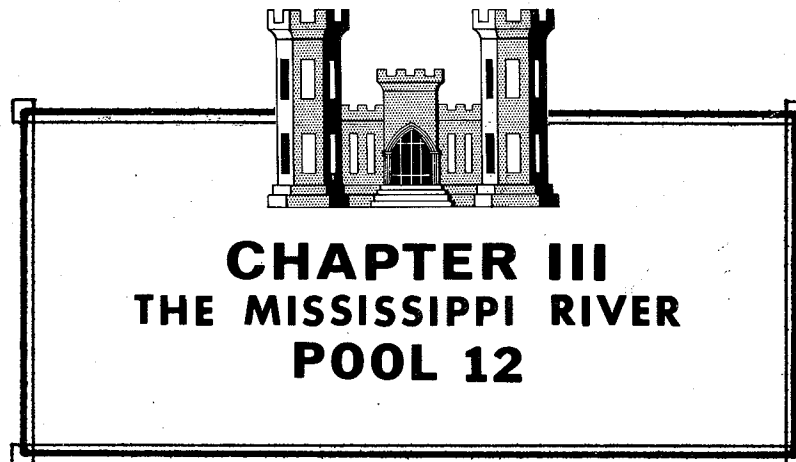


**REVISION OF  
MASTER PLAN  
FOR  
RESOURCE MANAGEMENT**

**POOLS 11-22  
9-FOOT CHANNEL NAVIGATION PROJECT**



**U. S. ARMY ENGINEER DISTRICT, ROCK ISLAND  
CORPS OF ENGINEERS  
ROCK ISLAND, ILLINOIS  
MARCH 1969**

NCDPD-ER (21 May 69) 3d Ind

SUBJECT: Revision of Master Plan for Resource Management, Upper  
Mississippi River, Pools 11-22, Nine-Foot Channel  
Navigation Project

DA, North Central Div., CE, Chicago, Illinois 4 September 1970

TO: District Engineer, Rock Island

Forwarded for appropriate action.

FOR THE DIVISION ENGINEER:

*James W. Gulland*  
JAMES W. GULLAND  
Colonel, Corps of Engineers  
Deputy Division Engineer for  
Civil Functions

ENGW-PV (21 May 69)

2nd Ind

SUBJECT: Revision of Master Plan for Resource Management, Upper  
Mississippi River, Pools 11-22, Nine-Foot Channel Navigation  
Project

DA, Office of the Chief of Engineers, Wash., D. C. 20314 31 Aug 70

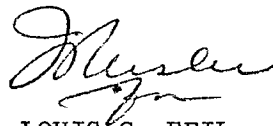
TO: Division Engineer, North Central

The Master Plan for Pool 12 is approved subject to the following:

a. Page VIII-3, Paragraph e, f and g. Consideration should be given to programming improvements for the Blanding Landing site at an early date in view of the apparent increase in public demand and the limited facilities available.

b. Page VI-4, Paragraph 7a.(2) and Page VII-1, Paragraph 2; and Plate VI-4.2. The indications that no part of construction costs for the Smallpox Creek Public Use Area may be borne by the Federal Government are incorrect. Public Law 89-72, as implemented by ENGW-Y letter, subject: Implementation of the Federal Water Project Recreation Act (P.L. 89-72) in Previously Authorized Projects, dated 5 August 1965, provides for Federal cost-sharing in such development. While the Corps may cost-share in development, maintenance and operation of the area would be the responsibility of the non-Federal sponsor. In all such cases the proposed plan of development together with a draft cost-sharing agreement with a non-Federal sponsor will be furnished for OCE approval prior to initiation of construction. When the construction plan for this area is prepared, consideration should be given to greater separation between the camping and picnicking areas per criteria prescribed in ER 1130-2-312.

FOR THE CHIEF OF ENGINEERS:



LOUIS G. FEIL

Chief, Planning Division  
Directorate of Civil Works

2 Incl  
wd

NCDPD-ER (21 May 69) 1st Ind  
SUBJECT: Revision of Master Plan for Resource Management, Upper  
Mississippi River, Pools 11-22, Nine-Foot Channel Navigation  
Project

DA, North Central Div., Corps of Engineers, Chicago, Ill. 7 May 70

TO: Chief of Engineers, ATTN: ENGOW-PV

Chapter III, Pool 12, of the subject master plan is forwarded recommend-  
ing approval.

