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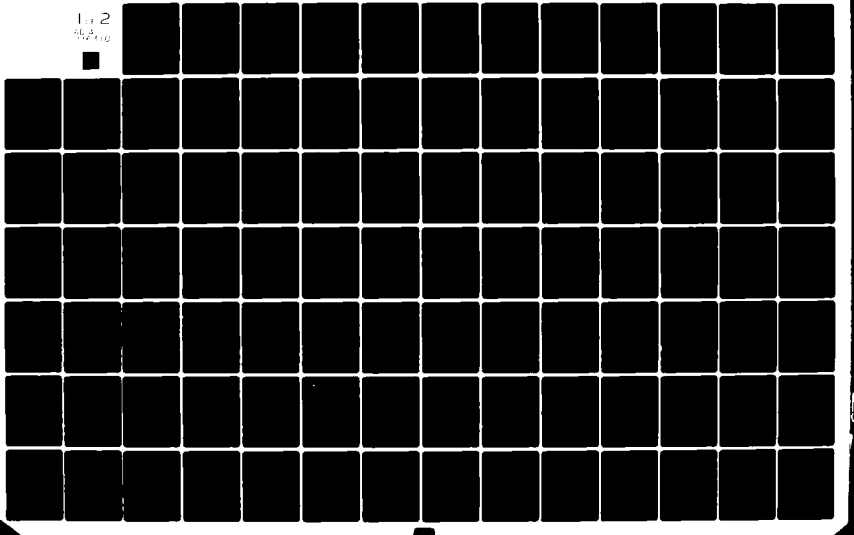

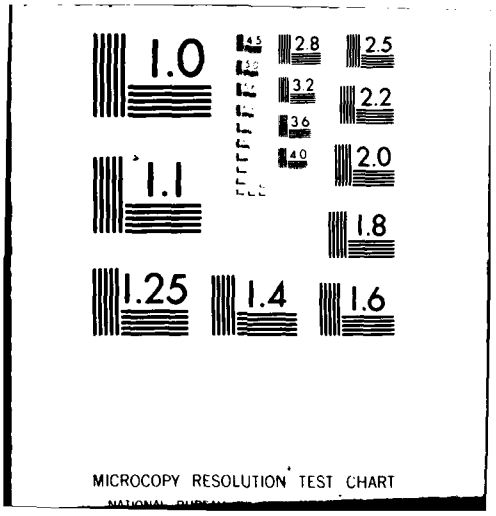
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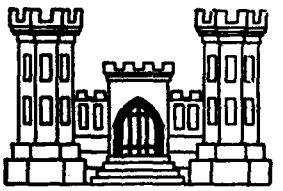
FINAL

ENVIRONMENTAL STATEMENT

MCGEE CREEK DRAINAGE AND LEVEE DISTRICT

ILLINOIS



U.S. ARMY ENGINEER DISTRICT
ST. LOUIS, MISSOURI
APRIL 1973

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) McGee Creek Drainage and Levee District, Illinois, Final Environmental Impact Statement		5. TYPE OF REPORT & PERIOD COVERED Final 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Army Engineer District, St. Louis 210 Tucker Blvd. North St. Louis, MO 63101		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
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16. DISTRIBUTION STATEMENT (of this Report)

Distribution unlimited.

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The plan consists of the landside enlargement of approximately 59,100 linear feet of existing levee and construction of 16,500 linear feet of new levee, along with the construction of three channel cutoffs, totaling 6,600 linear feet. Approximately 1,700 feet of the left bank of McGee Creek will be riprapped. The plan also provides for the replacement of an existing pumping station and construction of a new inlet ditch.

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

McGEE CREEK DRAINAGE AND LEVEE DISTRICT, ILLINOIS

Responsible Office: U. S. Army Engineer District, St. Louis, Missouri

( ) Draft (X) Final Environmental Statement

1. Name of Action: (X) Administrative ( ) Legislative

2. Description of Action: The plan consists of the landside enlargement of approximately 59,100 linear feet of existing levee and construction of 16,500 linear feet of new levee, along with the construction of three channel cutoffs, totaling 6,600 linear feet. Approximately 1,700 feet of the left bank of McKee Creek will be riprapped. The plan also provides for the replacement of an existing pumping station and construction of a new inlet ditch.

3. Environmental Impacts: The proposed improvements will reduce the average area of agricultural land flooded annually from 1,460 to 24 acres. They will provide increased flood protection to about 12,000 acres. Approximately 150 acres of forest land will be converted to cropland or lost due to project construction requirements. About 14,400 feet of natural stream will be lost and replaced by 6,600 feet of biologically less productive channel. Stream velocity will be very slightly increased. Approximately 1,700 feet of the left bank of McKee Creek will be riprapped. Mussel beds in the Illinois River, adjacent to the project area, will be either temporarily lost or affected by hydraulic dredging and construction activities. Three important archeological sites lie in areas where they will be disturbed or destroyed by construction activities unless they are salvaged prior to initiation of construction.

4. Adverse Environmental Impacts: The conversion of 150 acres of forest land to cropland or project rights-of-way will have a depressing effect on wildlife habitat, and will reduce the acreage of potentially productive forest land. Rights-of-way requirements will remove 375 acres of land from crop production. The alteration of 14,400 feet of natural stream and the creation of 6,600 feet of channel will have a depressing effect on aquatic habitat. Riprapping along the stream bank may have an adverse aesthetic impact. The loss of mussel beds will have an effect upon the aquatic environment. Disturbance of important archeological sites would reduce the opportunity to add knowledge to the anthropological history of the region.

5. Alternatives: Four alternatives to the project plan were considered. They consist of: (a) relocating the existing stream channel, (b) construction of a high flow bypass channel, (c) landside enlargement of the existing levee, or (d) no development.

6. Environmental Statements were sent to the following for review and comment: An asterisk preceding the name indicates that a response was received.

*U. S. Department of Agriculture
Forest Service

*U. S. Department of Agriculture,
Soil Conservation Service

*U. S. Department of Commerce, NOAA

*U. S. Environmental Protection
Agency

*U. S. Department of Housing and Urban Development

*U. S. Office of Economic Opportunity

*Illinois Natural Resources Development Board

Illinois Division, Izaak Walton League of America, Inc.

Illinois Chapter, American Fisheries Society

*Illinois Wildlife Federation

Environmental Response, Washington University

*Dr. Stuart Struever
Department of Anthropology
Northwestern University

*U. S. Department of Interior, Office of Environmental Project Review

*U. S. Department of Transportation, Federal Highway Administration

Committee on Allerton Park

Illinois Chapter, the Wildlife Society

*Illinois Archeological Survey

Illinois Audubon Society

Coalition for the Environment St. Louis Region

7. Draft Statement to CEQ _____.
Final Statement to CEQ _____.

ENVIRONMENTAL STATEMENT

McGEE CREEK DRAINAGE AND LEVEE DISTRICT

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McGEE CREEK DRAINAGE AND LEVEE DISTRICT, ILLINOIS

ENVIRONMENTAL STATEMENT

1. Project Description. The McGee Creek Drainage and Levee District is located in Brown and Pike Counties, Illinois, on the right bank of the Illinois River, between river miles 67.2 and 75.1 above the mouth of the Illinois River. It is bordered on the north by Kamp Creek: on the west by bluffs; on the south by McKee Creek; and on the east by the Illinois River (see EXHIBIT I). The plan of improvement for the McGee Creek Drainage and Levee District was authorized by the Flood Control Act of 23 October 1962, and is described in H.D. 472, 87th Congress, 2d Session.

The approved plan has been tentatively modified in order to reduce the adverse environmental impacts. This tentatively modified plan will be referred to as the Project Plan. Floods along the Illinois River, occurring at less than a 30-year frequency, have been contained by existing levees; however, there remains the problem of floods of a greater than 30-year frequency and a problem of removing impounded water. The sources of impounded water are precipitation on the protected lowlands, accumulation of runoff from 3,445 acres of adjoining hill land, and seepage from the Illinois River. Impounded water collects near the middle and lower ends of the district during periods when the gravity drain is closed, due to high Illinois River stages. Removal of impounded interior drainage is hindered by an inadequate pumping facility.

The project plan consists of landside enlargement of approximately 8,500 linear feet of existing earth levee along Kamp Creek, using non-hydraulic fill; landside enlargement of approximately 40,000 linear feet of existing levee along the Illinois River, using hydraulic fill: landside enlargement of

approximately 10,600 linear feet of existing levee along the lower flank of McKee Creek, using non-hydraulic fill; and construction of approximately 16,500 linear feet of new levee along the upper portion of the lower flank of McKee Creek, using non-hydraulic fill. (See EXHIBITS II-A and II-B). Both the new and enlarged levees will have an average height of about 18 feet and a base width of about 120 feet. The lower 6.6 miles of McKee Creek will be affected by construction of three channel cutoffs, as shown on EXHIBITS II-A and III. These three cutoffs are 2,000 feet; 3,100 feet; and 1,500 feet in length and will remove approximately 14,400 feet of the present channel and replace it with 6,600 feet of new channel, thus shortening this stretch of the creek to 5.2 miles. The new channel will have an 85-foot bottom width, 1 on 3 side slopes, and an average bank to bank width of about 160 feet. It will be earth-lined.

Borrow material for the levee enlargement will be obtained from dredge material taken from the Illinois River and from borrow areas shown on EXHIBITS II-A and II-B. There will be 42 acres of streamside borrow areas. About 24 acres of borrow will be taken from wooded areas, while the remainder will be taken from open land. These borrow areas will have an average depth of six feet and will be drained. Vegetative cover will be re-established on the side slopes by such measures as liming, fertilizing, seeding, and mulching. Provisions for this work will be included in the construction specifications. Vegetative materials most useful to wildlife will be used for this purpose. Since these borrow areas are located adjacent to the levee, the primary purpose for encouraging the establishment of woody vegetation is to reduce the velocity of bank overflow waters which might enter these areas and create conditions conducive to erosion. The presence of woody vegetation thus helps to prevent erosion

of the levee. Approximately 3,310,000 cubic yards of hydraulic fill will be dredged from the Illinois River. Borrow material for the new levee construction will be obtained from three sources: channel cutoffs; degradation of the existing levee, where it would no longer be needed; and from borrow areas located between the cutoffs.

Approximately 1,700 feet of the left bank of McKee Creek will be riprapped to provide necessary bank stabilization along critical reaches, where the river might otherwise continue to recede and threaten the integrity of the new levee (EXHIBIT III).

The proposed plan also provides for the replacement of the existing pumping station with a new station of 320-cfs capacity (three pumps) in the vicinity of the existing pumping station. The location of this new station is shown on EXHIBIT II-A. These pumps will dispose of accumulated runoff water from 15,500 acres of tributary area. A new inlet ditch, approximately 300 feet long, with a 30-foot bottom width and 1 on 3 side slopes, will be constructed to connect the 320-cfs capacity pumping station with the existing drainage system. Interior drainage will be discharged through pipes extending over the levee and into a basin located on the right bank of the Illinois River. Each discharge line would be provided with a siphon breaker to prevent reverse flow when the pumps are not in operation.

Preconstruction planning for this project is essentially complete, and the project is in an active status. Construction is scheduled to begin in fiscal year 1974. The benefit-cost ratio for this Project Plan is 1.1. The estimated total annual cost of the proposed project is approximately $354,400, while the estimated annual benefits are about $387,800. A comparison of these costs and benefits with the costs and benefits of

alternative proposals is presented in Supplement No. 2 to the General Design Memorandum. This Design Memorandum, approved 23 December 1966 and revised in February 1973 to include the revised plan for the lower flank levee, contains the detailed economic analysis of the project. In preparing the estimated costs and benefits for the revised plan, the original design memorandum was reviewed with regard to its basic relevance to the supplementary analysis. The original design costs were updated to current price levels and economic factors of cropping patterns, crop yields, direct production investment, lost income, crop damages, and non-crop damages were reanalyzed to reflect the existing agricultural situation.

2. Environmental Setting Without the Project. In order to adequately assess the existing environmental setting, it is necessary to consider both the regional and project areas. The regional area refers generally to lands within a 10-mile radius of the project. The project area is considered to include those lands within the boundaries of the levee district.

The McGee Creek Drainage and Levee District is part of the Illinois Valley River Basin, which is a broad north-south oriented trench cut deeply into Mississippian limestone. The lower valley ranges from 3 to 3.5 miles in width and is bordered on the east and west by vertical bluffs. The valley is drained by the Illinois River and its tributaries. The Illinois River is a relatively slow moving waterway with a gradual gradient. The valley lies in a broad alluvial bottomland which formerly was interspersed with sloughs and shallow lakes and supported a dense forest cover of cottonwood, willow, and other water-tolerant species of trees and shrubs. Since the soils are highly productive for agricultural use, most of the valley has been drained and used for this urpose. Over 50 percent

of the valley is classified as cropland, about 20 percent as woodland, and the remainder as either pasture or miscellaneous use. There are relatively few urban areas within the valley region.

The climate of this area is comparable to that of the Illinois River Basin in general. Temperatures vary from about 30 degrees in January to about 78 degrees in July, with a mean annual average of about 55 degrees. There is a wide range in rainfall over the years. The normal annual average rainfall is about 35 inches. Sixty percent of this rainfall occurs during the period from April through September. Average annual snowfall is about 18 inches. The area is subject to frequent storms of the frontal type and thunderstorm type.

The project area is located in the Galesburg Plain Section of the Central Lowland Physiographic Province. It lies on the northwest flank of the Sangamon Arch, which exhibits little or no surface expression. The controlling geologic structure is the Pittsfield-Hadley Anticline, located to the southwest. Geological investigations indicate the valley bedrock to be either Keokuk or Burlington Formation of the Mississippian System. The area has been extensively glaciated, and evidence indicates that McKee Creek is an aggraded bedrock valley, being part of a buried preglacial valley which extends northward across Pike County. Depositional features around the perimeter of the valley indicate both pre-Wisconsin and Wisconsin glacial deposits. Materials found in the valley and flood plain consist of water-transported alluvial deposits.

Soils found in the valley and outwash plains are alluvial and consist of both light and dark silty clay loams. These soils have all been deposited by water and are among the most variable of any soil associations

in the state. They vary in texture from sands and silts to highly plastic clays and organic clays. Profile characteristics are erratic but depositional in character. The soils near and adjacent to the bluffs are derived from mixtures of alluvium and loess.

Groundwater levels are generally at or near the top of the pervious sands and gravels and, when stabilized, closely coincide with the surface level of the river.

Most of the original forest cover has been removed from the project area and the adjacent region, and the remaining forest cover is generally associated with watercourses. The quality and composition of these stands vary from very poor to quite good, depending upon past treatment. Much of the forested area has been cut-over and a significant acreage is being grazed. The stands contain mixtures of bottomland hardwoods, including cottonwood, silver maple, elm, ash, box-elder, hackberry, and sycamore. Since most of the area is grazed, there is little understory vegetation. The most significant understory species is hawthorn. Wildlife habitat on the project area and surrounding vicinity varies from poor to moderate. Most of this habitat is associated with the cover adjacent to the watercourses and scattered woodland areas. Wildlife populations are limited primarily by a lack of mast-producing trees and generally poor ground cover conditions. The importance of the available cover stems primarily from the fact that it provides corridors by which wildlife species reach cropland food supplies. Common wildlife species in the area include whitetail deer, raccoon, cottontail rabbits, tree squirrels, foxes, muskrats, beaver, and bobwhite quail. A wide variety of ducks, geese, and songbirds visit the area on a seasonal basis. There are no rare or endangered species which are known to inhabit the area. Barlow Lake, a shallow intermittent slough, is the only area within the project boundaries which is of

significance to wildlife. This area encompasses about 65 acres of woodland and water surface.

The Illinois River adjacent to the project area supports a substantial sport and commercial fishery. Commercial species in the Illinois River include carp, buffalo, and channel catfish. Most of the sport fishing takes place in the river and in the mouths of its tributaries. The sport species in the Illinois River include channel catfish, carp, crappie, bluegill, flathead catfish, largemouth bass, and white bass.

McKee Creek, which bounds the levee district on the south, is a slow meandering stream typical of those found on the flood plain of the Illinois River. The stream has a mainstem length of 53 miles and drains a 439 square mile watershed. This statement is concerned only with the lower ten miles of creek which parallel the project area. This portion has a muck bottom overlying sand and gravel. This feature, along with fairly steep banks which show signs of erosion, tends to create a rather turbid watercourse. The density of tree cover along the shore ranges from none to quite dense. Much of the wooded shoreline is grazed by livestock and appears rather degraded. The combination of degraded vegetative cover, eroding banks, and turbid water, detract from potential esthetic values.

The Illinois Department of Conservation conducted a stream survey of portions of McKee Creek during June 1972. This survey, which sampled two stretches of the creek within the project area and one portion immediately north of the project area, indicates that the creek supports a very good fishery. Fish production in this reach of McKee Creek ranged from about 167 lb./acre to about 350 lb./acre. The bulk of the fish found in the samples were either game or commercial species. The species found were bluegill, green sunfish, orangespotted sunfish, shorthead redhorse, golden

redhorse, white crappie, yellow bullhead, black bullhead, carpsucker, quillback carpsucker, channel catfish, flathead catfish, sauger, smallmouth bass, freshwater drum, stonecat, shortnose gar, gizzard shad, and carp.

Angler use of McKee Creek has been rated as moderate in various survey reports. However, observations of such use made during the field reconnaissance of the project for purpose of gathering material for this statement and discussions with local residents, indicated only light use of the stretch of creek adjacent to the project area. This light use is probably due to the limited public access to the creek in this area. Such access is available only at the bridge crossing near Versailles, or at the mouth of the creek near the Illinois River.

There are three mussel beds of importance located in the Illinois River adjacent to the project area. One is located between river mile 74.6 and 67.6 on the right bank. A second mussel bed is located along the entire riverside of Meredosia Island. The third bed is located between river mile 72.6 and 74.3 on the right bank. Early in this century, the Illinois River was considered to be one of the most productive mussel streams in this country. Although the lower 97 miles of the Illinois River still produce mussel beds of commercial size, there is currently no market to support a commercial mussel fishery. The current reduction in mussel marketability resulted in part from the large invertories of mussels that accumulated because of the removal of 54,000 pounds of shell from the Illinois River in 1970. Mussels are known to be important in the diets of several species of fish, waterfowl, and small mammals. There is disagreement among aquatic invertebrate biologists concerning the importance of mussels as natural water filters for a river.

Currently, about 93 percent of the 12,080 acres in the levee district is in crop production (corn, soybeans, wheat, and hay). Less than one percent of the land within the district boundaries is covered with brush and forest, and the remaining six percent is occupied by ditches, roadways, and farmsteads (about 30 in number). The primary land uses of the land which lies between the existing and the proposed levee are about 60 percent agricultural and about 40 percent pastured woodland. Other uses of the project land include an asphalt products facility and a barge terminal. The total population within the levee district is less than 100 people, since the majority of landowners live either on the adjoining bluff lands or in the nearby villages of Meredosia, Chambersburg, and Versailles.

This portion of the Illinois River valley was occupied by at least three prehistoric and historic cultures: the Archaic, Hopewell, and Black Sand cultures; and the region is known to contain sites which are of varying degrees of archeological significance. A detailed site survey of the project area has recently been completed by archeologists from the Foundation for Illinois Archeology. Forty-five archeological sites were found. Three of these lie within construction limits of levee improvement. One of these sites, the Linners site, is an unusually important Hopewell culture village site, dating to about 100 BC to 200 AD. This site is in pristine condition and is one of only five such Hopewell sites known to occupy a floodplain location.

The present estimated flood hazard to the area within the levee district is based upon past records and upon model tests for the Illinois and Mississippi Rivers. These tests were conducted by the Waterways Experiment Station at Vicksburg, Mississippi. These tests indicate that a 15-year frequency flood would probably inundate the project area for about a two

to four week period, while additional time would be required for the agricultural lands to return to a condition where they could be worked, thus increasing the extent of the impact of the flood beyond that of the flood itself. The flood damage attributable to developments beyond the existing levee on Upper McKee Creek is negligible since there is no substantial development of this area. It is largely in agricultural use.

The U. S. Soil Conservation Service is presently initiating watershed improvement work on the portion of McKee Creek located above the project area. This work consists of construction of 12 floodwater retarding structures, four multiple-purpose reservoirs, about 500 small grade stabilization structures, and application of a variety of land improvement and protection measures. Details are outlined in the Watershed Work Plan for Upper McKee Creek and the Watershed Work Plan for Lower McKee Creek. These plans were approved in June 1971, and they are currently being implemented. The only significant effect that the SCS improvements would have on the Project Plan would result from a reduction in flood flows on McKee Creek. This reduction could result in a change in levee grade with a lowering of levee height of about two feet at the upper end of the lower flank levee, tapering to an insignificant reduction in height at the mouth.

