands are owned by the Corps of Engineers and managed by the Illinois Department of Conservation (IDNR) through a cooperative agreement. They are part of the Mississippi River Fish and Wildlife Area.

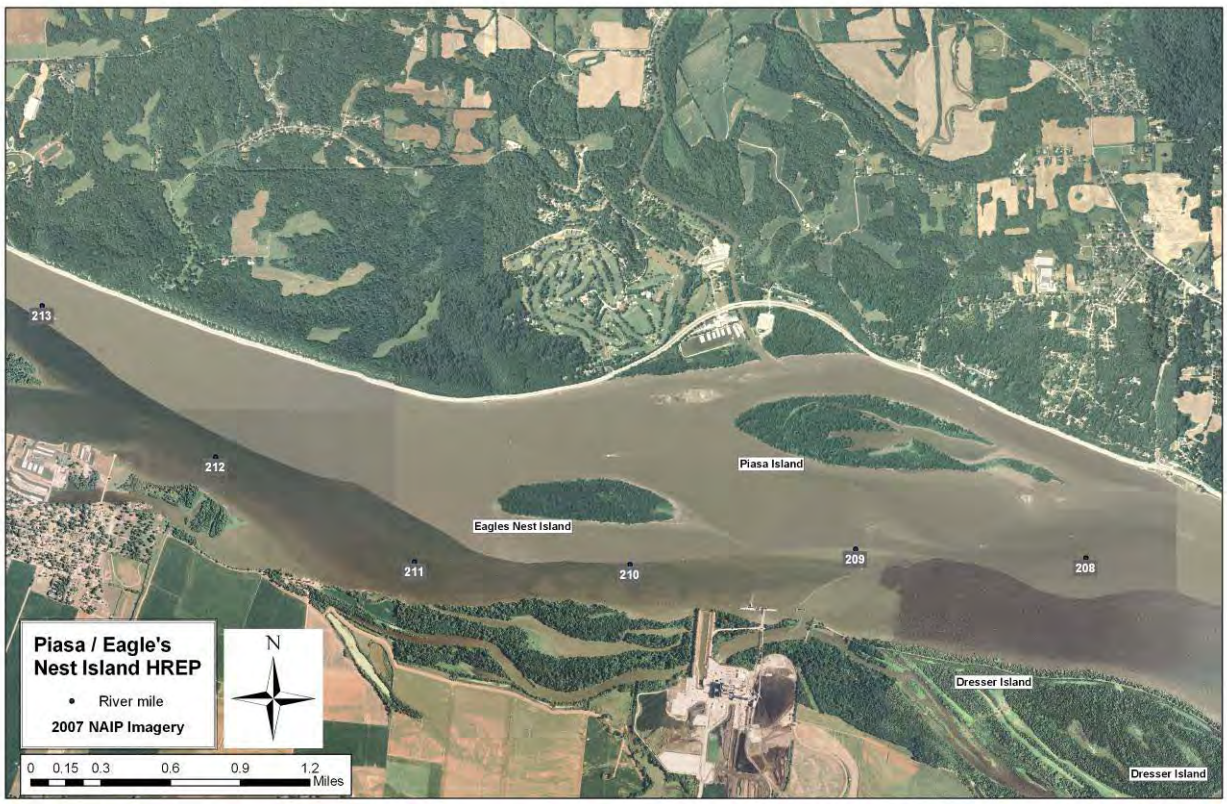


Figure 1. The proposed project area including Eagles Nest and Piasa Islands.

II. EXISTING RESOURCES

A 2006 bathymetric survey of Eagles Nest and Piasa Islands' side channel indicates that the majority of the depth exists between the two islands (Fig. 2). The remaining side channel from the head of Piasa Island to where it rejoins the Mississippi River is relatively shallow with two small areas of deep water. Local partners indicate that the two deep areas were once a continuous channel. Near the head of Piasa Island, there is a very shallow area covered in woody debris that reaches from the center of the channel to the mouth of Piasa Creek. At minimum pool, this area becomes a sand bar (Fig. 1). Area land managers indicate that the depth in this area varies. During most years, sediment deposits in this area. In years when the Mississippi River is low and Piasa Creek floods, the sediment is washed out. Recent Piasa Creek watershed restoration efforts may have increased the upstream storage capacity preventing the necessary flood flows to remove this sediment. The interior backwater on Piasa Island is shallow throughout.

