MISSOURI DEPARTMENT OF CONSERVATION

MEMORANDUM

Date: December 23, 1996

FROM: Gordon Farabee Gordon

TO: See Below

SUBJECT: Dredge Disposal Guidelines - Middle Mississippi River

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The process initiated by Norm Stucky, and acted upon by Jane Epperson, to write a document addressing channel dredging concerns for the middle Mississippi River has received final editing and is now finished.

I see this document serving as a means for conveying what we as river biologists would like for Corps' engineers to do to maintain and/or benefit the river's aquatic resources as they conduct their annual channel dredging. I agree with Steve Dierker that this is a "living document" and will be revised as we learn more about what dredging operations to pursue and what to discontinue.

Have a good holiday season.

GBF:fef
Attachment
c: Joyce Collins, Bob Clevenstine (FWS)
Butch Atwood (Illinois DNR)
bc: Steve Dierker, T. Miller (St. Louis Corps District)
Stucky, Epperson, Brummett, Hrabik, Frazier, Dalrymple (Missouri DOC)

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

REPLY TO
ATTENTION OF:

December 9, 1996

Construction-Operations
Readiness Division
District Dredging Project
Manager

Missouri Department of Conservation
ATTN: Mr. Gordon Farabee
P. O. Box 1800
Jefferson City, MO 65102-0180

Dear Mr. Farabee:

Attached is the Dredge Disposal Guidelines document. I have incorporated the comments received from you in your November 26, 1996 letter. I view this as a living document which we should review and modify as needed. I believe this is a big step in the right direction. Please convey my thanks to all the parties who have assisted in this effort.

Sincerely,

Steven B. Dierker
District Dredging Project
Manager

GENERAL DREDGE DISPOSAL GUIDELINES MIDDLE MISSISSIPPI RIVER

These general guidelines are provided for decision-making when emergency dredging problems preclude the possibility of an interagency predisposal conference. Our preference is that the District begin long-term dredged material management planning, prioritizing the plans in order of dredging frequency and placement site sensitivity. Various methods of developing the base plan, formerly referred to as "The Federal Standards," should be discussed among those agencies having jurisdictional and/or expertise in disposal site planning and permitting. These guidelines are for technical assistance only, and do not constitute state or federal comments on any project under the authority of the Fish and Wildlife Coordination Act of 1956, as amended. All dredging will be accomplished in compliance with Department of the Army ER 1130-2-520.

DO NOT:

1. Within the physical capability of the plant, do not place dredge material in areas which would increase deposition of material inside channel openings and the mouth of tributaries. Where feasible, opposite bank disposal is preferred near sensitive areas.

2. Do not dispose of dredge material on rock structures (wing dikes, revetted banks, dike fields) as it will accumulate in interstitial spaces smothering important aquatic habitat, unless otherwise requested by the agencies.

3. Do not dispose of dredge material within scour holes associated with rock structures. Dispose so as to avoid deposition within the scour holes.

4. Do not dispose of dredge material over rock cobble or acquatic vegetation (fish spawning habitat or mussel beds may be present).

5. Do not dispose of dredge material in any riparian timber.

6. Do not dispose of dredge material in any low or wetland areas on islands or mainland.

Do:

1. Create aquatic habitat by using dredge disposal material to construct low elevation sand islands. This beneficial use of dredge material will create side channel habitat for fish and wildlife species including the sturgeon and sicklefin chub. Specific river mile locations for the proposed sand islands will be recommended by state and/or federal personnel assigned dredge program coordination responsibility.

2. Provide stockpiles of sand near river communities for their beneficial use (road construction, snow/ice conditions, beach enrichment, private use, etc.). The St. Louis District legal counsel will determine the District's position; Government cannot compete with private enterprise.

3. Create isolated wetlands in adjacent off-channel areas, subject to resource agency approval. This concept would create a wetland area that is hydrologically connected to the river only during high flow events. Such a structure would be installed in less than 2 feet deep water with the interior remaining at its original depth. It is thought that scouring during high flow events would keep the interior from filling in. The structure would have to be protected on the upstream side, perhaps with a chevron. See Figure 1.