The surrounding area is a rural farm and non-farm economy that is subject to declining real income and population. The neighboring townships of Chambersburg, Versailles, Cooperstown, Elkhorn, and Naples decreased 16 percent in population from 1960 to 1970. Rural farm income for Pike County and Brown County during 1960 was approximately 11 percent lower than the median rural farm income for the State of Illinois. An encouraging counter-trend is exhibited by the village of Meredosia, where the population increased 14

percent from 1960 to 1970. During the same period, the median age has increased from 30.5 years to 30.2 years, which is comparable to the median, a decrease for the rural populations of the entire state. In the absence of the levee improvement, it is anticipated that current land-use practices will probably continue, but will realize a lower potential.

3. The Environmental Impacts of the Proposed Action. The average area flooded annually within the alinement of the existing levee project will be reduced from 1,460 to 24 acres, thus permitting more efficient utilization of the developed agricultural lands in this region. The protection provided by the improvement should significantly affect the landowner's willingness to apply improved agricultural techniques and invest in equipment to upgrade their operations. Increased income in the general area should help to stabilize local socio-economic conditions and enhance the recent growth trend of Meredosia Village. In addition, flood protection will be provided to about 85 acres along the south flank of the levee district not formerly protected.

Land-use patterns should remain basically the same, except that an estimated 50 acres of forest land is expected to be converted to cropland. In addition, approximately 375 acres of cropland and about 100 acres of forest land will be utilized in project rights-of-way (borrow pits, channel cutoff, and levee). The Meredosia Terminal Asphalt Plant will probably not be affected significantly by increased flood protection. The area is expected to remain predominantly in agricultural use.

As noted above, approximately 150 acres of forest land may be converted to cropland or incorporated into project rights-of-way. Virtually all of these forest lands are located along the south flank of the levee district. Most of this acreage consists of grazed cottonwood-willow-maple associations and does not contain high quality wildlife habitat. Additionally, the total

amount of forest "edge" (type periphery) will not be substantially reduced by the project. Consequently, the loss of these areas is expected to exert only a moderately depressing effect on local wildlife populations. Precautions will be taken during construction to insure that Barlow Lake, the most important wildlife habitat within the levee district, will not be affected by the project. Recommendations for protecting Barlow Lake will be made a part of the construction specifications. Since this is an intermittent lake with the presence or absence of water dependent upon the wishes of the landowners, it would be most desirable to drain the lake during the construction period in order to avoid having it affected by siltation.

The major environmental impact of this project will result from the three channel cutoffs along the terminal 6.6 miles of McKee Creek, as shown on EXHIBIT III. The upstream cutoff is 2,000 feet in length and will replace approximately 6,000 feet of natural stream. The middle is 3,100 feet in length and will replace 4,800 feet of natural stream, and the downstream cutoff is 1,500 feet in length and will replace 3,600 feet of natural stream. The width of the natural stream varies from about 120 to 140 feet at the cutoff points, and the average depth is about 18 feet. The new channels will have a bottom width of approximately 85 feet and a bank to bank width of approximately 160 feet. They will be constructed in a manner which will blend them in with the existing channel; six types of environmental impacts are recognized as a result of channelization.

a. There will be a loss of a total of 14,400 feet of natural stream and a net loss to the stream length of approximately 7,800 feet. The fate of the cutoff portion of the natural stream will depend upon the land-use practices of local landowners. However, it is expected that the cutoffs will remain as still bodies of water, essentially oxbow lakes, for many

years, and as such should provide some fish and wildlife habitat. The use of conduits at each end of these oxbows to provide for [illegible] water has not been recommended because of problems involved. If the conduits were not gated, their presence would negate the value of the levee; if they were gated, they would require manual operation at specific critical times, and there is no reasonable assurance that this would be available when needed. Some clearing of vegetation along the banks of the cutoffs by agricultural interests may be expected.

b. Vegetation will be removed along the new channels during construction, and this will result in an absence of cover for fish and wildlife associated with riparian communities. In addition, the absence of shade will tend to elevate the temperature in the streams. The magnitude of this impact is uncertain, but it will probably be minimal since much of the stream already lacks vegetative cover on one or both sides. Therefore, the rise in stream temperatures is expected to be slight.

c. The new channels will exhibit little habitat diversity and may be expected to support fewer numbers and species of aquatic organisms than the natural channel. However, the new channels will not create lethal conditions for passing fishes and should not present a barrier to normal fish movement in the creek. Surveys of fish populations in McKee Creek indicate that alteration of the natural stream conditions may be expected to reduce both the quantity and quality of these populations.

d. There will be a slight increase in stream velocity due to an increase in gradient subsequent to channelization of three reaches of McKee Creek. Generally, the biological productivity of the stream is reduced as its velocity is increased. It is noted that backwater from the Illinois River extends upstream beyond the middle cutoff, and this should substantially eliminate damages that would otherwise be expected for an increase

in velocity in the lower two cutoffs. However, a decrease in productivity may be expected in the uppermost cutoff due to the combination of an increase in velocity and a loss of bottom diversity and stability. In addition, the increased stream velocity will encourage an increase in sediment load.

e. Enlargement of the existing levee will disturb important archeological sites unless they are excavated prior to initiation of construction. A survey of archeological sites has been made and their location has been determined. The National Park Service has been notified of the possibility of disturbance to these sites. Some funds have been already allocated for salvage work and it is expected that a salvage program will begin in the near future.

f. Dredging for hydraulic fill will destroy a portion of the mussel beds in the area of the Illinois River adjacent to the McGee Creek Drainage and Levee District. The present commercial value of these molluscs is negligible. Although the ecological importance of mussels is not fully understood, there is no current evidence to suggest that dredging of these beds will exert a significant ecological impact on the Illinois River. It is estimated that, subsequent to being subjected to dredging, these beds will require from 15 to 25 years to recover to their present stage of development and productivity. Prior to dredging for hydraulic fill, a low retention dike will be constructed to the landward side of the levee. Dredge material will be pumped into the stilling basin thus constructed. Most of the solid materials will settle out and the turbidity of the water which is returned to the Illinois River should be similar to that normally found in the river channel.

Approximately 1,700 feet of the left bank of the natural channel of McKee Creek will be riprapped to provide necessary bank stabilization

along critical reaches where the river would threaten the integrity of the new levee. Although the riprap will be incongruous with the natural aspect of the stream, it is the only feasible alternative to further realinement of the natural channel or future landward levee setbacks. The esthetic impact of the riprap will be mollified over time by invading vegetation.

There will be temporary environmental impacts associated with construction work. They include such things as noise, dust and smoke, which are generated by construction activities. These impacts will have some temporary effects on the local wildlife populations and on humans. However, the area is sparsely populated, so that this last impact will be slight. There will be a substantial amount of debris generated from the removal of trees. The disposal of this material may present a problem. There are prospects of either burning or chipping this material. Burning in an air curtain type furnace will reduce the problem of air pollution, while chipping and using the debris for a mulch will incorporate the material back into the soil for recycling.

The environmental impacts of the levee improvement beyond the project limits are expected to be confined to a slight increase in the height of water levels outside the project area. This slight increase would occur on non-protected lands because of the restraining effect of the higher levee. The increase should have no measurable impact on natural systems in the area. The project will not adversely affect groundwater recharge, the water table, or the quality of subsurface waters in the region. The sediment load of surface waters in adjacent watercourses will be increased during construction, but this impact will be of a temporary nature. Increasing the height of the levee will reduce the incidence of flooding and will decrease the deposition of alluvial material on the landward side of the levee.

The project does not impinge on any areas listed in the National Register of Historic Places, and no significant historical, cultural, or unique biological sites will be disturbed. The National Park Service has scheduled funds for archeological salvage investigations during FY 1973, and these have been completed.

4. Adverse Environmental Effects Which Cannot be Avoided Should the Proposal be Implemented. Implementation of the project will have certain unavoidable environmental effects. Approximately 375 acres of cropland and 100 acres of forest land will be incorporated into project rights-of-way. An additional 50 acres of forest land will be converted to cropland. The loss of forest land is expected to result in an attendant decline in wildlife populations. The major environmental impact of this project will result from channelization of portions of McKee Creek. The principal loss will be the replacement of 14,400 linear feet of natural stream with 6,600 linear feet of biologically less productive channel, resulting in a reduction in the quality of aquatic habitat and a decrease in the quality and quantity of fish populations. Additionally, there will be an adverse esthetic impact resulting from the placement of riprap along 1,700 feet of the bank of McKee Creek.

The project will have an unavoidable adverse impact on archeological sites only if these sites are not salvaged prior to initiation of construction. It is expected that these sites will be salvaged. The temporary loss of mussel beds is an unavoidable impact. The impacts of noise, dust, and smoke cannot be avoided but are of a temporary nature.

5. Alternatives to the Proposed Action. There are no practical structural solutions which provide a uniform degree of flood protection and alleviate the interior drainage problems that exclude improvement of the existing levee system and interior drainage systems. The proposed improvement to the upper

flank and riverfront levee will not result in significant environmental damage. There are no known alternatives which would result in environmental improvement to the upper flank levee and riverfront levee. Therefore, no further consideration was given to alternative plans for these areas. However, the potential environmental damage to the area involving the lower flank is recognized, and various possible alternatives were considered. There are three alternatives to the proposed plan which are deemed to cover the range of reasonable possibilities. Each is presented below:

a. Channel Relocation. Under the proposal, a new channel for McKee Creek would be excavated to the south and west of the existing channel. This plan is shown on EXHIBIT IV. The new levee would have an average height of about 18 feet and a base width of 120 feet. The channel would have an average depth of 13 feet and an average bank-to-bank width of about 170 feet. A 100-foot wide berm would be left undisturbed between the levee and the high bank of the relocated channel. Construction of the levee and channel would require conversion in land use of about 505 acres: 400 acres of cultivated land, and 105 acres of forest land. The existing channel within the reach of comparison is 5.9 miles long and would be replaced by a new channel 3.4 miles in length. That part of the existing levee, within economic hauling distance, would be degraded and used for borrow, and 4.5 miles of the existing creek would be left in place behind the new levee to become part of the interior drainage system.

The advantages of this proposal are: (a) It is the most economically feasible plan ($20,000 less than the next least expensive plan); (b) it eliminates many of the severe curves that are conducive to creation of log-jams and the resultant potential levee damage; (c) protects an additional 425 acres from flooding; and (d) provides more rapid runoff as the result of an improved hydraulic situation.

Implementation of this proposal would result in loss of 400 acres of cropland and 105 acres of forest land. It would also change the aquatic habitat in 5.9 miles of stream. The channelization could significantly degrade aquatic habitat conditions and inhibit movement by fish through the new 3.4 mile long channel, due to changes in the aquatic environment. The loss of 105 acres of forest land would also result in a further degradation of the existing wildlife habitat. It is likely that additional clearing of forest cover would take place on the land adjacent to the natural channel of McKee Creek.

This plan was not recommended because of its adverse environmental effects.

b. High Flow Bypass Channel. Under this proposal, a bypass channel, similar in construction and alinement to the one discussed under the "Channel Relocation" proposal, would be constructed parallel to the new levee. This plan is shown on EXHIBIT V. The levee would have an average height of 18 feet and a base width of about 120 feet. A 100-foot wide undisturbed berm would separate it from the channel. This high flow bypass channel would average five feet in depth and have an average bank-to-bank width of 400 feet. There would be a conversion in land use of about 680 acres: 450 acres of which are currently in cultivation, and 230 acres of which are presently forested. The normal water flow in McKee Creek would continue during periods of low and medium flows. However, whenever the water rose to an elevation higher than the flow line of the bypass channel, the excess flow would be carried off via this route. Water surface elevations higher than bank full stages would require closure of the natural channel and diversion of all the flow through the high flow bypass channel. In order to accomplish controlled closure of the natural channel and still permit boat access, it would be necessary to install two structures in the new levee at the crossing of the natural channel. An upstream structure

would consist of a double box culvert (16'x16'x150' long) with roller gates; while a downstream structure would be a triple box culvert (13'x13'x105' long) with roller gates. The flow line of the high flow channel would be stabilized by placing a 200-foot long band of riprap across the base of the channel at both the upstream and downstream ends.

The purpose of the proposal would be to obtain the advantages of the "Channel Relocation" proposal (shorter levee, good hydraulic conditions for flood flows, additional protected lands, etc.) while retaining the natural channel as both a recreational resource (i.e., boating and fishing) and as a natural environment. Low and medium flow conditions would allow movement of fish and fishermen along the natural channel.

This proposal was not recommended for the following reasons:

(1) High cost of the drainage control structures and riprap.

(2) High maintenance costs of removing debris and logs from around the drainage control structures.

(3) Dependence upon local observers to watch river and tributary water stages and to correctly operate drainage control structures, as necessary.

(4) Higher rights-of-way costs to local interests.

c. Landside Enlargement. Under this proposal, a new levee would be constructed as a landside enlargement of the existing levee. This plan is shown on EXHIBIT VI. Borrow for the levee enlargement would be obtained from between the levee and the creek where sufficient suitable material is available and where the resulting excavation would not create a hazard to the levee or encourage the development of secondary channels. Additional borrow would be obtained across the creek. Water flow would remain in the natural creek channel. However, riprap would be placed along the channel

in front of the levee at eight critical locations to prevent the caving of creek banks and to preserve the integrity of the levee. About 10,200 linear feet of riprap would be required. This proposal would require the land use conversion of about 445 acres: 360 acres of land now in cultivation and 85 acres of forest land. This area includes 80 acres of borrow which would be allowed to revegetate or remain as pits or ponds.

Implementation of this proposal would permit the stream to remain in its natural channel and would have the least environmental impact of all structural alternatives.

This proposal was not recommended for the following reasons:

(1) Higher initial cost because of large volume of riprap required and greater length of levee.

(2) High maintenance cost of torturous channel which would be conducive to development of logjams.

(3) Higher maintenance costs because of longer levee.

(4) This plan provides flood protection to 578 fewer acres than does either the "Channel Relocation" plan, or the "High Flow Bypass" plan.

There are several nonstructural flood control measures which were not considered to be applicable to this situation. The first is the application of watershed management practices. As mentioned in paragraph 2 above, the watershed of McKee Creek has been studied by the U. S. Soil Conservation Service, and a work plan has been developed and approved for this area, but its implementation will not result in significant modifications to the Project Plan. Since the watershed is not involved in the project area, this alternative was not considered further. A second alternative involves flood plain zoning. This alernative is not feasible, since the project area is already well developed for agricultural use and already has a levee and drainage system.

d. No Action. A final alternative that must be considered is that of "no action." If the project is not implemented, it is highly probable that conditions will remain much as they are at the present time, since there will not be any incentive for landowners to improve their farming operations. It also seems doubtful that any significant changes in present land use will occur in the foreseeable future with or without the project. The existing pumping station is in very poor condition, and a breakdown could result in serious flood damage to the area protected by the levee. Also, flood damage would result from underseepage and overtopping of the substandard existing levee. "No action" cost the Government about $50,000 in fiscal year 1972, and is expected to cost about $30,000 in fiscal year 1973, as well as non-realization of project benefits. These costs arise from the Government's share of repair of flood damage. The only advantages of a "no action" alternative would be those benefits which accrue to fish and wildlife habitat, since these habitats would remain undisturbed. The disadvantages would accrue to the use of the land for agricultural purposes because of losses from flooding and the losses resulting from inadequate drainage of the lands within the levee.

6. The Relationship Between Local Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-term Productivity. This project will provide increased flood protection and improved interior drainage to 12,345 acres of productive alluvial soils, approximately 92 percent of which are currently in agricultural production. This acreage is greater than that discussed in the first part of the statement because the realinement of the levee will slightly increase the acreage of protected land within the levee district. The increased flood protection will enhance the quality of man's environment from the standpoint of economics and quality of living over the

short and long terms. There will be a permanent decrease of fish and wildlife habitat in favor of increased agricultural production.

7. Irreversible or Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action Should it be Implemented. About 150 acres of forest land and attendant wildlife habitat will be lost, along with about 14,400 feet of natural stream channel. The 375 acres of cropland which will be incorporated into the construction of the levee and the excavation of borrow areas will not be readily available for agricultural use and therefore is considered to be lost. As a result of the channelization of the three reaches of McKee Creek, portions of both the aquatic and terrestrial habitats associated with McKee Creek will be diminished in value. The quality of the fishery in the creek will be materially reduced.

8. Coordination with Others. This section summarizes the coordination which took place in the formulation of the proposed project plan and the coordination which was carried out as part of the preparation of the environmental statement.

a. Public Participation. A public meeting was held at Meredosia, Illinois, on 9 December 1943, for the purpose of obtaining the views of the public concerning the need for additional flood control measures along the tributaries for that reach. The purpose of the meeting was to determine the types of remedial measures which were desired and to determine the extent of local cooperation that could be expected in implementing these measures. The McGee Creek project was one of the measures that was planned. On 25 October 1971, a meeting was held at Meredosia, Illinois, with the commissioners of the McGee Creek Drainage and Levee District. Details of the

proposed project were explained. Formal assurances of local cooperation were executed by the McGee Creek Drainage and Levee District on 23 December 1971. These assurances were based upon the plan presented in the General Design Memorandum for the project. After the original plan was revised, a meeting was held with local interests on 9 November 1972 to discuss the provisions of the revised plan. These local interests expressed favor with the revised plan.

Interested Federal and state agencies were contacted by letter on 25 June 1970 and invited to submit their comments on the original plan of improvement. Both the Bureau of Outdoor Recreation and the Bureau of Sport Fisheries and Wildlife expressed minor opposition to the project. The State of Illinois expressed strong opposition to the project by a letter of 24 August 1971. As a result of this opposition to the project, a meeting was arranged with representatives of the Illinois Department of Conservation on 5 October 1971, at which time revisions of the plan were discussed. The plan was revised and another meeting was held with the State of Illinois Conservation Department personnel, at which time the details of the proposed plan were discussed. In addition, personnel from the Corps and the state conducted a field survey of the project area and discussed the proposed provisions. The State of Illinois concurred with the revised plan. A draft environmental statement was prepared and sent out for review and comment. The Bureau of Sport Fisheries and Wildlife expressed concern at not having been involved in the plan revision process. Therefore, a meeting was held in the St. Louis District office of the Corps between representatives of the Corps, Bureau of Sport Fisheries and Wildlife, and the State of Illinois. Details of the revised plan were discussed, along with the conditions which

led to the omission of certain phases of coordination with the Bureau of Sport Fisheries and Wildlife. The Bureau's views and comments on the plan were solicited [illegible] written comments were received within the period [illegible] verbal assurance that there were no additional comments to be made on the environmental statement itself, the final environmental statement was prepared.

Dr. Stuart Struever, who had been in charge of an archeological survey of the project area for the National Park Service, was furnished a set of project maps on 23 November 1971. In addition, Dr. Struever was contacted in person and by telephone on a number of occasions and he supplied a substantial amount of information regarding the nature of the archeological sites within the project area and the relative importance of these sites.

The Illinois Archeological Survey furnished a map of archeological sites and some pertinent information concerning these sites.

b. Government Agencies. The draft environmental statement was sent to the governmental agencies listed on the Summary Sheet. Their views and comments are summarized below. Only those comments which pertain to the environmental statement are given a written response.

(1) U.S. Department of Agriculture, Soil Conservation Service.

Comment: Sponsors of the project may wish to contact the Brown or Pike County Soil and Water Conservation Districts for assistance in applying soil conservation practices which reduce soil and water losses from hill land.

Comment: The portion of the project description which discusses natural revegetation of borrow areas should be amended to provide for the establishment of vegetative cover through application of such management measures as liming, fertilizing, seeding, and mulching

Response: Concur. The statement has been revised to include this recommendation.

Comment: The statement should include plans for vegetating the new and rebuilt levees and channel banks to reduce erosion during and following construction.

Response: The establishment of vegetative cover on improvement works is incorporated as a standard provision in construction contract specifications. The statement has been revised to elaborate on this item.

Comment: Mention should be made of the valuable wildlife habitat which will result from establishment of vegetation on the levee.

Response: The grass cover to be established on the levee will not be particularly valuable as wildlife habitat.

(2) U.S. Department of Agriculture, Forest Service, State and Private Forestry.

Comment: The fact that the project will prevent flooding on 1,416 acres and remove 375 acres of cropland from cultivation does not seem adequate justification for loss of fish and wildlife habitat.

Comment: Who determines what "high quality" wildlife is?