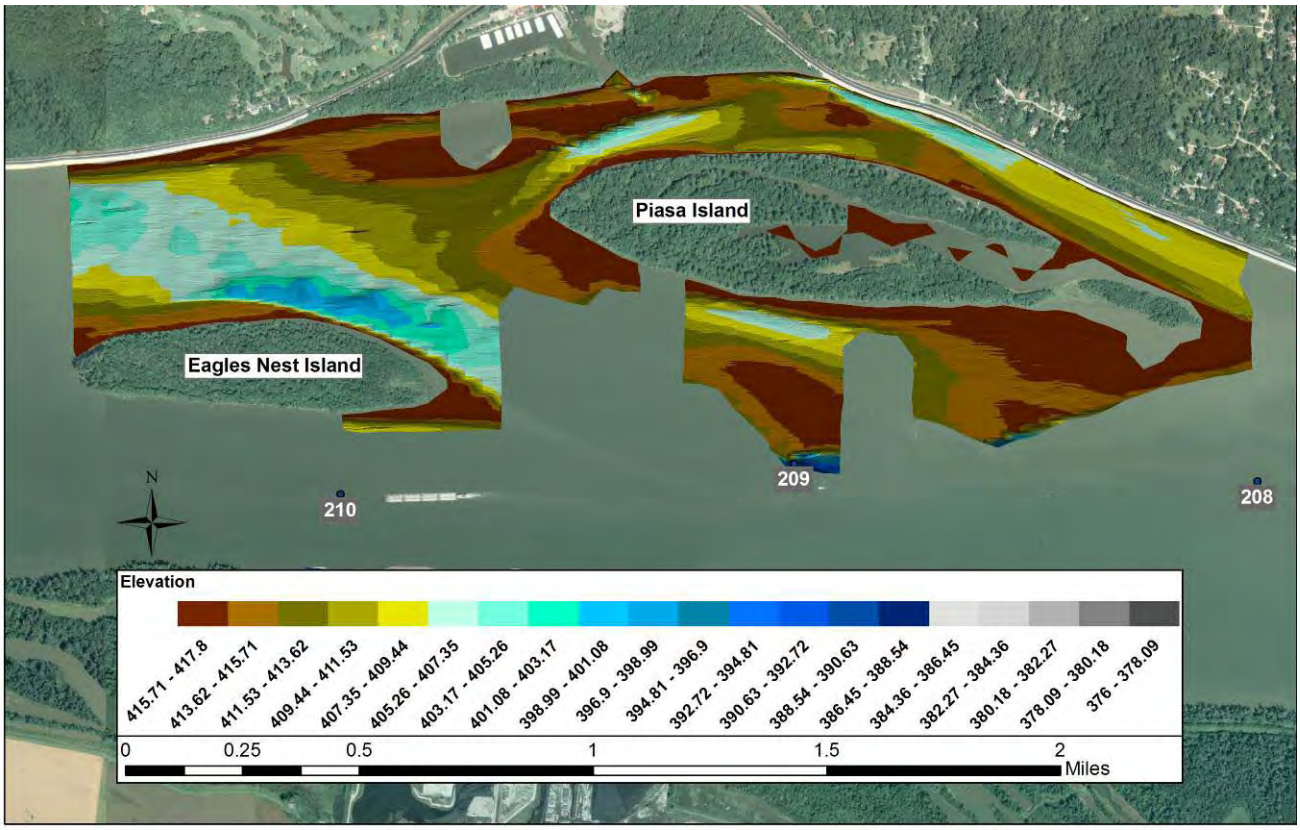


Figure 2. A bathymetric survey of the Eagles Nest and Piasa Island side channel was taken in 2006. Mean Pool 26 elevation for this location is: mean 419 - 420 and minimum 415 - 416.

Land cover on Eagles Nest Island is a mixture of cottonwood forest and mixed floodplain forest. Piasa Island is almost exclusively floodplain forest with small pockets of shallow annual marsh and wet meadow wetland. Cottonwoods and maples are the dominant tree species with occasional sycamores. On the side channel side of Piasa, there are four cabin leases which have maintained lawn around them.

III. PROBLEM IDENTIFICATION

The 1890 Mississippi River Commission Map of the Eagles Nest and Piasa Island area has two isolated sand bars at the head of Piasa Island. There were also small vegetated islands on the riverside and at the tail end of Piasa Island. In imagery from 1941 after Lock and Dam 26 was complete, only the two islands remained.

Area land managers indicate that the head of Eagles Nest Island is eroding. Additionally, the side

channel from the head of Piasa Island to the Mississippi River is losing depth resulting in declining habitat for native fishes. The backwater area in the interior of Piasa Island is very shallow with only 3 - 5 feet of depth at mean pool; at minimum pool, it does not hold water.