A second design concept for isolated wetland creation is to tie both ends of a sand levee to an island, similar to a ring levee, again in an off-channel area. See Figure 2.

Figure 1: Isolated Wetland Configuration

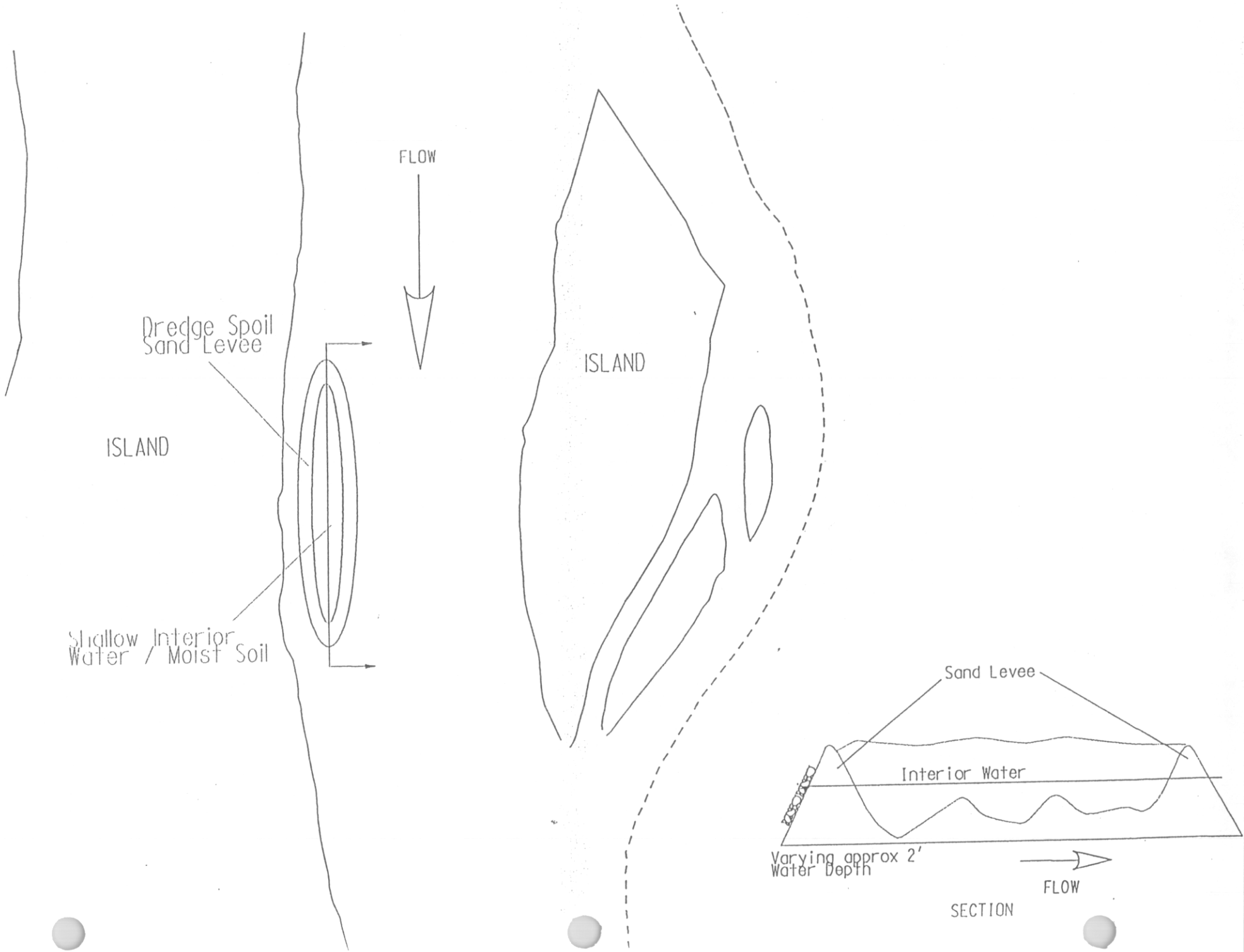
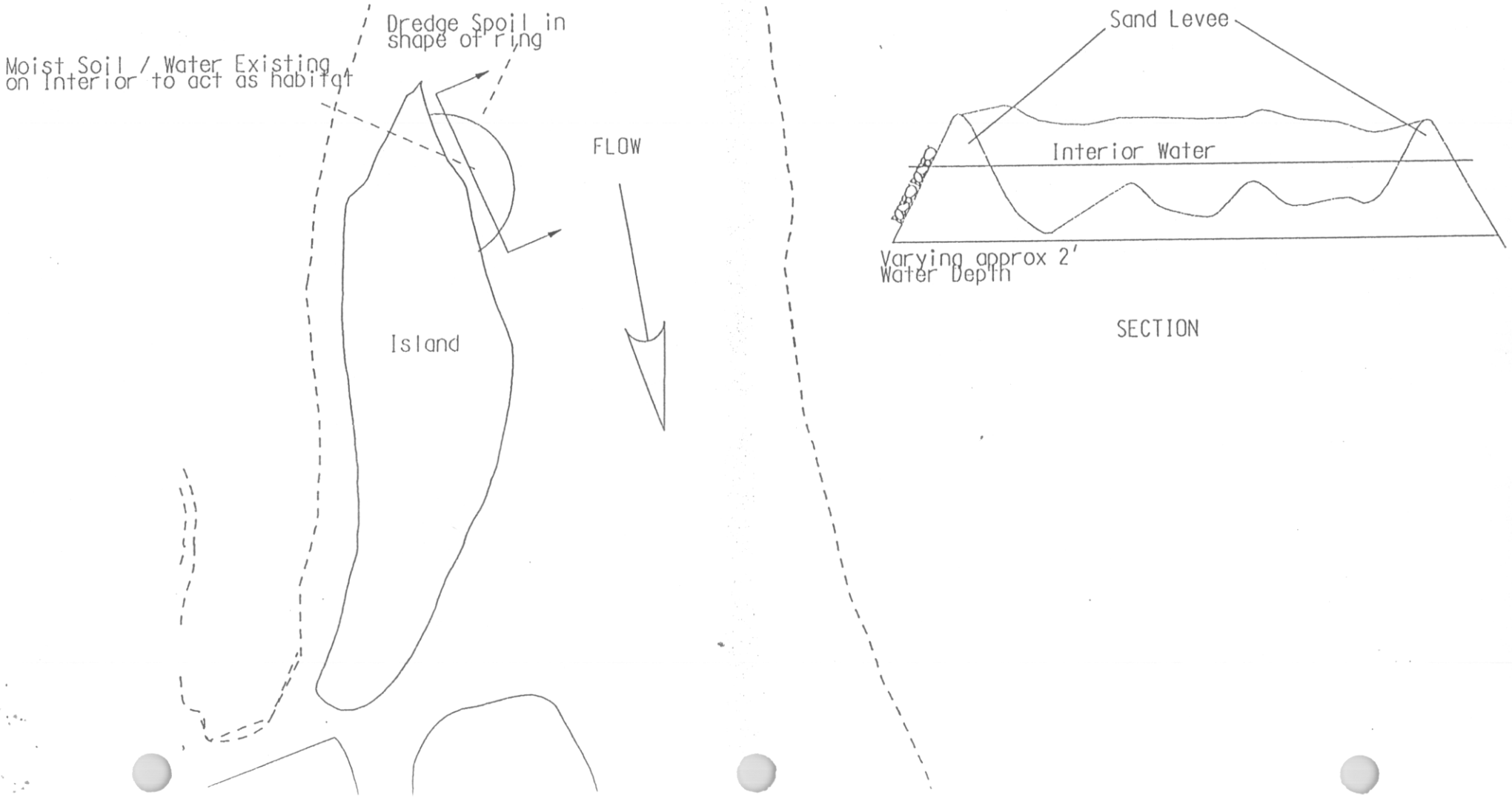


Figure 2: Isolated Wetland Configuration ("Ring Levee")



SITE SPECIFIC DREDGE DISPOSAL GUIDELINES

1. River Mile 290 -- Cottonwood Island/N. Fritz

Notes: The riverward side channel behind the three existing chevrons is shallow. Most of the off-channel water is moving through the landward side channel. Mussel beds are known to be present in or near the main channel (currently thought to be between river miles 288.0 and 287.OR and 286.7 and 286.3R) and thalweg disposal may pose a threat to them.