Response: It is assumed that this comment refers to wildlife habitat rather than wildlife, per se. Evaluation of wildlife habitat is a somewhat subjective judgment based upon technical criteria. The evaluation is made by a professional wildlife biologist.

Comment: Reducing the length of the natural stream from 14,400 feet to 6,600 feet will double the grade and at least double the rate of flow, thereby increasing the chance of flooding in Pike and Scott Counties.

Response: The length of the natural stream in the affected reach will be reduced from 6.6 miles to 5.2 miles and the water velocity will only slightly increase. Furthermore, the backwater from the Illinois

River will have an ameliorating effect on this increased velocity and should negate its effect in the lower reaches of McKee Creek.

Comment: Mention is made of other channelization projects in the Mississippi River system; the fact that the total effect on flooding in the lower Mississippi Valley is not known; the fact that heavy siltation and changes in stream location may result downstream as a cumulative effect of numerous channelizations.

(3) U.S. Department of Commerce, Deputy Assistant Secretary for Environmental Affairs.

Comment: The loss of mussel beds, both through hydraulic dredging for fill and the resulting siltation, should be mentioned in both "Environmental Impacts" and "Adverse Environmental Impacts" on the Summary Sheet.

Response: Concur. The Summary has been revised to incorporate this recommendation.

Comment: It should be noted that the current reduction in mussel marketability resulted in part from the large inventories of mussels that accumulated from the removal of 54,000 pounds of shell from the Illinois River in 1970.

Response: Concur. The statement has been revised to include this item.

Comment: Discuss any measures which will be taken to reduce turbidity and siltation from dredging so that mussel beds will suffer a minimum impact, since the commercial value of mussels may increase in the future.

Response: The statement has been revised to include this information.

Comment: The effect of siltation on fish spawning areas and mussel beds may be as detrimental as their physical destruction caused by dredging.

Response: Concur. The statement has been revised to incorporate this comment.

Comment: Include the loss of some mussel beds in the section on adverse impacts.

Response: This item has been incorporated in the statement.

Comment: Judgments regarding the significance of environmental impacts should be accompanied by at least a brief description of the alternatives to the proposed improvement to the upper flank and river-front levee. It is difficult for the reader to evaluate the validity of judgments when the basis for such judgments is not provided.

Response: The statement has been revised to comply with this comment.

(4) *U.S. Department of Housing and Urban Development.*

Comment: The subject proposal requires no comment from this department.

(5) U.S. Department of Commerce, National Oceanic Atmospheric Administration (NOAA).

A draft environmental impact statement on McGee Creek was sent to the U. S. Department of Commerce, NOAA. No comment has been received from this agency as of this date.

(6) U. S. Department of Interior, Office of Environmental Project Review.

Comment: The proposal will have no adverse effect upon any existing or proposed units of the National Park System.

Comment: Adequate coverage is given of the damages to fish and wildlife resources expected as the result of the proposed project.

Comment: Proposed structural modifications will be detrimental to the existing stream ecosystem.

Comment: Other than brief references to the angler use and fisherman boating on McKee Creek, the draft statement makes no mention of outdoor recreational use of land or water within the project area. Reference to the types of present recreational uses in the area, if any, and how such uses will be affected by the proposed project seems warranted.

Response: All of the lands associated with this project are in private ownership and are not generally available for recreational uses. Therefore, this type of use is not stressed in the statement.

Comment: There is great archeological concern for the fate of the Hinners site. It is considered of utmost importance that the Corps explore an alternative that would not disturb this important archeological resource. If there is no feasible alternative, then the environmental statement should specify in detail the program that will be undertaken to record the findings and salvage physical evidence of the Hinners site as well as other sites which lie within construction limits of the levee improvement.

Response: The Hinners site, as well as other sites on the project area, is located on private land. Therefore, all these sites are subject to exploitation and degradation, regardless of the impact of the proposed project. These sites have been subjected to some degree of disturbance because of the activities of private artifact collectors or as a result of agricultural activities. The authorizing document for the project

does not contain any provisions for the Corps to authorize salvage of archeological sites as part of the project. Any program salvage of these sites lies within the purview of the National Park Service that agency has been made aware of the proposed project and its potential affect on these sites.

Comment: One cannot determine the location of the 375 acres of cropland that will be lost due to project construction. Maps and exhibits included with the statement do not indicate such a loss.

Response: The location of the 375 acres of cropland that will be lost due to project construction is shown on the maps which are included in the statement. This acreage will be lost because of the wider base of the levee, land used for borrow pits, and the land incorporated in the channel cutoff, as referenced in the section on environmental impacts. The total acreage lost is an accumulation of that lost in many locations rather than a specific large area.

Comment: Contrary to the opinion expressed in the section on Environmental Impacts, the total amount of forest edge will be reduced. Any reduction in "edge" will be highly significant because of its scarcity. Also, a reduction in the amount of "edge" will reduce the numbers of wildlife. Destruction of forest cover eliminates the possible improvement of such cover by protecting it from grazing.

Response: Although some acreage of woodland will be lost because of project developments, the loss of "edge" will be largely offset by the openings created in excavating borrow in wooded areas. The statement has been modified to state that there will not be a "substantial" reduction of forest edge.

Comment: The reasons for not providing for the preservation of oxbows should be explained. Unless provisions are made to preserve

these oxbows, it is expected that the landowners will clear, fill, or drain them for agricultural use.

Response: It is quite possible that the oxbows might be filled and used for agriculture. They are located on private lands and, therefore, their fate depends upon the desires of the local landowners. Preservation of these oxbows was considered. However, any such action would require modification of the local assurances agreement. It is unlikely that the local landowners would agree to such measures. Another possible solution would be acquisition of lands surrounding the oxbows. This would require development of a mitigation plan which would require Congressional approval before acquisition of such lands could be authorized.

Comment: Delete the sentence which reads, "However, this is a warm-water fishery and biologically damaging temperatures are not expected." Evidence is too sketchy to make such a prediction.

Response: This paragraph has been rewritten to more adequately describe this particular impact.

Comment: The possibility of project activities disrupting or damaging the archeological sites of the area should be listed in the section on adverse environmental effects.

Response: Concur. The statement has been revised in accordance with this comment.

Comment: The section on unavoidable adverse environmental effects should discuss required features to protect cutoff oxbows, replace lost timberland, or to replace loss of stream habitat and the stream fishery.

Response: The section on adverse and unavoidable impacts specifies only the type and nature of these impacts. It is not meant to be used as a vehicle for the discussion of design considerations.

Comment: The section on "alternatives" fails to discuss the advantages of a "no project" concept or an improvement of the existing levee while leaving the riverine habitat undisturbed. This section should discuss both the economic disadvantages of this alternative as well as the advantages of this alternative to fish and wildlife resources.

Response: Concur. The statement has been revised to incorporate these discussions.

Comment: The location of borrow sites will create adverse environmental effects with respect to reducing wildlife habitat, disrupting mussel beds, degrading the stream fishery, and degrading esthetic values. The statement should consider the alternative of reducing such direct damages by using upland or agricultural areas for borrow sites.

Response: A substantial portion of the acreage of borrow sites is located on agricultural land. The creation of open areas in the wooded portion of the area should improve the relatively poor wildlife habitat which is present by increasing the amount of edge and habitat diversity. Dredging for hydraulic fill may have some impact on the mussel beds, as mentioned in the section on environmental impacts; however, it is not anticipated to have any degrading effect on the fishery in the Illinois River since dredging for channel maintenance is undertaken annually on this portion of the river.

Comment: The possibility of adding specific project measures to

compensate for expected damages to fish and wildlife resources should be thoroughly discussed.

Response: A discussion of the establishment of vegetative cover, useful to wildlife, has been incorporated into the section on project description. Establishing this type of cover on borrow areas will partially compensate for damages to existing wildlife habitats. Several modifications to the original project plan have been made in order to minimize the loss of fish and wildlife habitat.

Comment: The Bureau of Sport Fisheries and Wildlife has not been kept apprised of all phases of project planning. Therefore, all alternatives may not have been thoroughly considered. The project lacks a plan to compensate for project-incurred losses. The Bureau of Sport Fisheries and Wildlife has not had the opportunity to review the survey report, design memorandum, or project report for the presently proposed project.

Response: The section on public participation (p. 22) has been expanded in response to this comment. Also, portions of other parts of the statement have been modified to express the concern presented.

Comment: Preparation of the final environmental impact statement should be delayed until the Bureau of Sport Fisheries and Wildlife has had an opportunity to review the proposed project and suggest possible modifications.

Response: Same as previous response.

(7) U.S. Office of Economic Opportunity.

Comment: The Office of Economic Opportunity has no objections to this project.

(8) U.S. Environmental Protection Agency.

Comment: The Environmental Protection Agency stated that they cannot approve of any project that involves this type of construction when, in their view, the overall adverse environmental consequences of enlarging, straightening, and dredging stream channels that may have significant natural value will outweigh the beneficial effects.

Comment: The summary sheet should include a brief synopsis of the information presented in the sections on the relationship between short-term use and long-term productivity, and that on irreversible and irretrievable commitments if the project is implemented.

Response: The summary sheet includes the information described in the comment.

Comment: A breakdown of monetary costs and benefits of the proposed project should be included, including an estimate of the percentage of the total project benefits that are attributable to the new levee section along McKee Creek. There is concern that the phrase ". . . tentatively modified . . ." could be considered a forewarning that environmental concern may be waived.

Response: A discussion of monetary costs and benefits of the proposed project has been included in the body of the statement. However, no

attempt has been made to estimate the percentage of the total project benefits that are attributable to the realinement and upgrading of the existing levee along McKee Creek. This levee is an integral part of the entire project and it is not feasible to attempt to attribute benefits to any isolated portion of the project.

Comment: Exposure of excavated channel banks and disturbance of the natural streamflow regimen tends to aggravate bank erosion and to increase sedimentation downstream. Adequate means of control should be outlined and any possible flow changes or erosion of Meredosia Island due to use of hydraulic fill from the Illinois River should be thoroughly discussed in the EIS.

Response: There will be a temporary increase in sedimentation downstream, due to excavation of channel banks. However, the bank slopes of the channel have been designed to be stable without additional controls. There should not be any erosion of Meredosia Island as a result of dredging for hydraulic fill, since this dredging will take place primarily in the main river channel.

Comment: The overall plans for the Illinois River should be included in the description in order to fully assess the total impact on the river's environment.

Response: The overall plans for the Illinois River are contained in House Document No. 472, 87th Congress, 2nd Session.

Comment: Include a brief description of the climate of the area indicating the amount, character and seasonal distribution of precipitation and the annual range of temperatures.

Response: The statement has been revised to include a brief description of climatic conditions in the project area.

Comment: Describe the present flood hazard as to its intensity and duration when it exceeds the present levee protection.

Response: The statement has been revised to include information concerning present flood hazards.

Comment: Indicate how much flood damage is attributable to development beyond the existing levee on Upper McKee Creek.

Response: The statement has been revised to include information concerning the amount of flood damage which is attributable to development beyond the existing levee on Upper McKee Creek.

Comment: The present land use of the area along McKee Creek, between the existing levee and the proposed levee, should be discussed in greater detail since this part of the drainage district appears to involve most of the future land-use changes and much of the project's anticipated monetary benefits.

Response: The statement has been revised to comply with this comment.

Comment: Can the Soil Conservation Service program to reduce flood flows on the upper portion of McKee Creek be considered as a reasonable alternative to this project?

Response: The SCS program for headwater reservoirs cannot be considered as a reasonable alternative to this project. This point

was explained in the section on the environmental setting without the project.

Comment: Since there is no guarantee that the landowners will improve their agricultural techniques if the levee is improved, such an assumption may not constitute an environmental impact.

Response: It seems quite reasonable to assume that the landowners will improve their farming techniques if the risk of crop loss is reduced. This assumption involves a consideration of basic economic principles and the resultant expected effect would be a valid environmental impact.

Comment: An increase in depth and flow due to hydraulic fill procedures may create conditions inimical to reestablishment of mussel beds and this in turn may lead to a decrease in the recreational uses of the area.

Response: The Illinois River currently carries a high sediment load and the channel in the vicinity of the project area is frequently dredged. In this instance, the dredge spoil would be used in the construction of a new levee or enlargement of an existing one. The relatively shallow dredging is not expected to substantially increase the flow of the river. Dredging will be done in areas which will cause the least disturbance of the mussel beds. The location of these mussel beds bear no relationship to the recreational uses of the area which are limited, anyway, because the land is privately owned.

Comment: Consideration should be given to the problems of access to the riverbank for fishing or viewing after the proposed levee

modifications are completed, the esthetic impact of the levee, and what measures will be undertaken to improve its appearance.

Response: As has been pointed out in reference to previous comments, this is not a general public-use area since the land is privately owned. There is no reason for this statement to be concerned with access to riverbank fishing. The esthetic appearance of the levee will not detract from the general landscape of an agricultural area, particularly since a levee has been a part of this landscape for a number of years.

Comment: Since the channel cutoffs, or oxbow lakes, are valuable recreational resources and should be preserved, consideration should be given to providing streamflow through the oxbows during high streamflow conditions. Construction of conduits in the upstream and downstream structures is suggested as a possible solution.

Response: It is unlikely that these oxbows will be preserved, since they are located on private lands and are subject to the management decisions of the local landowners. The section on environmental impacts (see p. 13) has been expanded to respond to the suggestion regarding the construction of conduits in structures.

Comment: The disposition of alluvial material doesn't cause any harm to farmland. It is our opinion that this material provides nutrients and organic material which aids in crop production. Eliminating the deposition of this alluvial material will probably increase the amount of fertilizer which is required and may increase nutrient runoff.

Response: The deposition of alluvial material from upland areas may be quite detrimental to the bottomland soils upon which it is deposited. This alluvial material may require use of additional fertilizer, rather than less, and may require application of unusual soil management practices. Since there will not be a need for increasing the amount of fertilizer, there cannot be an increase in nutrients from this source.

Comment: Precautions to prevent pollution caused by construction operations are not adequately discussed. These precautions should be part of the construction specifications. Precautions to protect Barlow Lake should be discussed in detail.

Response: The section on impacts has been expanded to respond to this comment.

Comment: The increased turbidity and sedimentation created by the new channel construction will have a serious detrimental effect on the aquatic life along lower McKee Creek and below the dredging operation on the Illinois River. This problem will persist, albeit to a lesser extent, long after the construction phase is completed, due to the higher stream velocity over an unvegetated stream bottom. Increased sediment loads could adversely affect downstream structures such as water intakes, sewage outfalls, and marinas, especially during high-water periods.

Response: Any increase in turbidity and sedimentation rate is expected to be of short duration and of consequence only during the construction phase and shortly thereafter. Therefore, there should not be any significant detrimental effect on aquatic life in the lower McKee Creek. The dredging situation on the Illinois River has been discussed in response to other comments.

Comment: This section should include a discussion of the possible impacts of construction-related noise, dust, and smoke on human and wildlife populations in the project area. In addition, the disposal methods for debris should be included in the environmental impact statement. Landscape debris may be mulched and used as an erosion preventative material.

Response: The statement has been revised to elaborate on these points.

Comment: The collection system and ponding areas for internal drainage should be designed and operated to function as sedimentation basins and reduce sediment loads carried in surface runoff.

Response: The collection system and ponding areas for internal drainage function naturally as sedimentation basins since the velocity of water flowing through them is decreased and the amount of sediment passing through the District is reduced. These ponding and sedimentation basins are maintained by the local interests and excess sediment is removed.

Comment: The environmental impact statement should describe the quality of the dredge spoil that will be used as levee fill material. If the spoil is polluted, extra care must be exercised in its deposition and additional land borrow areas may be necessary to provide sufficient material to complete the project.

Response: The quality of dredge spoil that will be used as levee fill material is not known at present. It is not expected to be polluted. The

river channel in this area is regularly dredged for navigation use, and no problems have been encountered. Spoil will be checked and appropriate care will be exercised in its deposition to avoid polluting the river.

Comment: There is a good possibility that there will be a loss in the stream's aeration capacity. The adverse effects should be discussed in the environmental impact statement.

Response: There is no basis to assume that this project would cause a loss in the aeration capacity of McKee Creek. Therefore, no adverse effects were discussed in the environmental impact statement.

Comment: The possibility of increased flooding occurring in the Illinois River downstream from the project should be discussed.

Response: The statement has been revised to include information concerning the possibility of increased flooding in the Illinois River downstream from the project.

Comment: Consideration should be given to an alternative proposal which involves a combination of the channel cutoff modification discussed in the proposed plan of action and the emergency high-flow bypass alternative, together with any necessary riprapping needed to stabilize the natural channel and protect the levees. This alternative would (1) eliminate the need for costly gate structures, (2) preserve 10,800 feet of natural stream channel, (3) reduce turbidity and sedimentation, (4) involve the same land acquisition costs, and (5) probably reduce flood damage over the long term by discouraging intensive development on the land between the old levee and the river.

Response: This alternative plan was not discussed under the section on alternatives because it was not considered to be anything more than a modification of the channel cutoff plan and the landside enlargement plan. The modification is the treatment of the downstream meander in the same manner as in the channel cutoff plan. The upstream meanders are treated in the same manner as in the landside enlargement plan, but with the addition of two high-flow bypass channels. This proposed plan was evaluated by the design engineers, who prepared the recommended plan and alternative plans, and was not considered to be a reasonable alternative, since it was not significantly different from alternatives presented and was more expensive to construct and maintain.

Comment: The possibility of the development of a "green belt" should be considered as an alternative. The potential as a recreational area could have a higher benefit-cost ratio than agricultural land use.

Response: The possibility of establishing a "green belt" was considered but was not deemed to be a reasonable alternative. The term "green belt" has a variety of connotations. In this instance the connotation is that of a recreation use area. Since this area is devoted primarily to agricultural use, and is totally in private ownership, it is not reasonable to assume that these lands could have a higher potential benefit-cost ratio for recreational use than for agriculture.

Comment: The paragraph describing the "no action" alternative indicates that the Federal share of flood damages will be $50,000 in fiscal year 1972, but only $30,000 in fiscal year 1973. Does this reduction represent an overall decline in flood damages? Is it indicative of

an adjustment by local farmers to the flood control hazard? If this represents a trend, and considering the low benefit-cost ratio, it may be prudent to reevaluate the need for the approved plan and further evaluation of alternatives may be in order.

Response: The Federal share of flood damages involves only the actual expenditure, or expected expenditure, for emergency repairs caused by flooding. These are repair costs associated with local problems and are not annual maintenance costs.

Comment: Turbidity and sedimentation will continue for a considerable time after the construction phase due to increased stream velocities along the new unvegetated channel bottom.

Response: Construction work on the project will create some conditions of turbidity in McKee Creek and the Illinois River. However, this condition should not continue in the channelized portion of McKee Creek for any length of time because of the almost negligible increase in stream velocity. Furthermore, the creek is normally naturally turbid because of the condition of its channel course.

Comment: The material used in constructing the levee and stabilizing the banks of McKee Creek should be mentioned in the section on irreversible or irretrievable commitments of resources. Also, the encroachment of fixed structures onto the newly protected portions of the flood plain may be viewed as irreversible and irretrievable commitments of resources.

Response: Concur regarding levee construction. The statement has been revised to incorporate this information. However, the construction of fixed structures, as described in the referenced correspondence, is not

viewed as an irreversible or irretrievable commitment of resources since these structures may be removed and the natural resource values of the area will still exist unchanged.

Comment: The loss of mussel beds may also be considered an irreversible commitment of resources. The loss of this part of the food chain could be detrimental in changing the fish ecology of this part of the Illinois River. Also, increases in turbidity, nutrient runoff, and water temperature create favorable habitat for scavenger fish.

Response: The temporary loss of productivity of mussel beds is not considered to be an irretrievable loss. These beds have managed to survive in other portions of the river which are subject to frequent dredging for channel maintenance. The slight additional disturbance which will result from the removal of dredge spoil from the river will have only a minor and temporary impact on these beds. The changes in turbidity, nutrient runoff, and water temperature have been discussed in parts of the statement or in other responses. They are not considered to be an irreversible commitment of resources.

Comment: Although the proposed project does not appear to be in conflict with the recently approved Water Quality Management Plan for the Lower Illinois River area, the resulting siltation could adversely affect water quality downstream from the project area and would be in conflict with the Illinois stream standards which prohibit any activity "that will create unnatural color or turbidity."

Response: Construction activities will necessarily create a temporary increase in turbidity of water in the stream. However, the amount of turbidity thus caused will be controlled by contract specifications

designed to minimize adverse environmental effects. The increase in turbidity will only occur during the period of construction activity and is not of a continuing nature.