The existing habitat conditions, future habitat needs and proposed general actions recommended 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). This report calls for creation and restoration of 10,000 acres of secondary channel habitat, 3,000 acres of island habitat and 12,000 acres of contiguous backwater in Pools 14 - 26. An opportunity exists to restore depth, reduce erosion, enhance aquatic habitat diversity, and recreate some of the historic islands and sand bars.

IV. PROJECT GOALS

Enhance and conserve terrestrial and aquatic habitats to benefit fisheries, migratory birds, and other organisms

- Enhance secondary channel depth and create flow diversity
- Reduce island erosion
- Create island/sand bar habitat
- Enhance backwater depth diversity

These goals are consistent with identified needs in the Habitat Needs Assessment (HNA) for side channel, island and backwater habitat. The project is also consistent with the goals developed for the region under the NESP program.

V. PROPOSED PROJECT

The following are potential measures that could up one implementable alternative that may be in the federal interest, addresses the area's problems, and achieves projects goals (Fig. 3). If approved, a feasibility study resulting in a definite project report would be prepared. As part of this study, a full range of measures and alternatives would be developed and analyzed. To determine these, the project delivery team would utilize existing literature, historic information, area studies, models (hydraulic sediment response model), partner input and best scientific judgment.

Dredging – Dredge channels in the interior backwater of Piasa Island to a depth of 10'. Dredging these areas would create depth diversity and deep slack water habitat that would serve as a fish refuge

Island/Sand bar creation – The dredge material would be placed behind constructed chevrons on the riverside of Piasa Island and between Eagles Nest and Piasa Islands. Deposition areas naturally form behind chevron structures. Dredge disposal in this area would increase the likelihood of island/sand bar formation.

Dike Notching - A 300' notch is proposed for each dike on the riverside and in the side channel. In the side channel, these notches would improve flow and help maintain the side channel. On the riverside, the notches would create a new side channel and maintain the created islands.

Structures – Three chevrons and two trail dikes are proposed. Two rock dikes are proposed to be built on either side of the tail end of Eagles Nest Island. These structures would redirect flow along the islands rather than between the islands. This would improve the depth in the existing side channel below the head of Piasa Island. One chevron would be located at the end of the trail dike between Eagles Nest and Piasa Islands. This chevron would aide in redirecting flow, create flow diversity and potentially form island/sand bar habitat downstream. Two additional chevrons are

proposed in the dike field on the riverside of Piasa Island. These chevrons would create flow diversity and protect the dredge disposal islands.

Erosion protection structures – Off-bank rock structures are proposed at the head of Eagles Nest and Piasa Islands to prevent erosion and create habitat. Flood flows would overtop the off-bank rock creating a deep hole followed by a deposition zone at the head of the island. This would provide additional deep and shallow slack water habitat at the island heads.

VI. IMPLEMENTATION CONSIDERATIONS

The placement, number, and type of structures, islands, and sand bars is contingent on the results of a hydraulic sediment response model indicating that the structures address project problems and achieve project goals. Construction may be phased to determine feature effects and if additional features are necessary to achieve project goals. It is assumed that dredged material can be used for island/sand bar construction. Soil borings may be necessary to determine the characteristics of the dredge material. Creation of deeper water within the side channel is contingent upon scour created by the structures and Pool 26 flows. The project will be planned to ensure that post-construction maintenance dredging is not necessary. A Value Engineering Analysis will be conducted early in the feasibility study phase. This analysis will suggest a variety of measures and methods to meet project objectives while minimizing total project cost.

Historically, there have been eagles' nests on the two islands. Eagles also utilize the side channel and its woody debris for fishing and resting. The Fish and Wildlife Service Bald and Golden Eagle Protection Act guidelines require that activities in view of an active nest maintain a 660' distance from the nest. Five mussel beds have been identified within the project area. These beds may or may not still be present. A thorough mussel survey of the project area will be needed to inform the placement of structures and dredge material. There is a heron rookery on the head of Eagles Nest Island. Surveys of the area for natural resources will be conducted and coordinated with local, state, and federal agencies. Project planning and construction will ensure impacts to these and other natural resources are avoided and minimized.

VII. FINANCIAL DATA

The total estimated base year cost for this project is $4,650,254.00. All of the project features are on Corps-owned lands managed by the Illinois Department of Natural Resources. 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, IDNR. The estimated annual operations and maintenance cost is $9,000.00. There are numerous publicly owned lands near the project area, if project features are proposed on these lands the project may gain additional project sponsors.