FOR THE DIVISION ENGINEERS

2 Incls  
3 cys wd

*James W. Gilland*

JAMES W. GILLAND  
Colonel, Corps of Engineers  
Deputy Division Engineer for  
Civil Functions

NCRED-PB

30 January 1970

SUBJECT: Revision of Master Plan for Resource Management,  
Upper Mississippi River, Pools 11-22, Nine-Foot  
Channel Navigation Project

Division Engineer, NCD

1. Transmitted herewith are 6 sets of revised pages and plates for the following chapters of the subject master plan to supersede like-numbered pages and plates in copies of report in NCD.

a. Chapter III, Pool 12, pages IV-3, V-1, VI-3 and VI-4; plates V-1.1 and V-1.2

b. Chapter IV, Pool 13, pages IV-5 and V-1; plates V-1.1 and V-1.2

c. Chapter V, Pool 14, pages IV-3, IV-4 and V-1; plates V-1.1 and V-1.2.

2. These revisions are in accordance with telephone conversations with Mr. Carl Brown of your office.

3 Incls (6 sets each)  
Rev. pgs & plates for  
Chap. III, IV & V

JAMES E. BUNCH  
Colonel, Corps of Engineers  
District Engineer

cc: District File w/o incls  
Engrg Div w/o incls  
Plan Br (Environ. Res.) w/o incls



**DEPARTMENT OF THE ARMY**  
**ROCK ISLAND DISTRICT, CORPS OF ENGINEERS**  
**CLOCK TOWER BUILDING**  
**ROCK ISLAND, ILLINOIS 61201**

ADDRESS REPLY TO  
DISTRICT ENGINEER

REFER TO FILE NO. NCRED-PB

21 May 1969

SUBJECT: Revision of Master Plan for Resource Management,  
Upper Mississippi River, Pools 11-22, Nine-Foot  
Channel Navigation Project

Division Engineer, North Central

1. Chapter III, Pool 12, of the subject master plan is submitted in accordance with Engineer Manual 1130-2-302.
2. This chapter of the master plan contains specific information concerning the administration and development of the resources within the pool.
3. It is recommended that chapter III of the master plan for resource management of the Mississippi River 9-foot channel navigation pools be approved.

- 2 Incls (6 cys)
1. Narrative, Pool 12
  2. Maps, Pool 12

WALTER C. GELINI  
Colonel, Corps of Engineers  
District Engineer

REVISION OF MASTER PLAN  
FOR  
RESOURCE MANAGEMENT  
  
POOLS 11-22  
NINE-FOOT CHANNEL NAVIGATION PROJECT

CHAPTER III  
THE MISSISSIPPI RIVER, POOL 12

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REVISION OF MASTER PLAN  
FOR  
RESOURCE MANAGEMENT

POOLS 11-22  
NINE-FOOT CHANNEL NAVIGATION PROJECT

CHAPTER III  
THE MISSISSIPPI RIVER, POOL 12

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I-1.1	9-Foot Channel Project, Rock Island District
II-2.1	Lock and Dam No. 12 - Bellevue, Iowa
IV-2.1	Commercial Activities of Lock No. 12
IV-2.2	Mississippi River Recreation Areas
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REVISION OF MASTER PLAN  
FOR  
RESOURCE MANAGEMENT