Comment: In order for our agency (Environmental Protection Agency) to conduct a meaningful analysis of this project and others of this type, we believe an environmental statement should be prepared for all proposed improvements in the Illinois River basin. This statement should include objective and thorough analysis of all viable nonstructural alternatives and their cumulative effects of the proposed overall channelization program. Unless the program analysis clearly supports the proposed actions, our agency (EPA) must express opposition to alteration of stream channels with significant natural values.

Response: Concur. The development of a comprehensive plan for the entire basin would be ideal. However, in the absence of such a plan, development must necessarily proceed as deemed necessary and impacts must be evaluated on a project by project basis, while attempting to evaluate the effects of the project on the surrounding region. That approach has been used in preparing this statement.

(9) U.S. Department of Transportation, Federal Highway Administration.

Comment: In the departmental review of the draft statement, it was noted that Illinois Highway Route 104 crosses the levee. There does not appear to be any adverse effect on this highway which might occur as a result of the construction of this project.

(10) Illinois Natural Resources Development Board.

Comment: The Illinois Natural Resource Development Board reviewed the draft environmental statement for McGee Creek and has no adverse comment.

Comment: The closing of Route 104 at certain periods would cause highway traffic to be detoured for rather long distances. The planned levee height in relation to the existing pavement at this point should be indicated.

Response: Route 104 would normally be closed during flood conditions. Construction of this project would not increase this incidence or its impact on traffic flow. The height of the planned levee will be about 5 feet above the pavement at this location.

Comment: An increase in the stream velocity at Chambersburg could have undermining effects on the highway bridge foundations at this location. Any adverse effects on Illinois Route 104, including damage to structures, embankments, pavements, and the road user should be considered as impacts of this proposed project.

Response: The increase in stream velocity at Chambersburg will be so slight that no adverse impacts on Illinois Route 104 are expected.

c. Citizen's Groups and Others. The draft environmental statement was sent to other parties listed on the summary sheet in order to obtain their views and comments. These comments are summarized below. However, only those comments which pertain to the environmental statement or other environmental considerations receive a response.

(1) Committee on Allerton Park.

As of this date, no comments have been received.

(2) Illinois Division, Izaak Walton League of America, Inc.

As of this date, no comments have been received.

(3) Illinois Chapter, The Wildlife Society.

As of this date, no comments have been received.

(4) Illinois Chapter, American Fisheries Society.

As of this date, no comments have been received.

(5) Illinois Archeological Survey.

Comment: Files of the Illinois Archeological Survey indicate that at least 12 archeological sites fall very close to, or may be affected by, the proposed improvements.

Response: The statement has been revised to incorporate this information as well as other information concerning archeological sites.

(6) Illinois Wildlife Federation.

Comment: This project is a continuation of the Corps past policies of diking, channeling, and drainage. Although the proposed plan is the best alternative as far as environmental impact is concerned, there is no reason to continue such a project. Therefore, a plan of no development is recommended. The benefits of the project do not seem to justify the costs.

Response: Comment noted.

(7) Illinois Audubon Society.

As of this date, no comments have been received.

(8) Environmental Response, Washington University.

As of this date, no comments have been received.

(9) Coalition for the Environment, St. Louis Region.

As of this date, no comments have been received.

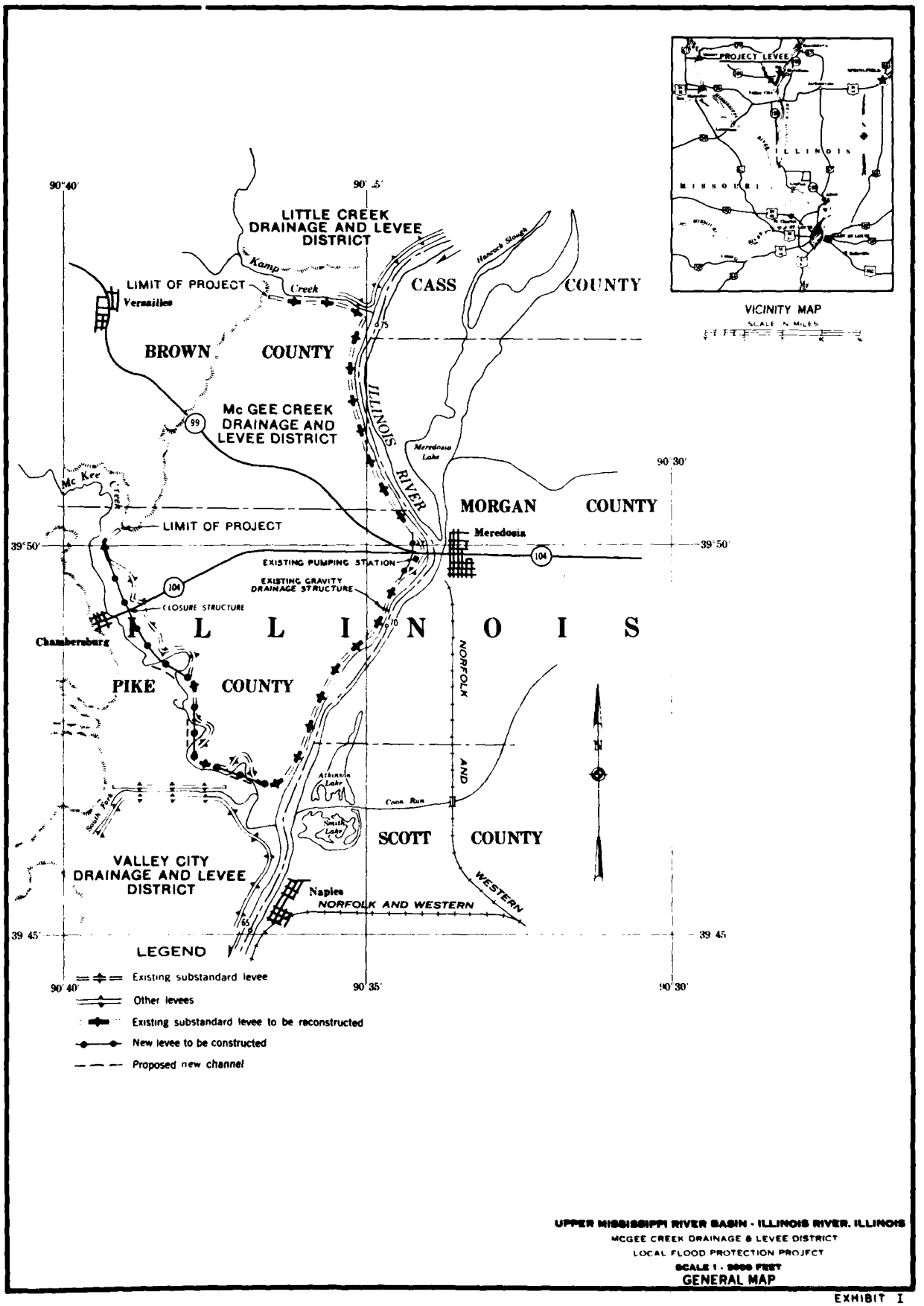
(10) Dr. Stuart Struever, Department of Anthropology, Northwestern University.

Comment: An archeological survey of the McGee Creek project area was conducted during the period from 23 June through 15 August 1972. A total of 35 archeological sites were located and artifact collections were recovered from their surfaces. Three sites were located that might be totally or partially destroyed by construction activities associated with the project. All of these are important sites and it would be exceedingly important to conduct salvage excavations prior to initiation of project construction work.

Response: The importance of these sites has been emphasized in the environmental statement. Also, the National Park Service has been alerted to the importance of these sites.

APPENDIX A

Exhibits



UPPER MISSISSIPPI RIVER BASIN - ILLINOIS RIVER, ILLINOIS

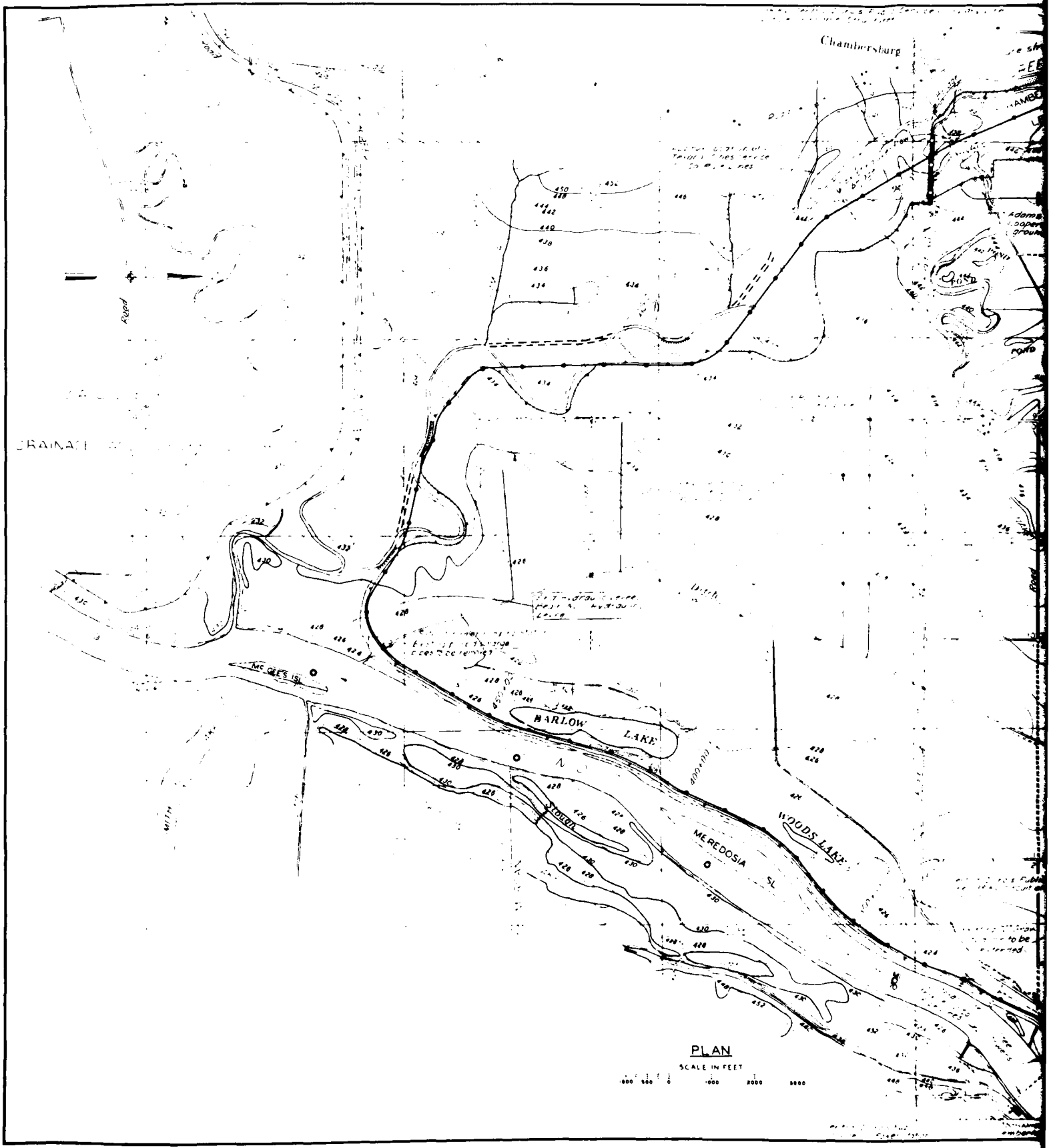
MCGEE CREEK DRAINAGE & LEVEE DISTRICT

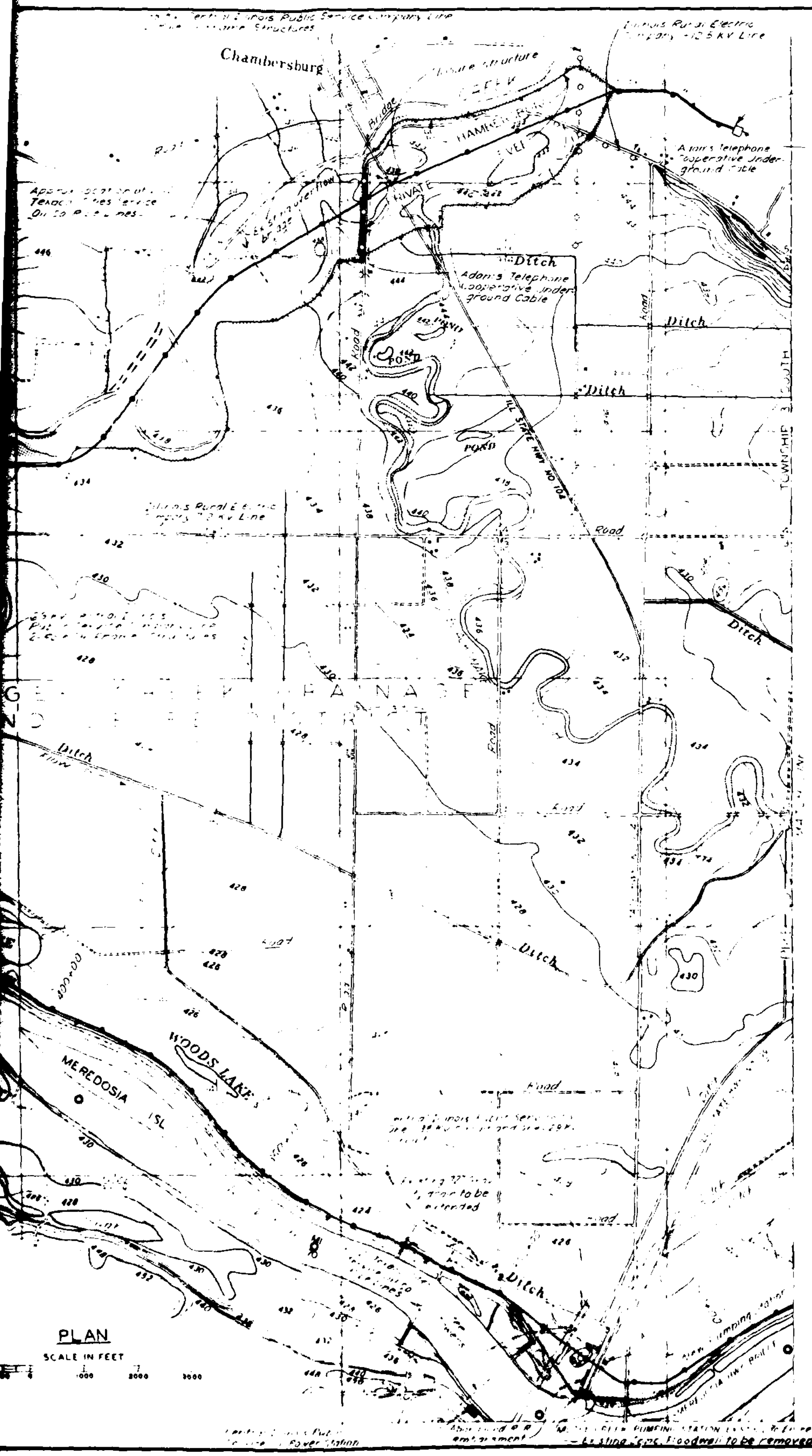
LOCAL FLOOD PROTECTION PROJECT

SCALE 1 - 2000 FEET

GENERAL MAP

EXHIBIT I


Chambersburg
Road
HARLOW
LAKE
MEREDOSIA
WOODS LAKE
PLAN
SCALE IN FEET



LEGEND

NEW LEVEE OR ENLARGEMENT OF EXISTING LEVEE
EXISTING LEVEE
BORROW AREA NON-HYDRAULIC
RIP - RAP
CHANNEL CUT-OFF

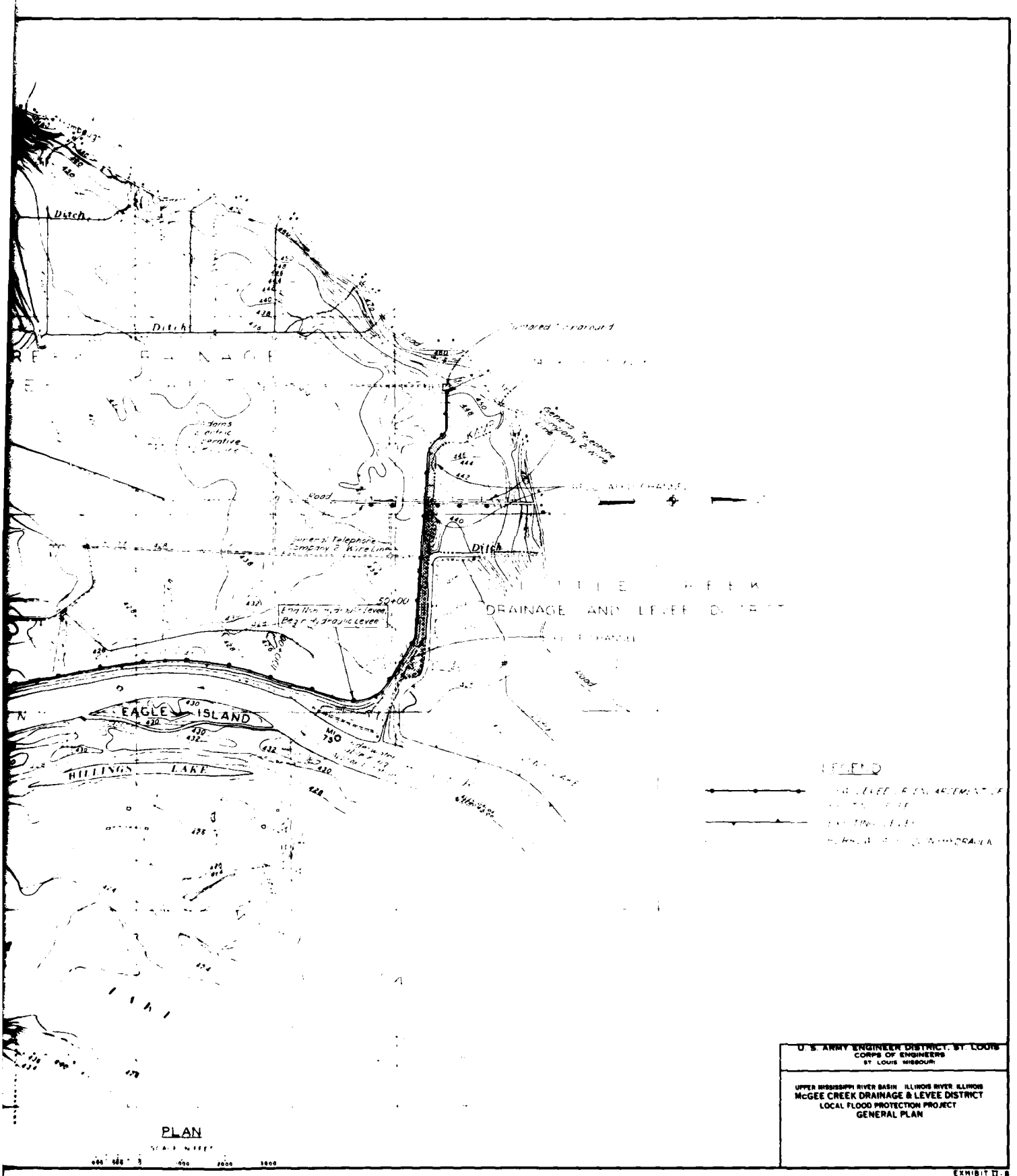
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN ILLINOIS RIVER, ILLINOIS
McGEE CREEK DRAINAGE & LEVEE DISTRICT
LOCAL FLOOD PROTECTION PROJECT
GENERAL PLAN