VIII. STATUS OF THE PROJECT

The project has been endorsed by the River Resource Action Team. 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.

IX. POINTS OF CONTACT

Brian Markert, Program Manager, U.S. Army Corps of Engineers, St. Louis District,
(314) 331-8455, brian.j.markert@usace.army.mil
Richard J. Mollahan, Acting Manager Corps of Engineers Projects Section, IDNR, 217-785-8264,
rick.mollahan@illinois.gov
Kim Postlewait, Site Manager, IDNR, 618-376-3303, kim.postlewait@illinois .gov

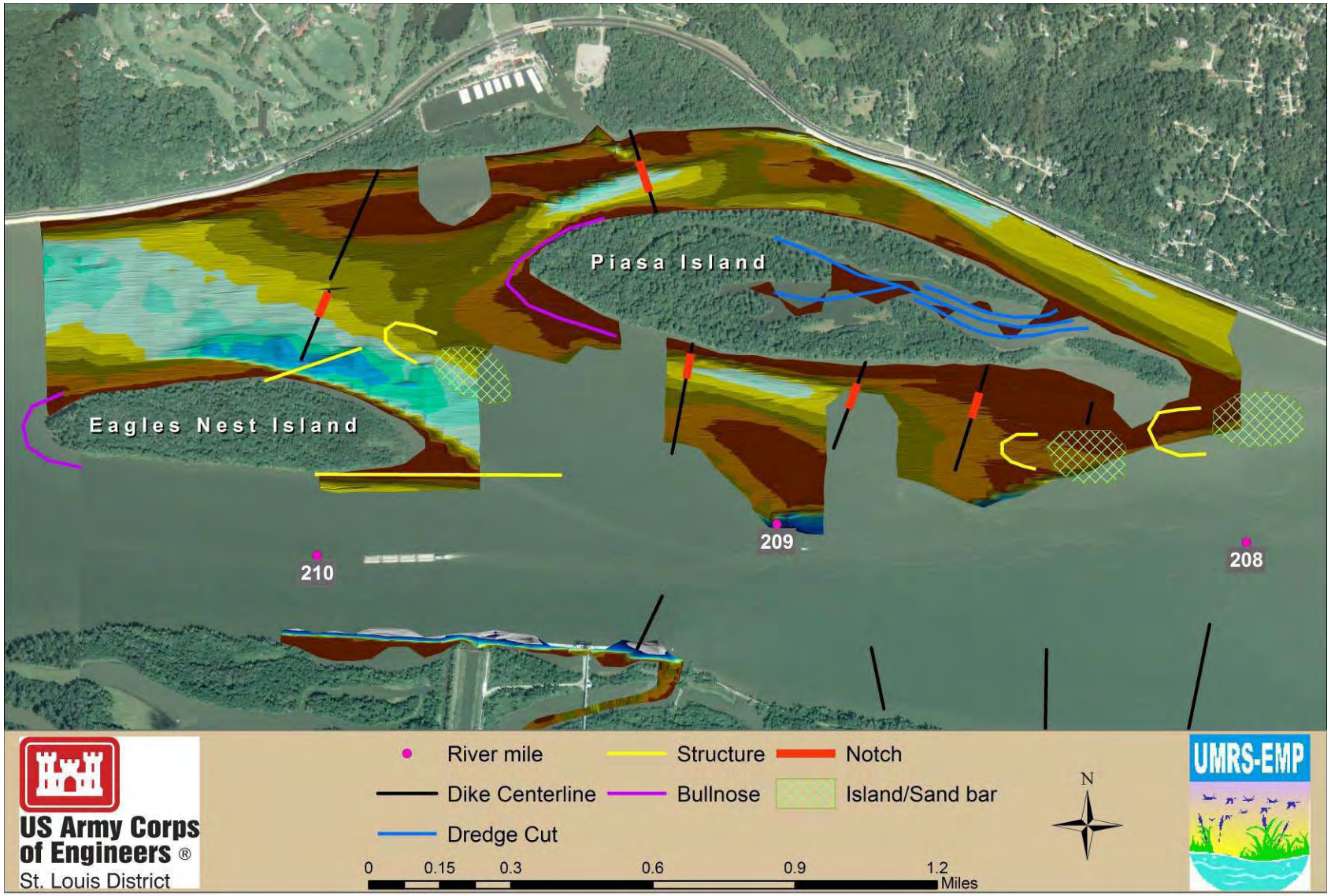