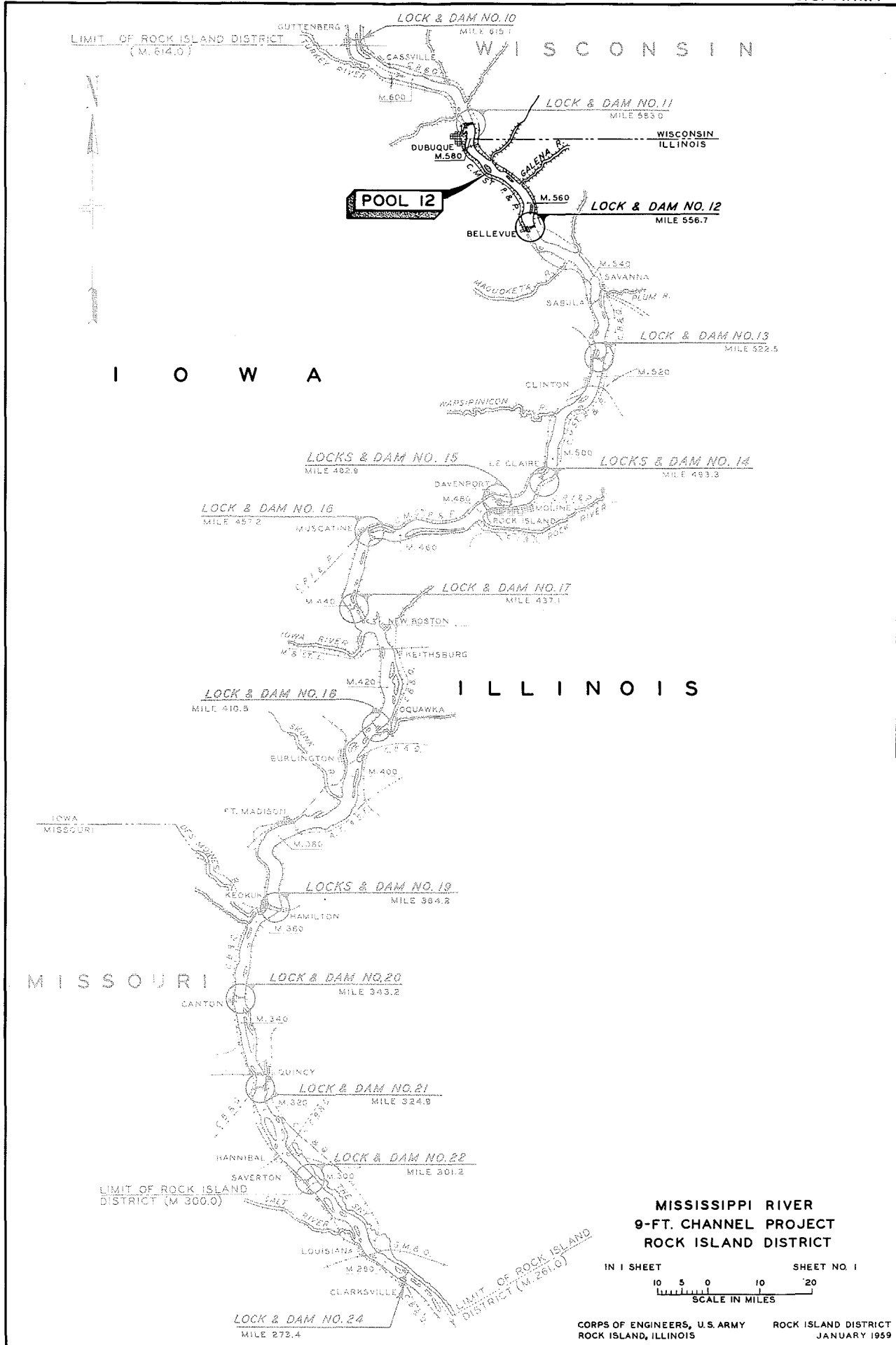
POOLS 11-22  
NINE-FOOT CHANNEL NAVIGATION PROJECT

CHAPTER III  
THE MISSISSIPPI RIVER, POOL 12

SECTION I

INTRODUCTION

As noted in chapter I, a Master Plan is developed to provide a sound instrument of guidance for the administration and operation of water resource projects; to assure sound resource management; and to coordinate activities with interested Federal, State, and local agencies. Pool 12, one of the series of navigation pools on the Upper Mississippi River, and within the limits of the Rock Island District, is treated under such master planning requirements. Plate I-1.1 locates the pool with reference to others of the navigational system in the Rock Island District, U. S. Army Corps of Engineers.



## SECTION II

### DESCRIPTION OF PROJECT

1. General. Considering the sequence of navigation pools progressing downstream, pool 12 is the second of such units within the Rock Island District limits. Extending from river mile 556.7 to river mile 583.0 - Bellevue, Iowa, to Dubuque, Iowa - the pool covers 26.3 water miles measured along a determined sailing line. A small portion of Grant County, Wisconsin, bounds the pool on the eastern shore in the extreme upper limits while Jo Daviess County, Illinois, lies adjacent throughout the remainder of the stretch. The western shore is bordered by parts of Dubuque and Jackson Counties in Iowa.