EXHIBIT II - A

2

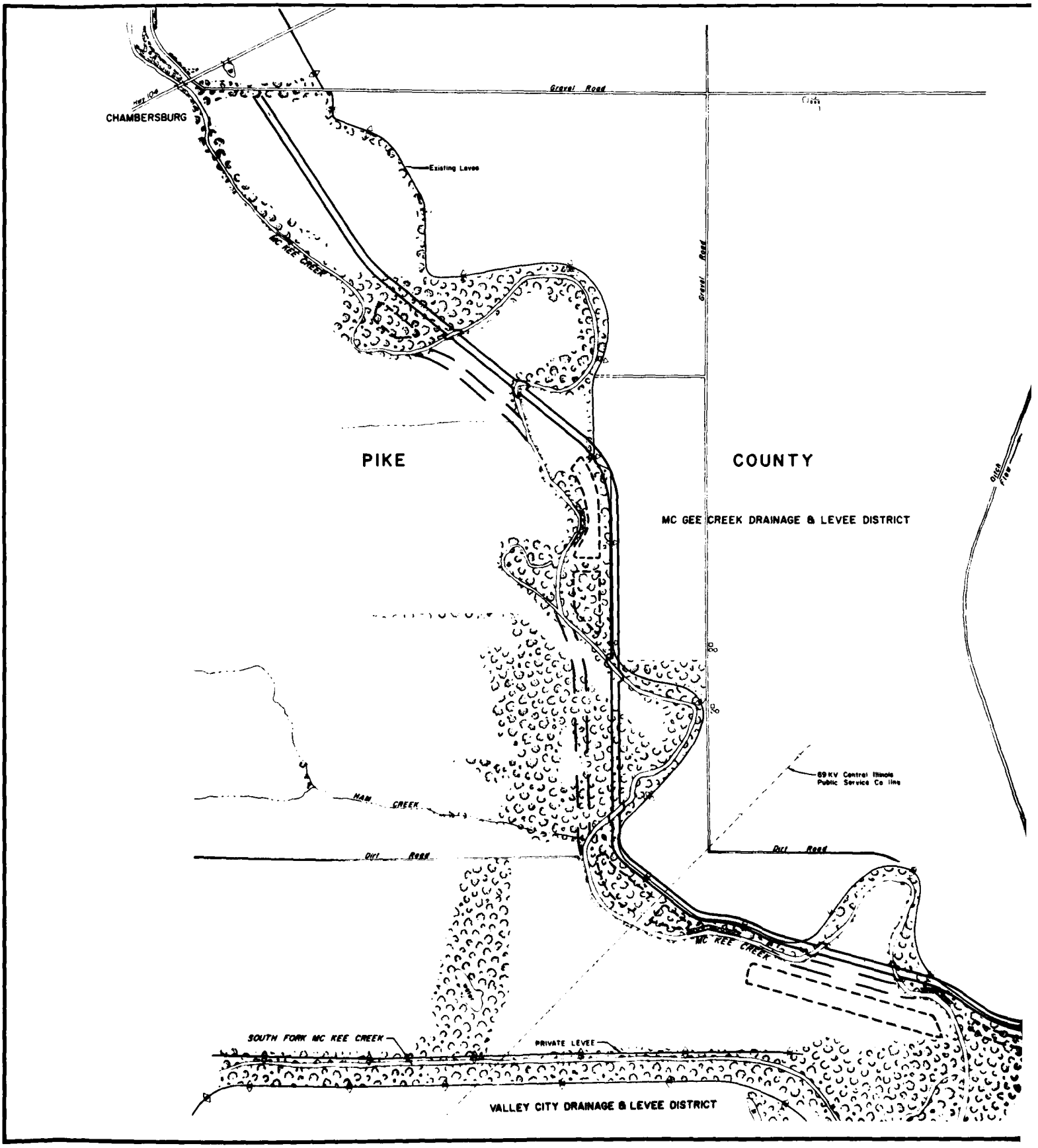

Ditch
Ditch
Ditch
Ditch
Ditch
Ditch
Sand Ridge S.D.
EAGLE ISLAND
PLAN

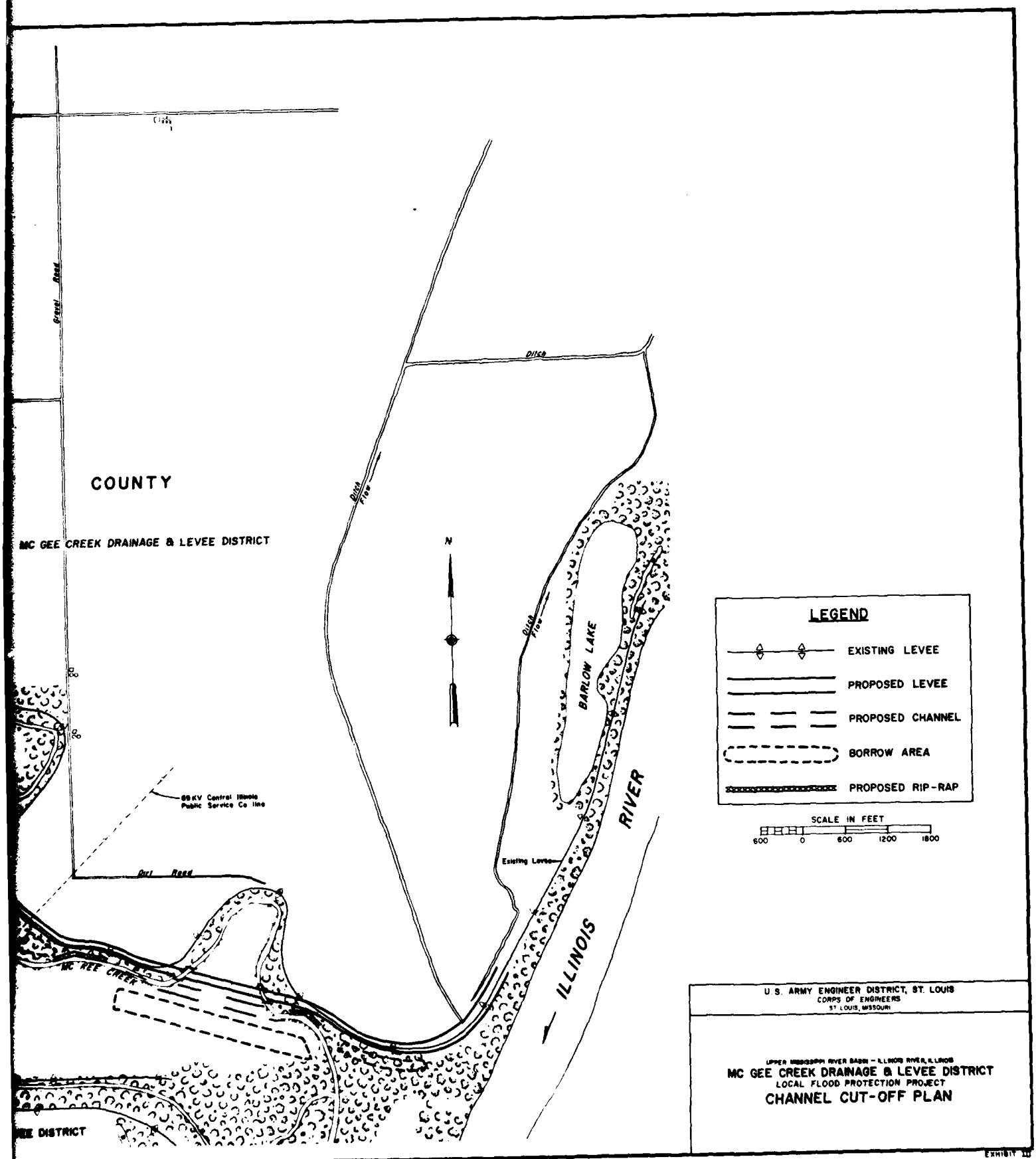


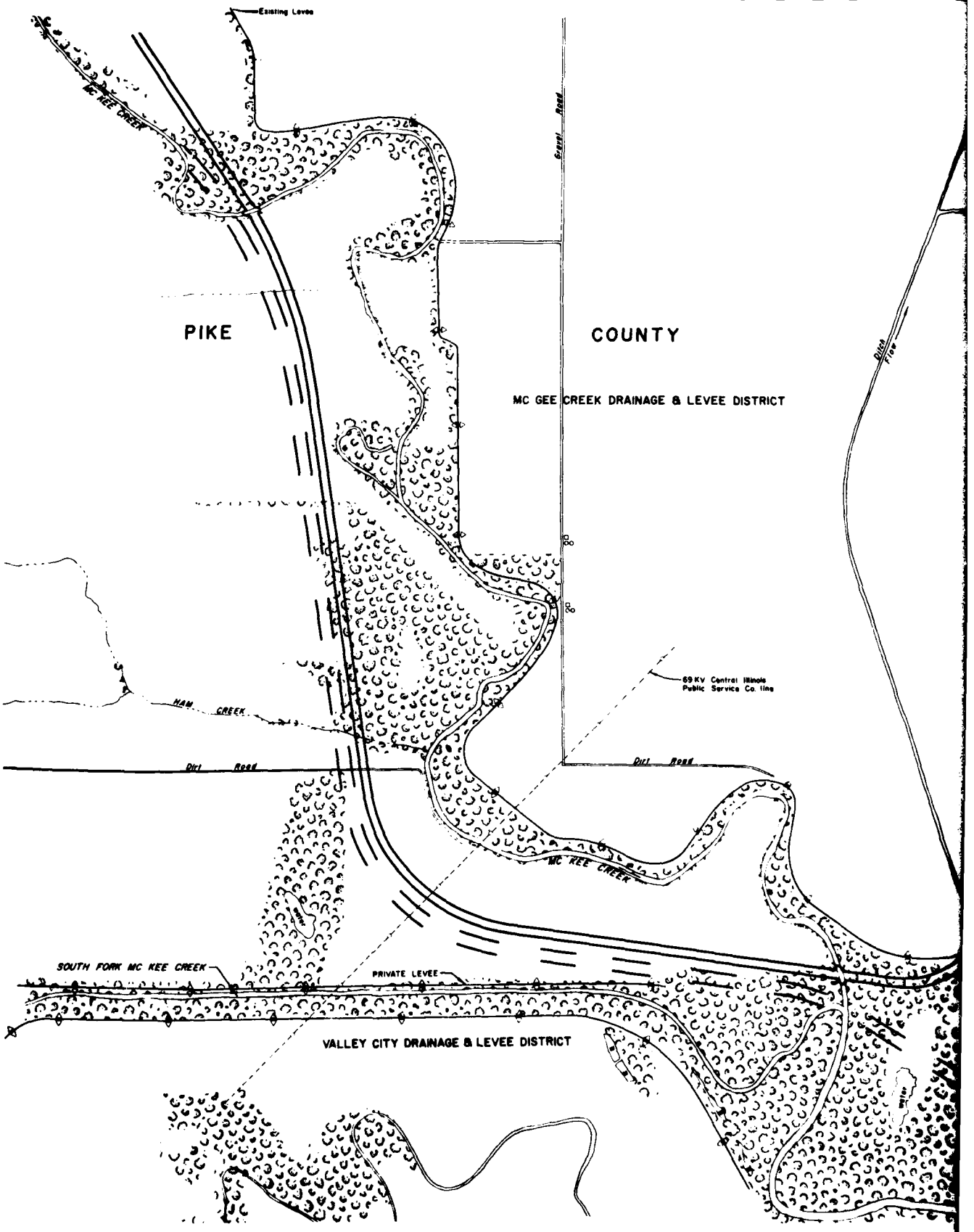
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN ILLINOIS RIVER ILLINOIS
McGEE CREEK DRAINAGE & LEVEE DISTRICT
LOCAL FLOOD PROTECTION PROJECT
GENERAL PLAN

EXHIBIT D-8


Gravel Road
CHAMBERSBURG
Existing Levee
MC KEE CREEK
Gravel Road
PIKE
COUNTY
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
69 KV Central Illinois Public Service Co line
HAM CREEK
Dirt Road
Dirt Road
MC KEE CREEK
SOUTH FORK MC KEE CREEK
PRIVATE LEVEE
VALLEY CITY DRAINAGE & LEVEE DISTRICT


COUNTY
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
Gravel Road
Ditch
Ditch Flow
Ditch Flow
N
BARLOW LAKE
ILLINOIS RIVER
Existing Levee
69 KV Central Illinois Public Service Co line
Dirt Road
MC KEE CREEK
EE DISTRICT
LEGEND
EXISTING LEVEE
PROPOSED LEVEE
PROPOSED CHANNEL
BORROW AREA
PROPOSED RIP-RAP
SCALE IN FEET
600 0 600 1200 1800
U.S. ARMY ENGINEER DISTRICT, ST. LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI
UPPER MISSISSIPPI RIVER BASIN – ILLINOIS RIVER, ILLINOIS
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
LOCAL FLOOD PROTECTION PROJECT
CHANNEL CUT-OFF PLAN
EXHIBIT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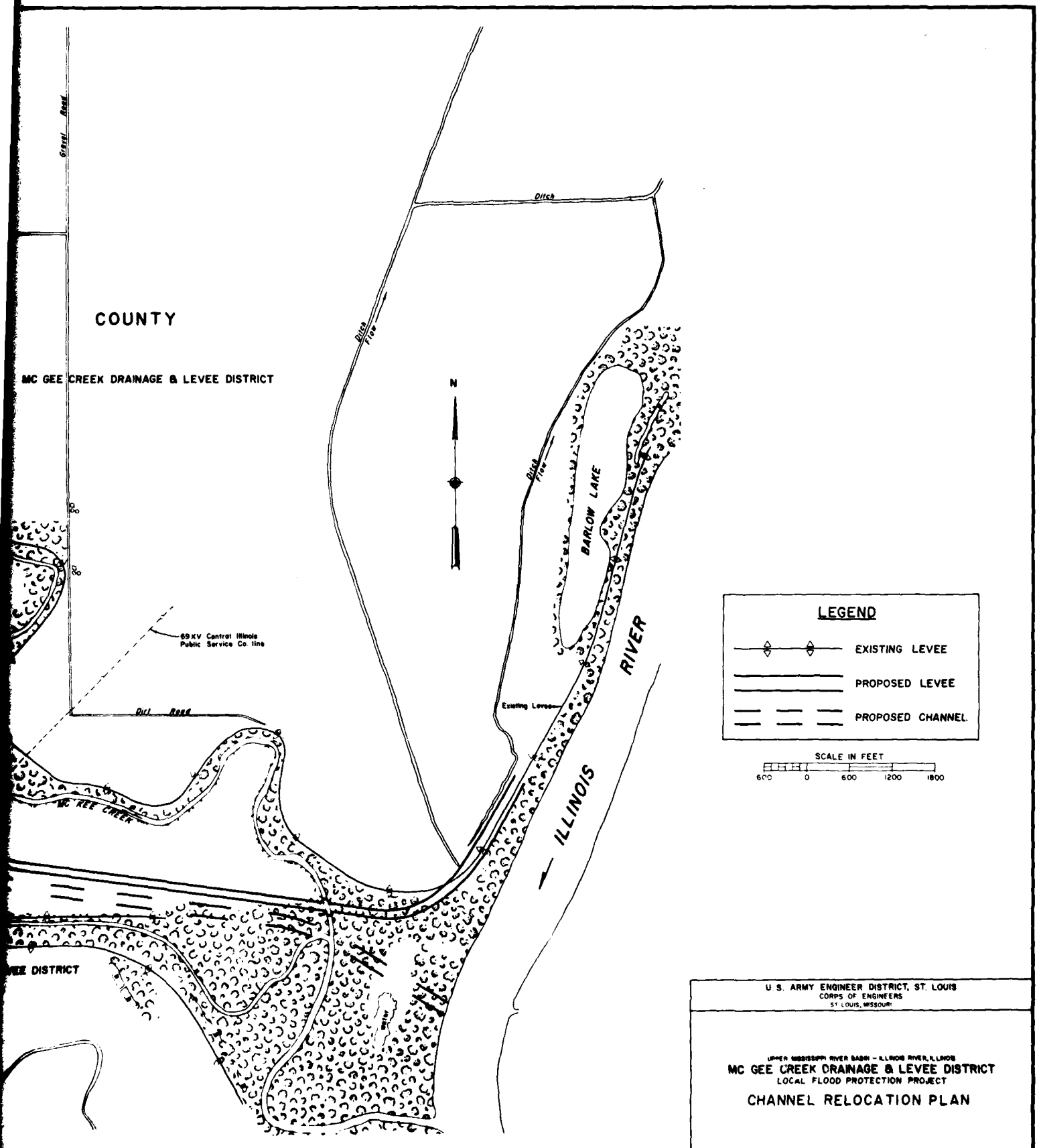
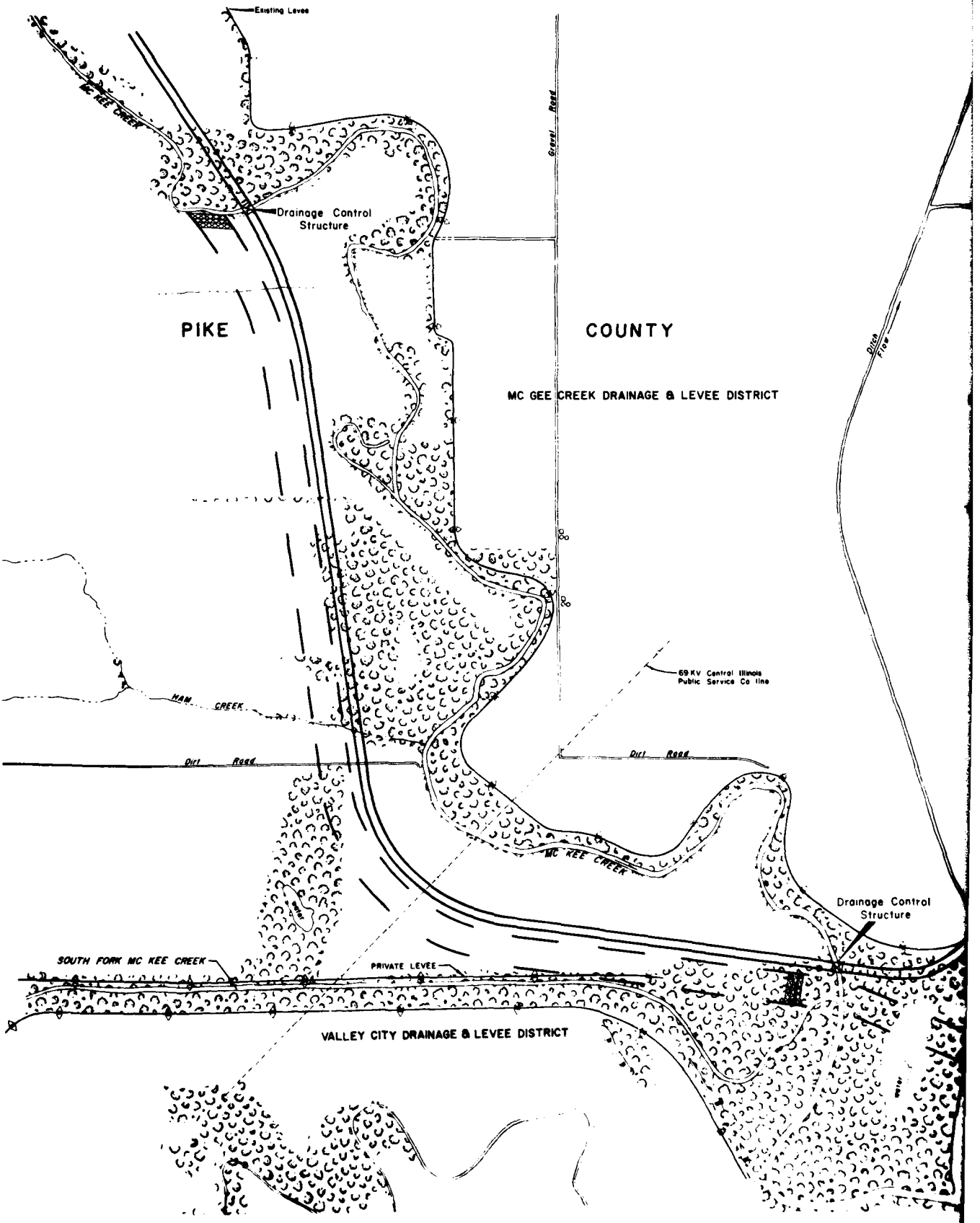
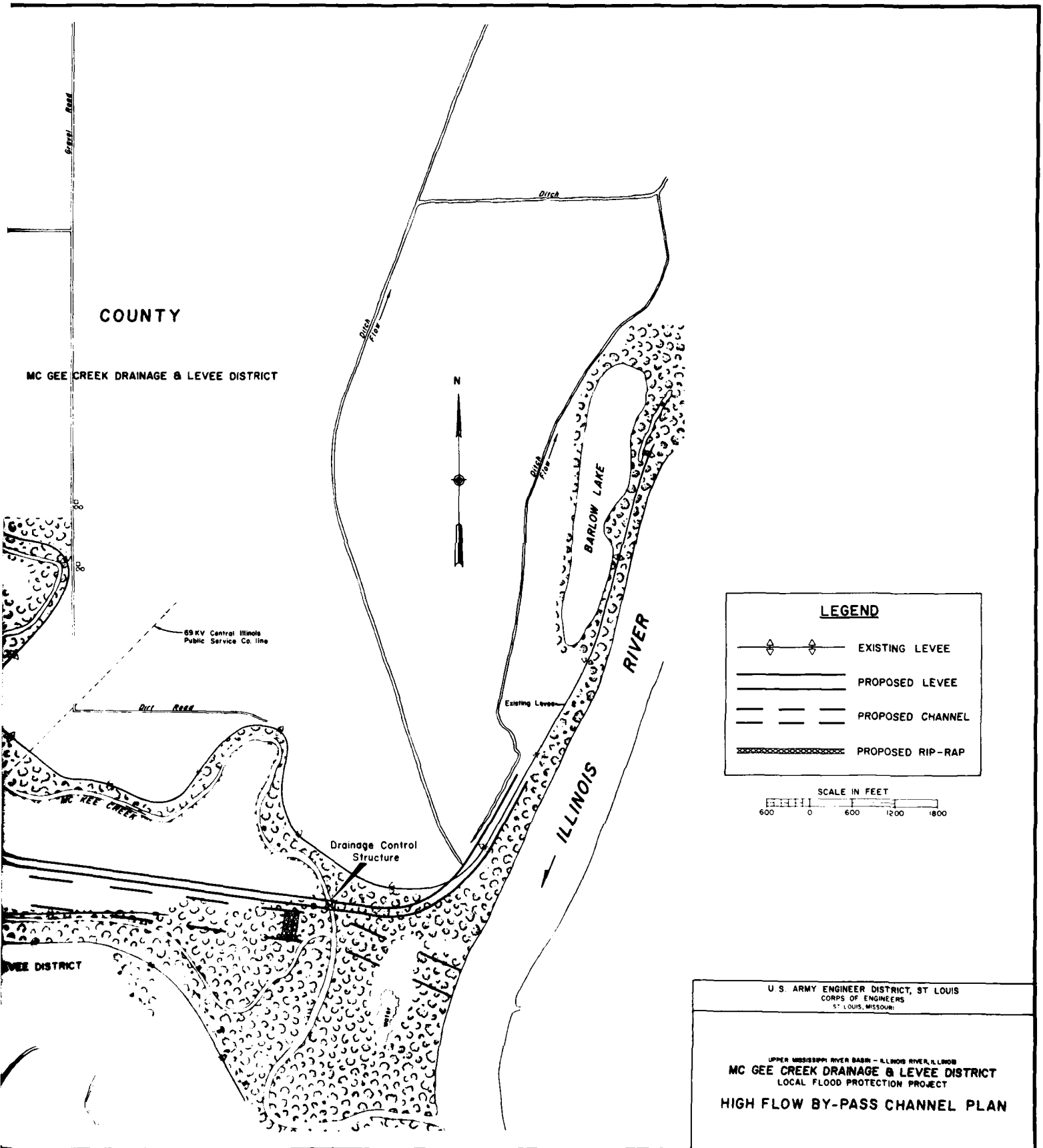
MC KEE CREEK
Gravel Road
PIKE
COUNTY
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
Ditch Flow
69 KV Central Illinois Public Service Co. line
HAM CREEK
Dirt Road
Dirt Road
MC KEE CREEK
SOUTH FORK MC KEE CREEK
PRIVATE LEVEE
VALLEY CITY DRAINAGE & LEVEE DISTRICT