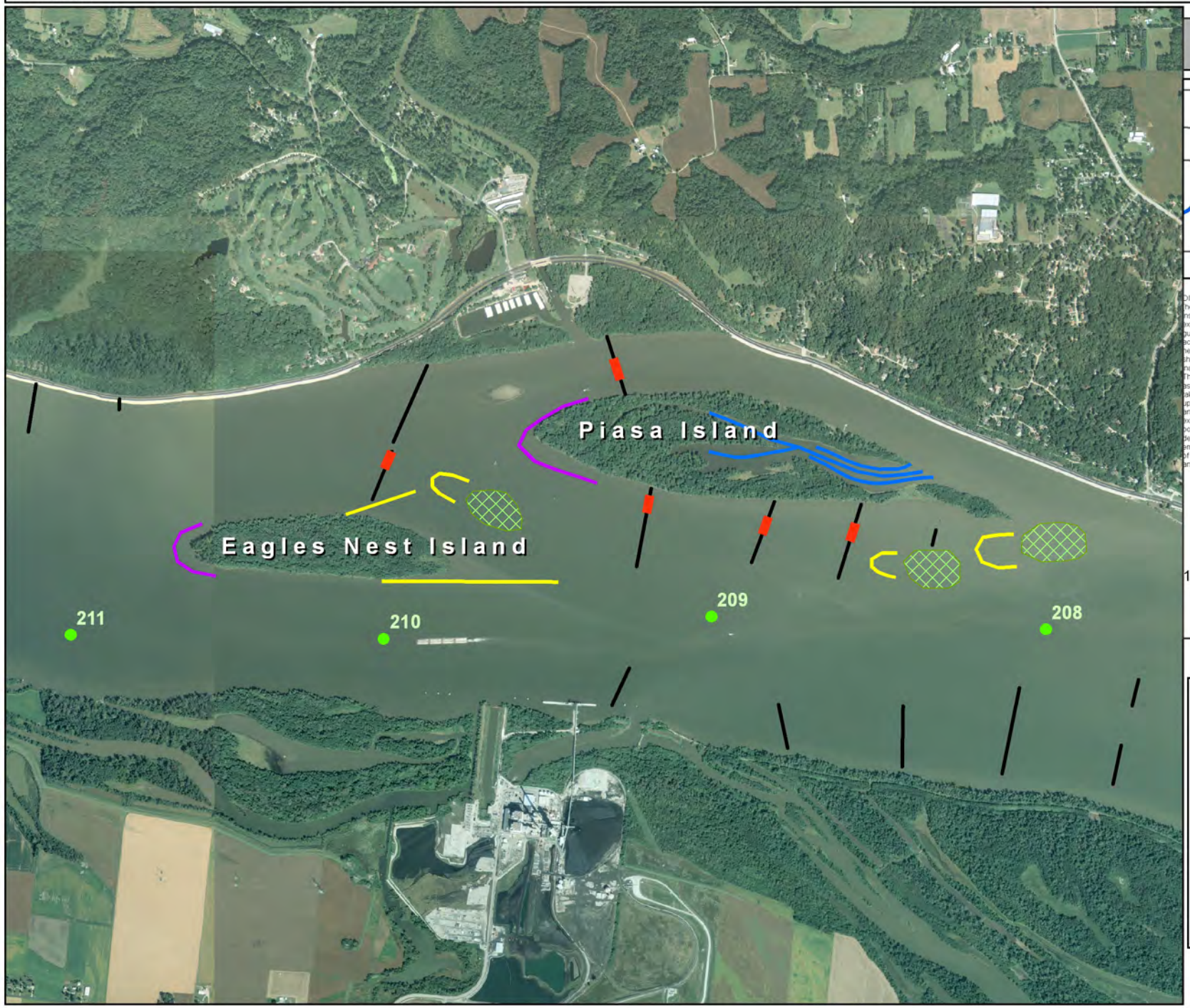


Figure 3. Proposed features to address the problems and goals for the Eagles Nest and Piasa Islands Habitat Rehabilitation and Enhancement Project.

US Army Corps of Engineers ®
St. Louis District

EAGLES NEST AND PIASA ISLANDS
HABITAT REHABILITATION AND ENHANCEMENT PROJECT

UMRS-EMP



Location Map

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W E
S

1,250 625 0 1,250 2,500
Feet

- River Miles
- Dredge Cut
- Structure
- Bullnose
- Notch
- Dike Centerline
- Island/Sand bar