2. Topography and Geology. As in the previous pool, the course of pool 12 continues in a relatively narrow portion of the valley bordered by scenic hills and bluffs with instances of rock outcroppings. Except for the upper reaches, however, the highlands become somewhat less precipitous and begin to assume a more rolling appearance. The flood plain does not broaden appreciably and remains mostly in the narrow valley confines which characterized pool 11. Small farms and woodlands are the rule throughout the area bordering the river on the Illinois shore and below Dubuque on the western, or Iowa side, where the flood plain is the narrowest. Five minor creeks and four tributary rivers - the Menominee, Little Menominee, Sinsinawa, and Galena, all in Wisconsin - join the waters of the Mississippi within the limits of the pool, and, while having rapid response to heavy rainfall and run-off, have little short range effect on pool levels. Recurrent high water stages on such tributaries, however, may pose localized siltation problems for resource management. Numerous and sizable islands exist throughout the entire reach of the pool and are generally heavily timbered. The river follows a course which was originally excavated by a much larger glacial stream. Loess and decayed vegetable matter leached from the highlands over the centuries, and deposited on the bottomlands and islands during flood periods, have established generally fertile soil conditions. The filling action of the last ice sheet, which ended some 13,000 years ago, along with subsequent deposition by the elements, places the present river bottom as much as 200 feet above the original bed-rock channel. Underlying rock strata beneath the upper portion of the pool is classified as St. Peter Sandstone while in the middle and lower reaches this material is overlain with Platteville limestone and, in turn, by Galena Dolomite.

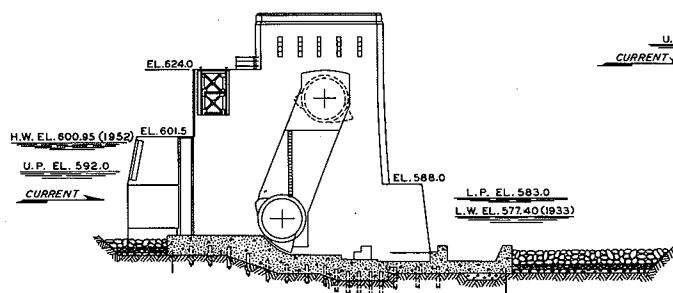
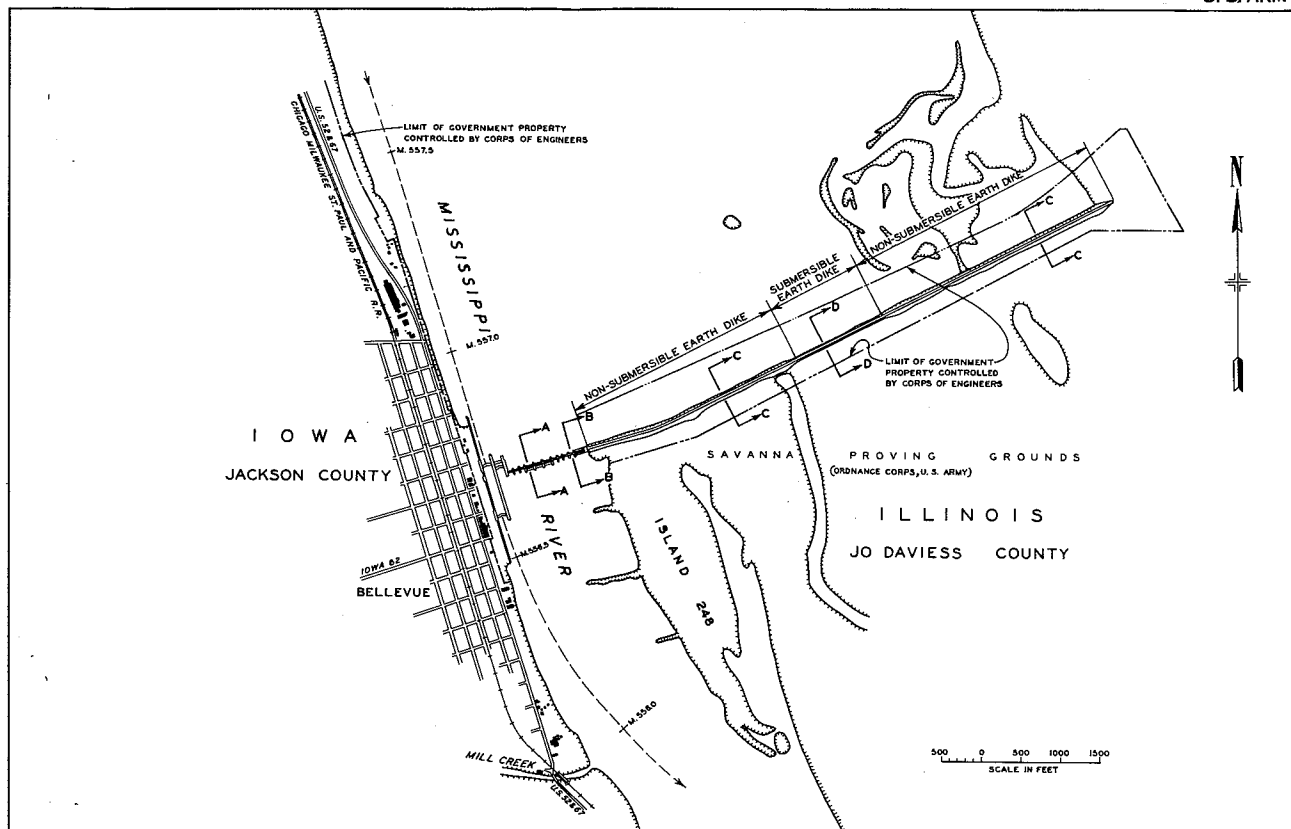
3. Lock and dam No. 12. The existing structure, located at river mile 556.7, is one of 12 installations constructed in the Rock Island District as part of the canalization system of the Upper Mississippi River. The single 110-foot by 600-foot lock and the completed upper section of a future auxiliary lock lie along the Iowa shore immediately adjacent to the town of Bellevue, Iowa.