COUNTY
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
Gravel Road
Ditch
Ditch Flow
Ditch Flow
N
BARLOW LAKE
69 KV Central Illinois Public Service Co. line
Dirt Road
Existing Levee
MC KEE CREEK
ILLINOIS RIVER
LEGEND
EXISTING LEVEE
PROPOSED LEVEE
PROPOSED CHANNEL
SCALE IN FEET
600 0 600 1200 1800
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI
UPPER MISSISSIPPI RIVER BASIN - ILLINOIS RIVER, ILLINOIS
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
LOCAL FLOOD PROTECTION PROJECT
CHANNEL RELOCATION PLAN
EXHIBIT 2


Existing Levee
MC KEE CREEK
Gravel Road
Drainage Control Structure
PIKE
COUNTY
Ditch Flow
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
69 Kv Central Illinois Public Service Co line
HAM CREEK
Dirt Road
Dirt Road
MC KEE CREEK
Drainage Control Structure
SOUTH FORK MC KEE CREEK
PRIVATE LEVEE
VALLEY CITY DRAINAGE & LEVEE DISTRICT



U. S. ARMY ENGINEER DISTRICT, ST LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

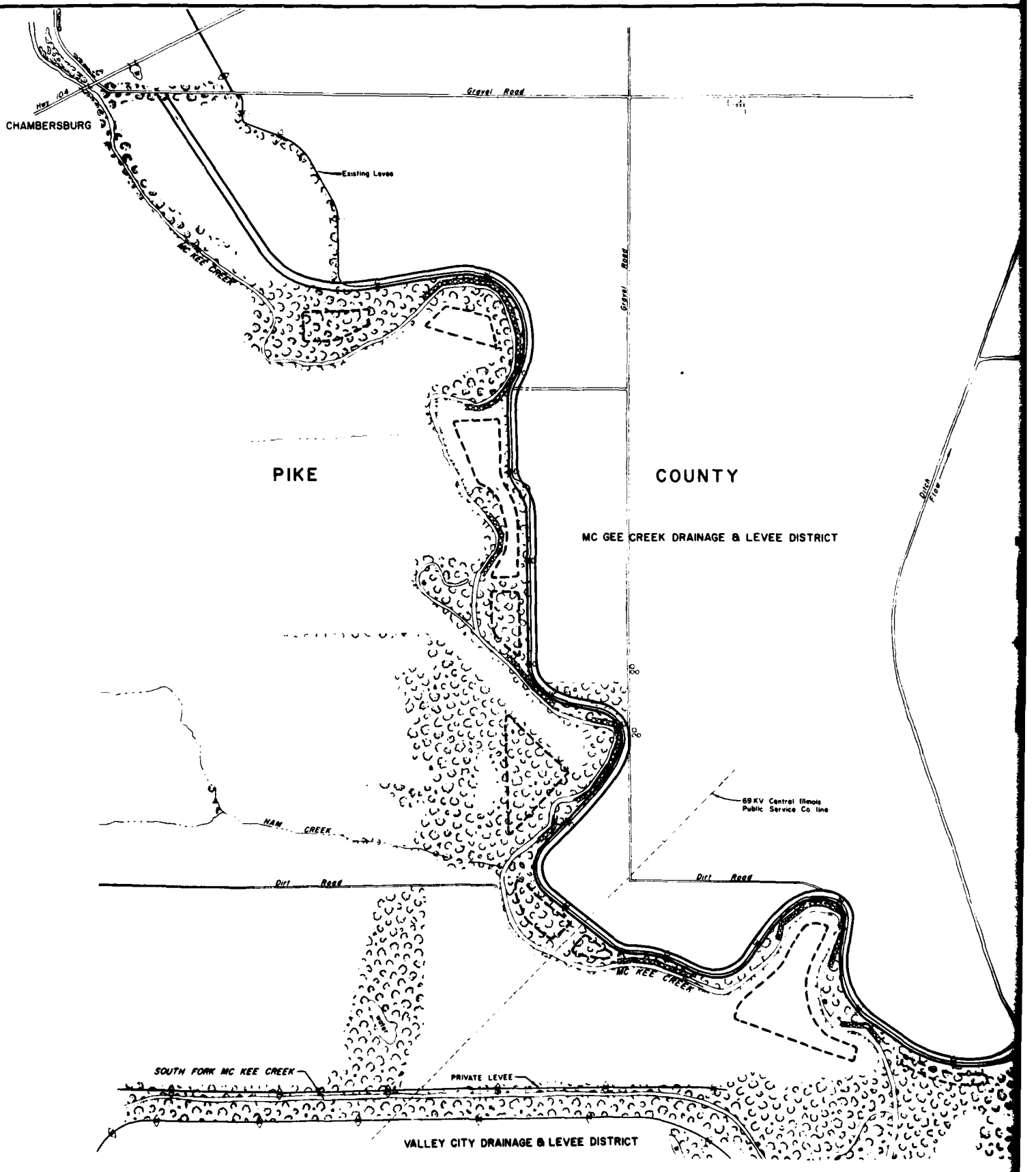
UPPER MISSISSIPPI RIVER BASIN – ILLINOIS RIVER, ILLINOIS

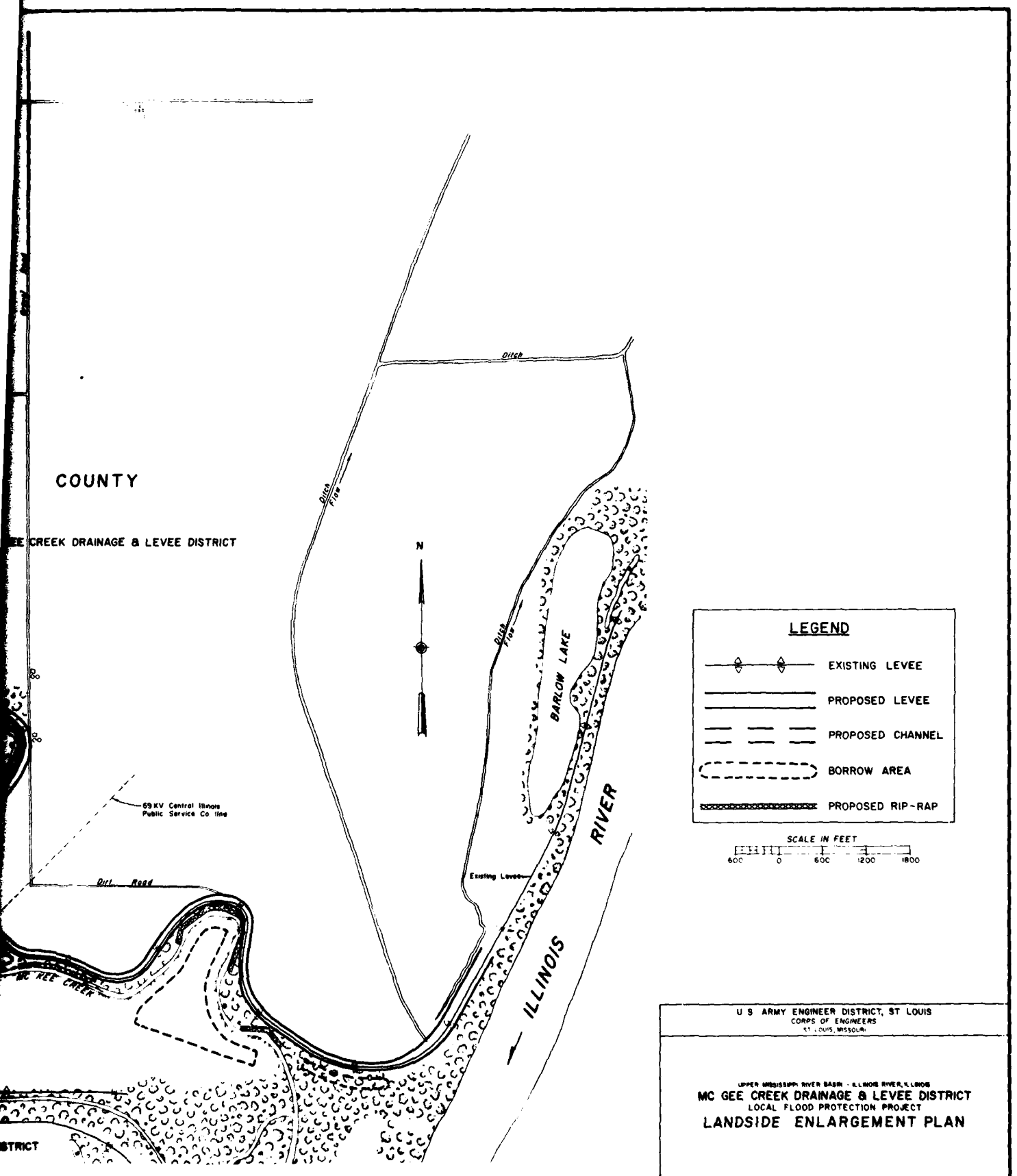
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
LOCAL FLOOD PROTECTION PROJECT

HIGH FLOW BY-PASS CHANNEL PLAN

EXHIBIT X

2


Gravel Road
Hwy 104
CHAMBERSBURG
Existing Levee
MC KEE CREEK
Gravel Road
PIKE
COUNTY
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
Ditch Flow
69 KV Central Illinois Public Service Co. line
HAM CREEK
Dirt Road
Dirt Road
MC KEE CREEK
SOUTH FORK MC KEE CREEK
PRIVATE LEVEE
VALLEY CITY DRAINAGE & LEVEE DISTRICT


COUNTY
EE CREEK DRAINAGE & LEVEE DISTRICT
Ditch
Ditch Flow
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Ditch Flow
BARLOW LAKE
69 KV Central Illinois Public Service Co line
Dirt Road
Existing Levee
MC KEE CREEK
ILLINOIS RIVER
STRICT
LEGEND
EXISTING LEVEE
PROPOSED LEVEE
PROPOSED CHANNEL
BORROW AREA
PROPOSED RIP-RAP
SCALE IN FEET
600 0 600 1200 1800
U S ARMY ENGINEER DISTRICT, ST LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI
UPPER MISSISSIPPI RIVER BASIN - ILLINOIS RIVER, ILLINOIS
MC GEE CREEK DRAINAGE & LEVEE DISTRICT
LOCAL FLOOD PROTECTION PROJECT
LANDSIDE ENLARGEMENT PLAN
EXHIBIT VI

APPENDIX B

Comments Received

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P.O. Box 678, 200 W. Church St., Champaign, Illinois 61820

September 27, 1972

Colonel Guy E. Jester
District Engineer
U. S. Army Corps of Engineers
210 North 12th Street
St. Louis, Missouri 63101

Dear Colonel Jester:

We have reviewed the Draft Environmental Statement on McGee Creek Drainage and Levee District, Illinois, forwarded August 15, 1972.

Page 1, paragraph 2, sentence 4, refers to "accumulation of runoff from 3,445 acres of adjoining hill land" -- erosion was not mentioned. If soil and water conservation treatment is needed, the sponsors may wish to contact the Brown or Pike County Soil and Water Conservation District for assistance in reducing soil and water losses from the hill land.

Page 2, second paragraph, sentence 4, reads "These borrow areas will have an average depth of six feet and will be drained and encouraged to revegetate." Suggest it read "These borrow areas will have an average depth of six feet and will be drained. Vegetative cover will be reestablished on the side slopes by such measures as liming, fertilization, seeding, and mulching.

Suggest the statement include plans for vegetating the new and rebuilt levees and channel banks to reduce erosion during and following construction.

There is no mention of the valuable wildlife habitat which will result from the levee vegetation, if included.

If you have questions concerning the soils, erosion control, vegetative seedings, woodland or wildlife plantings, fertilization, borrow area development, drainage, or any soil and water conservation practice, don't hesitate to get in touch with our district conservationists, Mr. Robert E. Lantz, located at P.O. Box 53, Route 36 West, Pittsfield, Illinois 62363, telephone 217-285-6315 or Eugene R. Nichols, located at P.O. Box 56, Route 24 West, Mt. Sterling, Illinois 62353, telephone 217-773-2316.

We appreciate the opportunity to review and comment on the proposed project.

Sincerely,

Howard W. Busch
State Conservationist

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Northeastern Area - State and Private Forestry
6816 Market Street, Upper Darby, Penna. 19082

REPLY TO: 1940

September 15, 1972

SUBJECT: Draft Environmental Statement
McGee Creek Drainage & Levee District, Illinois

TO: Colonel Guy E. Jester
District Engineer
Corps of Engineers
210 North 12th Street
St. Louis, Missouri 63101

We have reviewed the above statement on levee and channel cutoff construction.

The project will prevent flooding on 1,416 acres with 375 acres of cropland removed from cultivation. This does not seem adequate justification for loss of fish and wildlife habitat.

(P. 10) - Who determines what "high quality" wildlife is?

(P. 11) - By cutting 14,400 feet of natural stream to 6,600 feet, grade will be more than doubled, rate of flow at least doubled. This will increase chance of flooding in Pike and Scott Counties.

There are other channelization projects in the Mississippi River system. The total effect on flooding in the lower Mississippi Valley is not known. Heavy siltation and changes in stream location may result downstream as a cumulative effect of numerous channelizations.

Thank you for the opportunity to review this statement.

WILLIAM E. MURRAY
Assistant Director
Environmental Protection & Improvement

THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

September 28, 1972

Colonel Guy E. Jester
District Engineer
U.S. Department of the Army,
Corps of Engineers
210 North Twelfth Street
St. Louis, Missouri 63101

Dear Colonel Jester:

The draft environmental impact statement for "McGee Creek Drainage and Levee District, Illinois," which accompanied your letter of August 15, 1972, has been received by the Department of Commerce for review and comment.

The Department of Commerce has reviewed the draft environmental statement and has the following comments to offer for your consideration.

Summary: The loss of mussel beds, both through hydraulic dredging for fill and the resulting siltation, should be mentioned in items 3 and 4.

Environmental Setting Without the Program: It should be noted on page 8 that the current reduction in mussel marketability resulted in part from the large inventories of mussels that resulted from the taking of 54,000 pounds of shell from the Illinois River in 1970.

The Environmental Impact of the Proposed Action: On page 12, item f, any measures that will be taken to reduce turbidity and siltation from dredging should be mentioned. Although the commercial value of mussels is low at this time, it is of course possible that their value will increase in the future.

We suggest that the third paragraph on page 13 be revised to indicate that although the actual time that the increased sediment load is carried by the river may indeed be temporary, the effect of siltation could be equally as detrimental to fish spawning and mussel bed locations as their actual physical removal by dredging.

Adverse Environmental Effects Which Cannot be Avoided Should the Project be Implemented: The loss of some mussel beds should be mentioned in this section.

Alternatives to the Proposed Action: Judgments regarding the significance of environmental impacts should be accompanied by at least a brief description of the alternatives to the proposed improvement to the upper flank and riverfront levee. It is difficult for the reader to evaluate the validity of judgments when the basis for such judgments is not provided.

We hope these comments will be of assistance to you in the assistance to you in the preparation of the final statement.

Sincerely,

Sidney R. Galler

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
AREA OFFICE
17 NORTH DEARBORN STREET
CHICAGO, ILLINOIS 60602

AREA OFFICES
Chicago, Illinois
Columbus, Ohio
Detroit, Michigan
Indianapolis, Indiana
Milwaukee, Wisconsin
Minneapolis-St. Paul, Minn.

REGION V
REGIONAL OFFICE
CHICAGO, ILLINOIS

IN REPLY REFER TO:
5.211

20 SEP 1972

Department of the Army
St. Louis District
Corps of Engineers
210 North 12th Street
St. Louis, Missouri 63101

Attention: Colonel Guy E. Jester,
District Engineer

Re: Draft Environmental
Impact Statement
McGee Creek Drainage and
Levee District, Illinois

Dear Col. Jester:

This is to acknowledge receipt of the subject material, submitted in accordance with the requirements of the National Environmental Policy Act of 1969. We have reviewed the material and have determined the following regarding our obligation to reply to your proposal within the Department of Housing and Urban Development's jurisdiction by law or expertise:

[X] The subject proposal requires no comment from this Department.

[ ] Kindly note the attached staff comments.

[ ] We intend to submit our technical comments to you by _____.

Sincerely,

John L. Dawson
Director

United States Department of the Interior

OFFICE OF THE SECRETARY
UPPER-MISSISSIPPI WESTERN GREAT LAKES AREA
2510 DEMPSTER STREET
DES PLAINES, ILLINOIS 60016

ER 72/1197

November 30, 1972

Colonel Guy E. Jester
District Engineer
U. S. Army Engineer District,
St. Louis
210 North 12th Street
St. Louis, Missouri 63101

Dear Colonel Jester:

The Department of the Interior has reviewed the Draft Environmental Statement on McGee Creek Drainage and Levee District, Illinois, as requested in your transmittal letter to Interior Assistant Secretary, Program Policy, Office of Environmental Project Review, on October 5, 1972. Our comments have been prepared in accordance with the National Environmental Policy Act of 1969 (P.L. 91-190).

The proposal will have no adverse effect upon any existing or proposed units of the National Park System. Adequate coverage is given of the damages to fish and wildlife resources expected as the result of the proposed project. Proposed structural modifications will be detrimental to the existing stream ecosystem.

Other than brief references to the angler use and fisherman boating on McKee Creek, the draft statement makes no mention of outdoor recreational use of land or water within the project area. Reference to the types of present general recreational uses in the area, if any, and how such uses will be affected by the proposed project seems warranted.