Recommendations:

a. In the short term (5 years) continue to place dredge disposal material downstream of the existing chevrons (until reaches capacity) and proceed with the construction of the additional two chevrons, as planned. Avoid placing disposal material in the hole created immediately behind the chevron.

b. Investigate the use of thalweg disposal, within limitations of the mussel beds.

c. Pursue beneficial use of dredge sand in off-channel areas (Sny Island Levee and Drainage District, Ted Shanks Conservation Area. . .)(placement of sand behind levees to strength, not raise them.) (St. Louis District Office of Counsel will determine district position).

2. River Mile 269 -- Carroll/Amaranth Island

Recommendations:

a. Pursue beneficial use of dredge sand on adjacent agricultural land on the Missouri side of the river (possible stockpile for Clarksville). (St. Louis District Office of Counsel will determine district position).

b. Continue off-bank dredge disposal riverward of Amaranth, following the 1993 recommendations, except limit deposition adjacent to and below the Amaranth Island (river mile 268.7R).

c. Utilize the historic disposal site along Carroll Island.

3. River Mile 266 -- Coon/Little Coon Islands

Recommendations:

a. Utilize the historic dredge disposal sites along Coon and Little Coon Islands.

b. Construct chevrons (planned for FY97) near RM 266.3R, off Slim Island. Evaluate their use as disposal areas after construction.

c. Discuss/evaluate possible wetland creation along Coon Island (OSIT requested consideration of this as early as 1986).

4. River Miles 264 -- McCoy Island

Recommendations:

a. Utilize the historic dredge disposal site on the right of the channel on lower McCoy Island..

b. Do not place dredge material behind Deadman's Island.

c. Pursue disposal on adjacent non-wetland, agricultural land on the Illinois side. (St. Louis District Office of Counsel will determine district position).

5. River Mile 257 -- Kelly Island

Recommendations:

a. As Kelly Island has reached disposal capacity, no more disposal should occur there.

b. Dispose dredge material 400 feet off the Upper Westport Island (river mile 257). Reference the 1995 recommendation involving submerged island creation.

c. Provide the interagency team with a pre and post-disposal contour map of Westport Island placement site reach. The purpose of the map set is to evaluate the habitat value and resident time of the disposed material.

6. River Mile 250 -- Sterling Landing/Light

Recommendations:

a. Pursue beneficial use of dredge sand by creating a wetland complex from river miles 253-261 (see Attachment 1).

b. Dispose of dredge material on adjacent agricultural land on the Missouri side. (St. Louis District Office of Counsel will determine district position).

c. Evaluate use of Maple Island Chevrons as disposal sites after construction. (Addresses concern at RM 253-254 Schwanigan/Eagle Island)

7. River Miles 227 - 225.5 -- Bolters Island

Notes: Barge traffic is one-way around river mile 227. Avoid and Minimize funds will be used to evaluate thalweg disposal in this area.

Recommendations:

a. Micro model and evaluate alternative training structures

b. Evaluate the use of training structures to reduce flow to Bolters Chute at river mile 227.3

c. Investigate the construction of chevrons at river mile 227 (see Attachment 2).

d. Use dredge material to create a sand island and associated chevrons at river miles 225, as indicated on Attachment 3.

e. Pursue beneficial use of dredge material by disposing on adjacent agricultural land on the Missouri side. (St. Louis District Office of Counsel will determine district position).

f. Discontinue disposal of dredge material at or above the Royal Landing (RM 223L), as it is the likely cause of deposition of bed material on the ramp, making boat launching difficult or impossible.