DRAFT ENVIRONMENTAL STATEMENT

2. Environmental Setting Without the Project

Page 8, paragraph 2--We note with considerable interest the reference to the archeological findings of the Foundation for Illinois Archeology. We are particularly concerned about the fate of the Hinners site, which is described as "an unusually important Hopewell Culture Village site,

dating to about 100 BC to 200 AD". This site, according to the report, "is in pristine condition and is one of only five such Hopewell sites known to occupy a floodplain location". Accordingly, it is most important that the Corps of Engineers explore an alternative that would not disturb this important archeological resource. If there is no feasible alternative, then the environmental statement should specify in detail the program that will be undertaken to record the findings, to salvage as much as possible of the physical evidence of the Hinners site as well as the other two sites that lie within construction limits of the levee improvement.

Page 10, paragraph 2--One cannot determine the location of the 375 acres of cropland that will be lost due to project construction. Maps and exhibits included with the statement do not indicate such a loss.

Page 10, paragraph 3--Although, as stated, the total amount of forest edge will not be reduced by the project, such a situation will prevail due to project incursions into the forested areas. Since less than one percent of the land within the district boundaries is covered with woods and brush, the importance of such cover to wildlife species is magnified. The proposed project will substantially reduce the amount of this cover, and those local wildlife species dependent upon it will accordingly be reduced in numbers. Project-occasioned destruction of such cover eliminates possible improvement of existing cover by protection from grazing.

Page 11, paragraph 2--Apparently no means will be taken with the project to protect the cutoff oxbows as natural habitat units. The reasons for this lack of protection of oxbows should be explained. Without such protection, landowners can be expected to clear, fill, or drain these areas for agricultural production.

Page 11, paragraph b--Delete the sentence which reads, "However, this is a warm water fishery and biologically damaging temperatures are not expected". Evidence is too sketchy to make this prediction.

Page 13, paragraph 4--The possibility of project activities disrupting or damaging the archeological sites of the area should be listed in the section on adverse environmental effects.

4. Adverse Environmental Effects Which Cannot be Avoided Should the Proposal be Implemented

Page 14, paragraph 1--This section is adequate in its description of adverse project effects on environmental factors. Unfortunately, it does not discuss required features to protect cutoff oxbows, replace lost timberland, or to replace loss of stream habitat and the stream fishery.

5. Alternatives to the Proposed Action

Pages 14 through 19, paragraph 1--This section fails to discuss several apparent alternatives. For example, advantages of a "no project" concept are not considered. Improving the existing [illegible]ee and leaving the riverine habitat undisturbed appears feasible. Certainly, the "no action" alternative would be in the best interest of fish and wildlife resources. Along with the economic disadvantages of this alternative, this section of the statement should discuss the advantages to fish and wildlife resources.

With regard to certain project measures, economic and technical expediency is being secured at the expense of adverse environmental effects associated with obtaining borrow materials to implement the proposed action: Reduction of wildlife habitat, degradation of the stream fishery, disruption of mussel beds, and erosion of aesthetic values. The statement should consider the alternative of reducing such direct damages by using upland or agricultural areas for borrow sites.

Moreover, the possibility of adding specific project measures to compensate for expected damages to fish and wildlife resources should be thoroughly discussed.

8. Coordination with Others

Page 20--It appears that coordination on project planning has not been complete. The Bureau of Sport Fisheries and Wildlife was not kept apprised of recent developments, nor involved in selection of the present project plan. Accordingly, all alternatives and measures have probably not been exhausted. Certainly the project lacks a plan to compensate for project-incurred losses. Furthermore, the Bureau of Sport Fisheries and Wildlife has not had the opportunity to review the Survey Report, Design Memorandum, or project report for the presently proposed project.

Since coordination and review of the plan is still lacking, further modifications may be suggested or another plan could be selected. From the ecological standpoint, it appears that final preparation of the environmental impact statement should be delayed until the foregoing matters have been resolved.

Sincerely,

Burton H. Atwood

Burton H. Atwood
Field Representative
for the Secretary

EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, D.C. 20500

OPPORTUNITY

September 18, 1972

Guy E. Jester
Colonel, C E
District Engineer
Department of the Army
210 North 12th Street
St. Louis, Missouri 63101

Re: Draft Environmental Statement
McGee Drainage and
Levee District, Illinois

Dear Sir:

Thank you for your letter of August 15, 1972 regarding the draft environmental statement on the above mentioned project.

This office in coordination with our Regional Office and the affected community action agencies have carefully reviewed this statement. On the basis of information from this review, we have no reason to believe that the proposed action will have an adverse environmental impact on the low income neighborhoods involved. Should we receive any further information we will advise.

We appreciate the opportunity to comment on this draft statement.

Sincerely,

Arthur J. Reid, Jr.
Director
Intergovernmental Relations

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
1 NORTH WACKER DRIVE
CHICAGO, ILLINOIS 60606

OCT 18 1972

Col. Guy E. Jester, District Engineer
U. S. Army Engineer District, St. Louis
210 North 12th Street
St. Louis, Missouri 63101

Dear Colonel Jester:

Reference is made to your letter of August 15, 1972, requesting our comments on the Draft Environmental Impact Statement (EIS) for McGee Creek Drainage and Levee District, Illinois. We have completed our review of this EIS.

We cannot approve of any project that involves this type of construction when in our view the overall adverse environmental consequences of enlarging, straightening and dredging stream channels that may have significant natural value will outweight the beneficial effects. The following comments specifically address the Draft EIS.

Summary Sheet - The summary sheet should include a brief synopsis of the information presented in the sections titled, The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity, and Any Irreversible and Irretrievable Commitments of Resources Which Would Be Involved in the Proposed Action Should It Be Implemented.

A breakdown of the monetary costs and benefits of the proposed project should be included in this section. Information such as the percentage of the total project benefits that are attributable to the new levee section along McGee Creek would be helpful. It is encouraging to note that the approved plan was modified in order to reduce adverse environmental impacts. However, use of the phrase"...tentatively modified..." could be considered a forewarning that environmental concern may be waived.

Project Description. Exposure of excavated channel banks and disturbance of the natural stream flow regiment tends to aggrevate bank erosion with resultant increased sedimentation downstream. Adequate means of control should be outlined. Any possible flow changes and resulting erosion of Meredosa Island due to use of hydraulic fill from the Illinois River should be thoroughly discussed in the EIS.

OCT 18 1972

Col. Guy E. Jester, District Engineer
U. S. Army Engineer District, St. Louis

The overall plans for the Illinois River should be included in the description in order to fully assess the total impact on the river's environment.

Present Environmental Setting. This section should include a brief description of the climate of the area. This discussion should indicate the amount, character and the seasonal distribution of precipitation and the annual range of temperatures. This section should also describe the present flood hazard as to its intensity and duration when it exceeds the existing levee protection. The EIS should also indicate how much of this damage is attributable to development beyond the existing levee on Upper McGee Creek. The present land-use of the area along McGee Creek, between the existing levee and the proposed levee, should be discussed in greater detail, since this part of the Drainage District appears to involve most of the future land-use changes and much of the project's anticipated monetary benefits.

Can the Soil Conservation Service program to reduce flood flows on the upper portion of McGee Creek be considered as a reasonable alternative to this project?

There are no guarantees that the land-owners will improve their agricultural techniques if the levee district is improved. Therefore, this may not be an environmental impact of this project.

With an increase in depth and flow due to hydraulic fill procedures the possibility of the mussel beds re-establishing themselves seems unlikely. This in turn may lead to a decrease in the recreational uses of the area.

Consideration should be given to the problems of access to the river bank for fishing or viewing after the proposed levee modifications are completed, the aesthetic impact of the levee itself and what, if anything, will be done to improve its appearance. It is also suggested that the three channel cutoffs or oxbow lakes are a valuable recreational resource and should be preserved. Consideration should be given to providing stream flow through the oxbow lakes during high stream flows. One method would be to construct conduits through the upstream and downstream cutoff structures.

The disposition of alluvial material doesn't cause any harm to the farmland. It is our opinion that this material provides nutrients and organic material which aids in crop production. With the elimination of the alluvial material the farmers will probably have to increase the amount of fertilizer they use and may increase nutrient runoff.

OCT 18 1972

Col. Guy E. Jester, District Engineer
U. S. Army Engineer District, St. Louis

Environmental Impacts of the Proposed Action. The precautions to prevent pollution from construction operations are not adequately discussed. These should be specific requirements of the construction specifications. The precautions for the Barlow Lake area should be specifically detailed.

Adverse Environmental Affects Which Cannot Be Avoided Should the Proposed Project Be Implemented. The increased turbidity and sedimentation created by the new channel construction will have a serious detrimental effect on the aquatic life along lower McGee Creek and below the dredging operation on the Illinois River. This problem will persist, albeit to a lesser extent, long after the construction phase is completed, due to the higher stream velocity over an unvegetated stream bottom. Increased sediment loads could adversely affect downstream structures, such as water intakes, sewage outfalls, and marinas, especially during high water periods.

This section should include a discussion of the possible impacts of construction related noise, dust, and smoke on human and wildlife populations in the project area. In addition, the disposal methods for debris should be included in the EIS. Landscape debris may be mulched and used as an erosion preventive material.

The collection system and ponding areas for internal drainage should be designed and operated to function as sedimentation basins and reduce sediment loads carried in surface runoff.

The EIS should describe the quality of the dredge spoil that will be used as levee fill material. If the spoil is polluted, extra care must be exercised in its deposition, and additional land borrow areas may be necessary to provide sufficient material to complete the project.

There is a good possibility that there will be a loss in the streams reaeration capacity. The adverse effects should be discussed in the EIS.

The possibility of increased flooding occurring in the Illinois River downstream from the project should be discussed.

Alternatives to the Proposed Action. We believe that there is another alternative that should have been considered and discussed in the EIS. This alternative, involves a combination of the channel cutoff modification discussed in the proposed plan of action and the emergency high flow bypass alternative together with any necessary riprapping needed to stabilize the natural channel and protect the levees. The accompanying map of the proposed Corps project has been modified to indicate the construction features of this alternative.

OCT 18 1972

Col. Guy E. Jester, District Engineer
U. S. Army Engineer District, St. Louis

This alternative would involve a complete channel cutoff of the first meander upstream from the Illinois River (indicated in blue) thereby eliminating the need for expensive gate structures on the natural channel, which, as we understand, are only needed to prevent the back-up of flood waters from the Illinois River into the natural river channel. Above the point of maximum influence of Illinois River flood stages (indicated by the orange line across the river channel) two emergency high flow bypasses would be provided to handle flood flows in excess of the natural channel capacity. No gate structures would be provided on the natural channel at these bypasses. The existing levee could then be modified if necessary and the two upstream meanders riprapped to protect the levee.

This alternative would (a) eliminate the need for costly gate structures, (b) preserve 10,800 feet of the natural stream channel, (c) reduce turbidity and sedimentation resulting from higher stream velocities in an unvegetated stream channel, (d) involve the same costs for land acquisition as the proposed plan, (e) probably reduce flood damage over the long-term by discouraging intense development on the land between the old levee and the river.

Another alternative, the possibility of a green belt in this area should be discussed. The potential as a recreational area could have a higher cost benefit ratio than agricultural land use.

The paragraph describing the "no action" alternative indicates that the Federal share of flood damages will be $50,000 in FY 1972 but only $30,000 in FY 1973. Does this reduction represent an overall decline in flood damages? Is it indicative of an adjustment by local farmers to the flood hazard? If this represents a trend, and considering the low benefit-cost ratio, it may be prudent to re-evaluate the need for the approved plan, and further evaluation of alternatives may be in order.

The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity - Turbidity and sedimentation will continue for a considerable time after the construction phase due to increased stream velocities along the new unvegetated channel bottom.

Irreversible or Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action Should It Be Implemented. The material used in constructing the levee and stabilizing the banks of McGee Creek should be mentioned here. The encroachment of fixed structures (fences, out buildings, drainage structures, etc.) onto the newly protected portions of the flood plain may be viewed as an irreversible and irretrievable commitment of resources.

OCT 18 1972

Col. Guy E. Jester, District Engineer
U. S. Army Engineer District, St. Louis

The loss of mussel beds may also be considered an irreversible commitment. The loss of this part of the food chain could be detrimental in changing the fish ecology of this part of the Illinois River. With the increase in turbidity, nutrient runoff, and water temperature, the creation of a favorable habitat for scavenger fish would exist.

Our agency has recently approved a Water Quality Management Plan for the Lower Illinois River area. On the basis of information at hand, it appears that this levee project, as currently proposed, will not be in conflict with the water quality plan. However, we do feel that siltation could adversely affect water quality downstream from the project area and would be in conflict with the Illinois stream standards which prohibit any activity "that will create unnatural color or turbidity."

In order for our agency to conduct a meaningful analysis of this project and others of this type, we believe an Environmental Statement should be prepared for all proposed improvements in the Illinois River Basin. This statement should include objective and thorough analysis of all viable non-structural and structural alternatives and their cumulative effects (i.e. environment, social and economic consequences) of the proposed overall channelization program. Unless the program analysis clearly supports the proposed actions, our agency must express opposition to alteration of stream channels with significant natural values.

Sincerely yours,

Francis T. Mayo

Francis T. Mayo
Regional Administrator

Attachment
Exhibit IIa

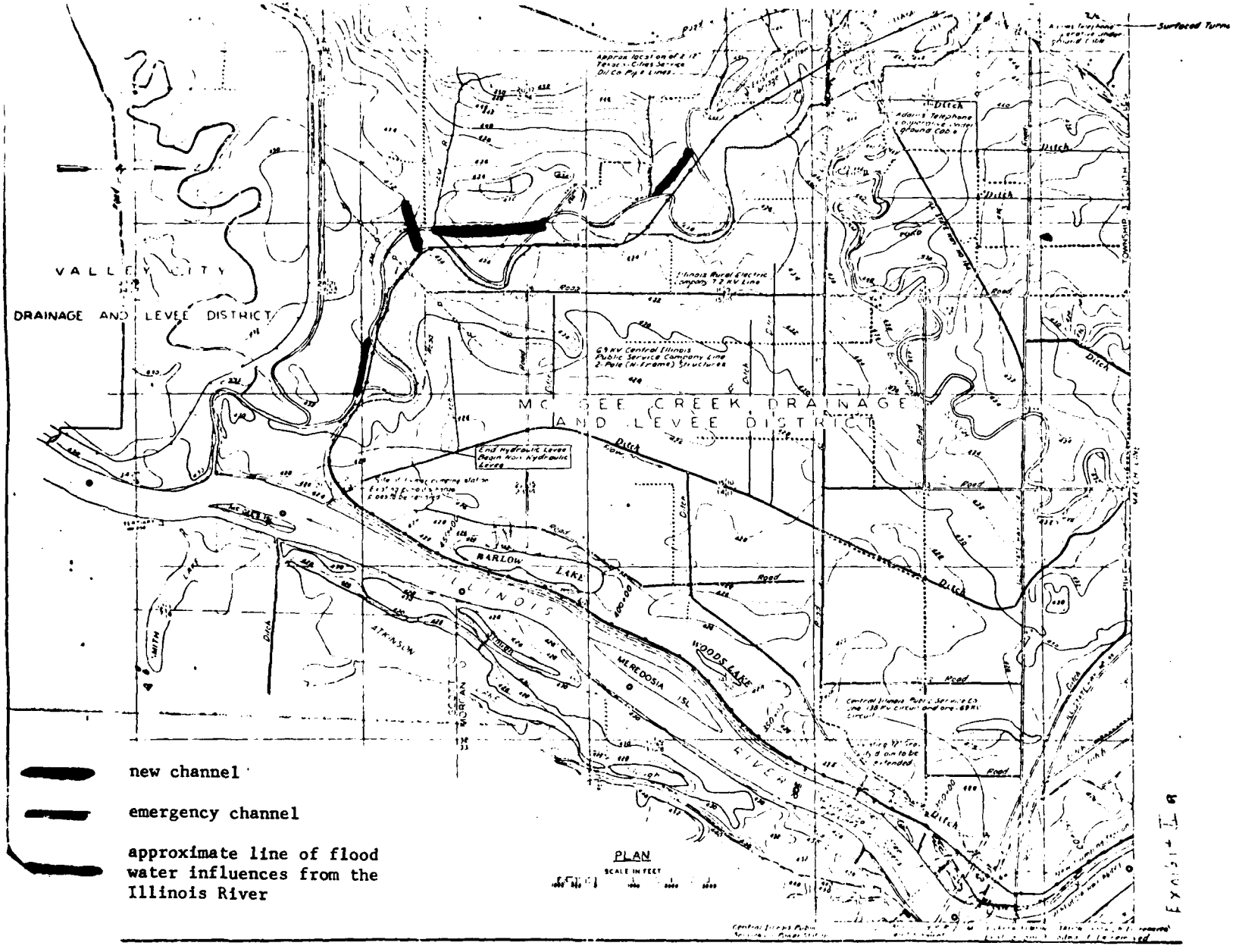

VALLEY CITY
DRAINAGE AND LEVEE DISTRICT
McGEE CREEK DRAINAGE
AND LEVEE DISTRICT
BARLOW LAKE
ILLINOIS
MEREDOSIA ISL
WOODS LAKE
ATKINSON
SCOTT
MORGAN
Surfaced Turns
Ditch
Road
new channel
emergency channel
approximate line of flood water influences from the Illinois River
PLAN
SCALE IN FEET

Exhibit IIa

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS
U.S. COAST GUARD (GWS)
400 SEVENTH STREET SW.
WASHINGTON, D.C. 20590
PHONE: 202-426-2262

Colonel Guy E. Jester
District Engineer
St. Louis District, Corps of Engineers
Department of the Army
210 North 12th Street
St. Louis, Missouri 63101

Dear Colonel Jester:

This responds to your letter of 15 August 1972 addressed to Region IV, Federal Highway Administrator, Homewood, Illinois, concerning the draft environmental impact statement for local proposed improvement project at the McGee Creek Drainage and Levee District, Illinois.

The State of Illinois is within the jurisdiction of the FHWA Region 5 office at Homewood, Illinois where the project was forwarded. Material submitted was subsequently reviewed and responded to at the field level by the Regional Administrator, Region 5, who then sent the project report and statement to the Department of Transportation's Coordinator for Water Resources.

In the Departmental review of the draft statement it was noted that Illinois highway Route 104 crosses the levee. There appears to be no adverse effect on this highway by the proposed project.

The opportunity to review the draft environmental impact statement for this local improvement project in the McGee Creek Drainage and Levee District is appreciated.

Sincerely,

J. D. [illegible]
[illegible] U.S. Coast Guard
Acting Chief, Office of Marine
Environment and Systems

Rec'd 10/2/72

NATURAL RESOURCE DEVELOPMENT BOARD

Ray C. Dickerson, Director

J.R. Webb, Chief, Div. of Water

DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT

222 South College Street
Springfield, Illinois 62706
(217) 525-6135

RICHARD B. OGILVIE
Governor

September 26, 1972

Colonel Guy E. Jester
District Engineer
Department of the Army
St. Louis District
Corps of Engineers
210 North 12th Street
St. Louis, Missouri 63101

Dear Colonel Jester:

In reference to your letter dated August 15, 1972, File No. LMSED-BR, in which you request review and comment, the Natural Resource Development Board has reviewed the draft environmental statement for the following project and has no adverse comment to offer thereon:

Draft, Environmental Statement, McGee Creek Drainage and Levee District, Illinois

We appreciate the opportunity for review.

Sincerely,

Ray C. Dickerson

Ray C. Dickerson
Chairman

NATURAL RESOURCE DEVELOPMENT BOARD

Ray C. Dickerson, Director

J.R. Webb, Chief, Div. of Water

DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT

222 South College Street
Springfield, Illinois 62706
(217) 525-6135

RICHARD B. OGILVIE
Governor

October 10, 1972

Colonel Guy E. Jester
District Engineer
Department of the Army
St. Louis District
Corps of Engineers
210 North 12th Street
St. Louis, Missouri 63101

Dear Colonel Jester:

Reference is made to our letter of September 26, 1972 wherein we had no adverse comments to offer on:

> Draft, Environmental Statement, McGee Creek Drainage and Levee District, Illinois

Subsequent to that letter, the following comments have been received from the Illinois Department of Transportation on this project:

> A closure structure on Illinois Route 104, east of Chambersburg would require a permit from the Illinois Department of Transportation. The closing of Route 104 at certain periods would cause highway traffic to be detoured for rather long distances. The planned levee height in relation to the existing pavement at this point should be indicated.
>
> An increase in the stream velocity at Chambersburg could have undermining effects on the highway bridge foundations at this location.

We ask that any adverse affects on Illinois Route 104 including damage to structures, embankments, pavements and the road user be considered as impacts of this proposed project.

We appreciate the opportunity for review.

Sincerely,

Ray C. Dickerson
Chairman

ILLINOIS Wildlife FEDERATION

13005 S. WESTERN AVE., BLUE ISLAND, ILLINOIS 60406

P. O. BOX 116 PHONE 312-388-3995

Sept. 1, 1972

Col. Guy E. Jester
Army Corps of Engineers
210 N. 12th St.
St. Louis, Mo. 63101

Dear Sir:

This is a response to your invitation for comments on the McGee Creek Drainage and Levee District statement. Our pollution committee feels that we cannot approve of the statement at this time, because of the effects of this project on the environment, both locally and regionally.

It is our opinion that this is simply a continuance of the Corps' past policies of diking, channelling and drainage. Although the plan is proposed as the best of the alternatives as far as environmental impact, we cannot see enough reasons to continue any of these projects, and must at this time recommend Alternative D (No Development) because:

1. Floods along the Illinois River, occurring at less than a 30 year frequency, have been contained by present levees.
2. Straightening of the present channel will eliminate nearly 1½ miles of natural river. This may benefit the barges but will also increase upper flood waters, draining downstream at a more rapid rate and increasing flood potential at sites lower on the river.
3. In terms of actual returns versus cost to all of the citizens of Illinois we feel that while there may be some local economic benefit, and aid to barges using the waterway, the cost in terms of dollars and the damage to the environment as well as archeological sites, does not justify this project as proposed.

Sincerely yours,

Garland Grace
Pollution Chairman

cc: President L. Akers

Rochelle Wildlife Conservation Club
P. O. BOX 282
ROCHELLE, ILLINOIS 61068

PUBLISHERS OF ILLINOIS Wildlife

NATIONAL WILDLIFE FEDERATION AFFILIATE

rec'd 9/13/72

ILLINOIS ARCHAEOLOGICAL SURVEY

109 DAVENPORT HALL UNIVERSITY OF ILLINOIS URBANA, ILLINOIS 61801

Cooperating Institutions:
University of Illinois
Southern Illinois University
Illinois State Museum

September 7, 1972

Colonel Guy E. Jester
District Engineer
US Army Corps of Engineers
210 North 12th Street
St. Louis, Missouri 6

Dear Colonel Jester:

Thank you for your letter of August 15 and enclosure of Draft Environmental Statement for the McGee Creek Drainage and Levee District, Illinois.

On page 8 of the statement it is indicated that forty-five archaeological sites are present in the project area with three falling within the construction limits of the levee improvement. A check of the master site record file of the Illinois Archaeological Survey indicates that at least twelve archaeological sites fall very close to or may be effected by the proposed improvements. Some of these sites undoubtedly duplicate the information previously provided you by Dr. Stuart Struever of the Department of Anthropology at Northwestern University.

Cordially yours,

Charles J. Bareis
Secretary-Treasurer

CJB:rlk

cc: Stuart Struever

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN
DEPARTMENT OF ANTHROPOLOGY
109 Davenport Hall, Urbana, Illinois 61801

Re: Draft Environmental Statement McGee Creek Drainage and Levee District Pike County, Illinois

there are many sites in the area, those closest and most probably affected are as follows:

**Pk-1 Pool Site - Hopewell Village- village scattered over 4 to 5 acres. Very large collection from site, about 4500 sherds, 670 chipped stone tools and ornaments along with charred animal bone and food samples. we have photos on file. There are also publications available on a ceramic analysis (statistic stratigraphic) on this site. A pottery Description is also available along with A Study of Hopewell Occupation in the Illinois River Valley by Dr. McGregor

Pk-37 E. Irving Mounds - Hopewell mounds-7 - 8 mounds

Pk-207 Guy Morath Site - Woodland open habitation-undetermined extent of site with a small collection of chert flakes and 1 pot sherd.

Pk-208 C.W. Jewsbury Site #1 - open habitation of unknown culture. extent of site undetermined. small surface collection.

Pk-209 C.W. Jewsbury Site #2 - same as above.

Pk-210 C.W. Jewsbury Site #3 - ditto

Pk-211 Elton Hinner Site - High Priority 2b,B. Woodland open habitation. extent of site undetermined. collection yielded several potsherds, deer bone, 1 hoe of Dongola Chert, and 2 projectile points.

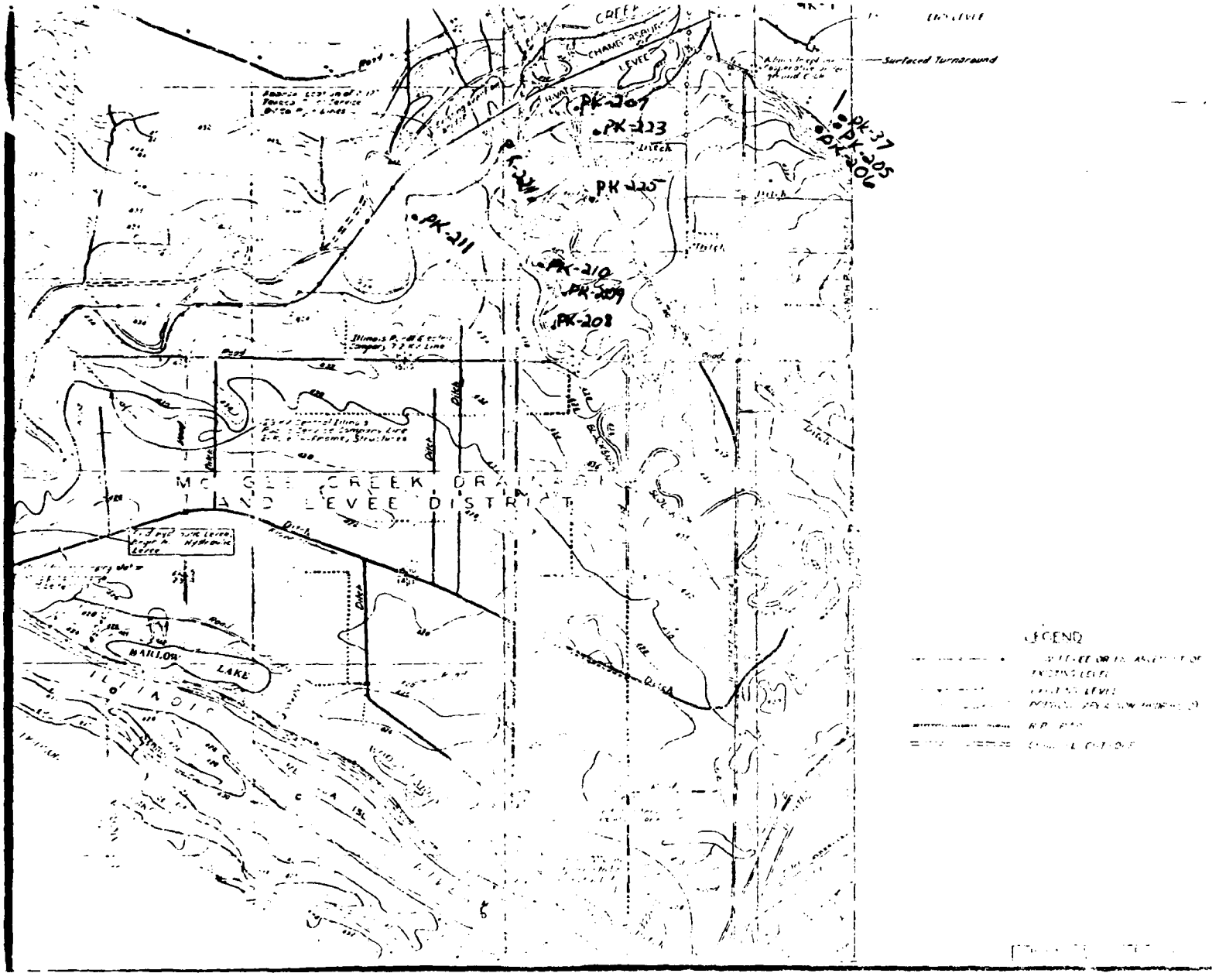
Pk-205 Robert Pool Site - open habitation of unknown culture. extent of site undetermined. small collection.

Pk-206 Manala Kleinlein Site - open habitation of unknown culture. extent of site is 100'x100'. small surface collection.

Pk-223 Guy Morath Site #2 - open habitation of unknown cultural affiliation. site extends 50'x150'. small surface collection.

Pk-224 Guy Morath Site #3 - open habitation of unknown cultural affiliation. site extends 100'x 100'. small surface collection.

Pk-225 Elton Hinner Site #2 - open habitation of unknown cultural affiliation. extent of site is undetermined. small surface collection.


CREEK
CHANNEL REALIGN.
LEVEE
Surfaced Turnaround
PK-207
PK-223
PK-225
PK-211
PK-210
PK-209
PK-208
PK-37
PK-205
PK-206
MC
CREEK DRAINAGE
AND LEVEE DISTRICT
MARION
LAKE
ILLINOIS
LEGEND

NORTHWESTERN UNIVERSITY
EVANSTON, ILLINOIS 60201

DEPARTMENT OF ANTHROPOLOGY

March 5, 1973

Mr. Edward Hanses
U.S. Army Corps of Engineers
St. Louis District
210 N. 12th Street
St. Louis, Missouri 63101

Dear Ed:

Enclosed is a list of the sites discovered in the surface survey of the McGee Creek Drainage and Levee District area. After each site name in parenthesis are the various cultural periods represented in the surface debris from the site.

Under separate cover I am sending you the McGee Creek maps with the site locations indicated and the specific cultural occupations color-coded onto the map. I hope these will be useful to you and that we can work out a strategy to minimize the impact of this project on the archeological resources of the area.

Regards,

Stuart Struever
Professor

Encl.
SS/mwl

ARCHEOLOGICAL SITES DISCOVERED BY THE NORTHWESTERN ARCHEOLOGICAL SURVEY OF THE MCGEE CREED DRAINAGE AND LEVEE DISTRICT, ILLINOIS

Alsup: (Archaic)

Bartley: (Archaic)

Bartley II (Early Woodland, Mississippian)

Butterfield (Archaic, Late Woodland)

Chrisman: (Archaic)

Chrisman North: (Archaic, Late Woodland)

Cox & Cox East: (Mississippian)

Craigmiles: (Late Woodland)

Crawford: (Early Woodland)

Cummings: (Archaic)

Dennis: (Archaic)

Elbus: (Archaic)

Hambaugh: (Archaic)

Hinchee: (Archaic)

Hinners: (Early Woodland, Middle Woodland)

Jewsbury: (Archaic)

Johnathan: (Late Woodland)

Kamp Creek Bridge: (Middle Woodland, Mississippian)

Keifer: (Archaic)

Kleinlein: (Archaic)

Loraine: (Archaic)

McPhail: (Mississippian)

May Day: (Archaic)

Metz: (Middle Woodland, Late Woodland)

Ray: (Late Woodland)

River: (Early Woodland)

Sandridge School: (Archaic)

Schieve: (Early Woodland)

Sides: (Early Woodland, Late Woodland)

Wankle: (Archaic, Late Woodland)

Wiese Mounds: (Late Woodland)

Wilson Mounds: (Indeterminate)

Historic Period (A.D. 1670 to present)
Mississippian Period (A.D. 800 to 1670)
Late Woodland Period (A.D. 400 to 800)
Middle Woodland Period (100 B.C. to A.D. 400)
Early Woodland Period (600 B.C. to 100 B.C.)
Archaic Period (8000 B.C. to 600 B.C.)
Paleo-Indian Period (10,000 B.C. to 8,000 B.C.)

NORTHWESTERN UNIVERSITY
EVANSTON, ILLINOIS 60201

DEPARTMENT OF ANTHROPOLOGY

September 28, 1972

Mr. Edward Hanses
U.S. Army Corps of
Engineers
Planning Branch
Room 859
210 N. 12th Blvd.
St.Louis, MO 63101

Dear Ed,

At long last I am enclosing my assessment of the environmental impact of the McGee Creek Drainage and Levee District Project on the archeological sites located within it. I hope this assessment is useful in completing your environmental statement.

Under separate cover I am sending you maps of the McGee Creek Project area with the 35 prehistoric sites discussed in the enclosed report plotted on them.

I hope that we can plan further archeological assessments in the lower Illinois and adjacent Mississippi valleys -- since as you know we have a substantial archeological organization that is deeply concerned with the archeology of this area. We have the manpower and experience to conduct these surveys and salvage excavations, if required.

Sincerely,

Stuart Struever
Professor of Archeology

AN ARCHEOLOGICAL SURVEY OF THE MCGEE CREEK DRAINAGE AND LEVEE DISTRICT - - -

Institution: Northwestern University, Department of Anthropology, Evanston, Illinois, 60201.

Principal Investigator: Stuart Struever, Professor of Archeology.

Project Staff: Dolores Root, surveyor; Michael Wiant, assistant.

Objectives: To conduct extensive site surveys within the area encompassed by the McGee Creek Drainage and Levee Project to determine if any prehistoric or historic sites would be destroyed or disturbed by planned levee, drainage ditch, borrow ditch, or pumping station construction. To make recommendations for further archeological work to eliminate or reduce the net effect of any potential destruction of archeological sites.

Duration of the Survey: Survey field work commenced on March 21, 1972, and continued without let-up through June 23, 1972. Analysis of artifacts collected from archeological sites in the McGee Creek project area was conducted during the period from June 23 through August 15, 1972.

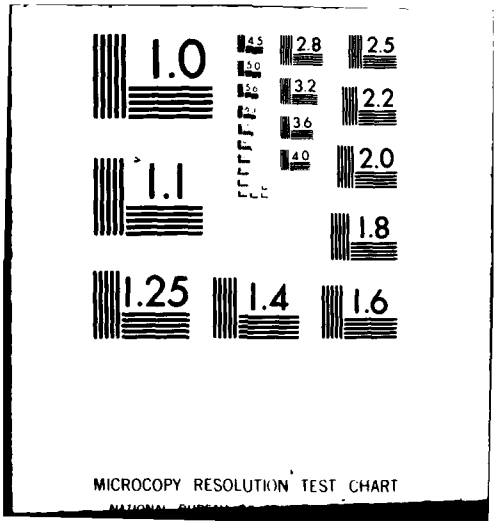
Results of the Survey: A total of 35 archeological sites were located and artifact collections were recovered from their surfaces. Michael Wiant and Stuart Struever subsequently analyzed these artifacts and established the following breakdown by cultural phase:

Mississippian (A.D.800 through 1650) -------- 5 sites.
White Hall phase (Late Woodland period)
(A.D. 450 through 750) - - - - 7 " .
Pike-Hopewell phase
(A.D. 150 through 450) - - - - 1 " .
Havana-Hopewell phase
(100 B.C. through A.D.150) - - 3 " .
Black Sand phase
(400 through 100B.C.) - - - - - 5 " .
Marion phase
(550 through 400 B.C.) - - - - 1 " .
Non-ceramic sites (perhaps ascribable to the Archaic period) - - - - - 13 " .

Storage of McGee Creek Project artifacts: All the artifacts used to establish the above cultural affiliations, together with all other artifacts collected in these surveys, are stored in the permanent Surface Survey Laboratory of the Foundation for Illinois Archeology in Kampsville, Illinois. These collections will be curated permanently as part of the Foundation's overall regional archeological program in the lower Illinois River Valley, the area in which the McGee Drainage Project exists.

AD-A116 310 ARMY ENGINEER DISTRICT ST LOUIS MO F/G 13/2
MCGEE CREEK DRAINAGE AND LEVEE DISTRICT, ILLINOIS.(U)
APR 73

UNCLASSIFIED NL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MICROCOPY RESOLUTION TEST CHART

McGee Creek Survey . . . . (continued)

Potential Site Destruction: Three sites were located that might be totally or partially destroyed by construction activities associated with the McGee Creek Drainage and Levee District Project. Two of these, the Hinners and McPhail sites, will definitely be disturbed by construction activities. The third site (River) may or may not be disturbed.

The following is a description of these sites in order of importance:

Hinners site. Pike County; Chambersburg Township; T3S, R2W; S.E.¼ of the S.W.¼ of Sec. 9. Hinners is located in the Illinois Valley floodplain 3/4 of a mile east of the bluffs defining the western edge of the Illinois Valley trench. The site abuts the levee bordering the north side of McGee Creek.

The Hinners site extends up to the present levee and quite likely extends into the wooded area located between the present levee and the present channel of McGee Creek about 100 yards to the south.

Cultural debris is scattered over an area 150 yards (east-west) by 80 yards (north-south).

The surface collections from the Hinners site disclose major Havana-Hopewell and Pike-Hopewell occupations. The site is pure Hopewell, except for a very small Black Sand occupation along its northernmost edge.

Threat to the site. The draft of the Environmental Statement prepared by the U.S. Army Corps of Engineers (St. Louis District) and dated August 11, 1972, indicates on page 15 that "part of the existing levee, within economic hauling distance, would be degraded, and used for borrow."* If this pertains to the section of the present levee bordering the entire southern edge of the Hinners site, it is inevitable that the large power machinery involved in degrading the present levee would churn up the surface of substantial areas of the site. Our experience in excavating Hopewell village sites in the lower Illinois Valley indicates that they are usually shallow, and disturbance to a depth of 12" to 18" is therefore highly destructive. The churning of the site surface by turnapulls might also well apply to the area immediately south of the present levee if, in fact, the Hinners site actually extends into this area.

* Note: The assumption in all of this discussion is that either the "Channel Relocation" or "High Flow By-Pass" plans would be carried out. The "landside enlargement" plan would be devastating on the Hinners site, both because of borrowing south of the present levee and churning activity involved in building up the levee.

McGee Creek Survey . . . . (continued)

Importance of the Hinners site. Hinners is one of only 5 known Hopewell habitation sites located in the last 70 miles of the Illinois Valley floodplain. It is a particularly valuable archeological site because it is not badly disturbed by later prehistoric occupations; the site appears to be single-component except for a small Black Sand scatter along one edge. Hinners has not been disturbed by modern activity (except normal farming), and therefore represents one of the few Hopewell village sites still intact in the lower Illinois Valley region. Hopewell floodplain village sites are scarce, and Struever argues in A Reexamination of Hopewell in Eastern North America that this site type is of potential importance in understanding Hopewell subsistence-settlement patterns.

In sum, the scarcity of Hopewell floodplain village sites, combined with the excellent preservation of this site and the lack of mixing with later prehistoric cultures, make Hinners a very important site.

McPhail site. Pike County; Chambersburg Township; T3S, R2W; N.E.¼ of the S.W.¼ of Sec. 5. The McPhail site lies in the floodplain of the Illinois Valley along the east side of McGee Creek at the point where McGee Creek Valley junctures with the Illinois Valley.

The site extends up to the present levee.

McPhail covers an area 60 yards (north-south) by 80 yards (east-west).

McPhail is a single-component early Mississippian (Ramey phase) habitation site.

Threat to the site. McPhail, like the previously described Hinners site, adjoins the present McGee Creek levee. Degrading the present levee would certainly disturb this surface-exposed habitation site.

Importance of the McPhail site. To date, no examples of a single-component Mississippian village site have been discovered -- or investigated -- in the floodplain of the lower Illinois River Valley. McPhail is the first such site we have located in our 9 years of survey in the southernmost 70 miles of the Illinois Valley. It is therefore a potentially important site in our future plans to reconstruct the Mississippian cultures of the lower Illinois Valley area. In the heavily occupied floodplains of the major river

k Survey . . . .

of the American midwest, single-component village
re scarce. McPhail is an example of such a site.

ite. Brown County; Versailles Township; T2S, R2W;
f the S.W.¼ of Sec. 25. The River site is eroding
the west bank of the Illinois River.

number of refuse pits and fire features are eroding
a 200 yard section of river bank.

and projectile points indicate a Black Sand habitation

sent Illinois River levee lies 100 yards west of the
the borrow ditch for this levee lies 50 yards west
site.

to the site. It is not certain the River Site will
urbed by the McGee Creek Drainage and Levee District,
is discussed here in the possibility that enlargement
present Illinois River levee may involve borrowing
uld disturb the site.

nce of the River Site. Well-preserved Black Sand
ion sites are scarce anywhere, and the small surface
ion recovered from the River site suggest that it
a single-component Black Sand site.

itions: If degrading the present McGee Creek levee, or
vities associated with construction of new McGee Creek
es place in the Hinners site locality, it would be
y important to conduct salvage excavations beforehand.
s by all measures a potentially important Hopewell
te. Test excavations should be conducted immediately
ded area between the present McGee Creek levee and the
nel itself to determine whether Hinners extends south
sent levee. If if does, this area of the site would
larly important since it probably has never been
.

nendations for the McPhail site parallel those for Hinners.

: not archeological salvage should be conducted at the
: will depend on the likelihood of disturbance occurring
tion with the improvement of the present Illinois River

Stuart Struever
September 25, 1972