The movable section of the dam consists of 3 roller gates and 7 tainter gates which are adjusted as necessary to maintain the impounded pool. The remainder of the dam, extending to high ground in Illinois, is composed of two sections of non-submersible and one section of submersible earth dikes. A plan and location of the structure is shown on plate II-2.1 and on chart No. 103 of the Upper Mississippi River Navigation Charts.

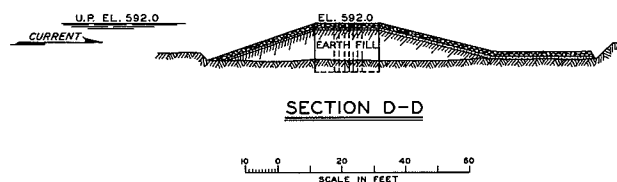
4. Pool 12. Extending generally northwesterly above the dam, the pool is 26.3 river miles in length, has a drainage area of 82,400 square miles at the dam, and varies from 2,000 to 7,500 feet in width under normal flow conditions. The authorized pool elevation (flat pool) is established at 592.0 feet above mean sea level (1912 Adj.). Low water of record, since the dam became operable, was recorded at elevation 590.5, or 1.5 feet below the authorized flat pool level. High water of record (April-May 1965) reached elevation 604.48, or 12.48 feet above the normal pool elevation at the dam.

Maintenance dredging, largely in the vicinity of Dubuque, Iowa, has amounted to 1,300,000 cubic yards of material since the pool was established. Disposal areas, however, have been unsuitable to appreciably affect future recreational sites.

UNUSUITABLE

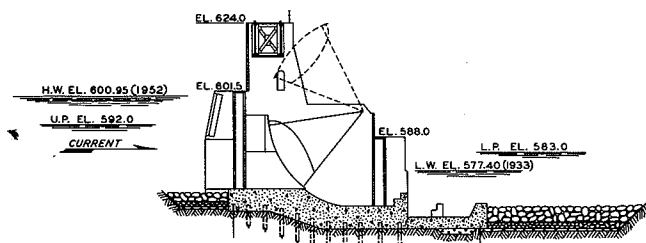


SECTION A-A



SECTION D-D

NOTE:  
 AVAILABLE DIMENSIONS OF LOCKS:  
 MAIN LOCK 600' X 110'  
 AUXILIARY LOCK 360' X 110' (FUTURE)  
 CONTROLLING DEPTH 13' AT NORMAL POOL  
 NORMAL LIFT 9 FEET.



SECTION B-B



SECTION C-C

REFERENCES:  
 1. ELEVATIONS BASED ON MEAN SEA LEVEL DATUM (1912 ADJUSTMENT).  
 2. RIVER MILEAGE ORIGINATES AT MOUTH OF OHIO RIVER.

**MISSISSIPPI RIVER  
 RIVER AND HARBOR PROJECT  
 LOCK & DAM NO. 12  
 AT BELLEVUE, IOWA  
 SCALE AS SHOWN  
 ROCK ISLAND DISTRICT  
 30 JUNE 1953**

## SECTION III

### POOL RESOURCES

1. General. The existing resources of the pool are examined and analysed on both a qualitative and quantitative basis. Present and proposed management, usage, operational procedures, and recommended developments are to be determined from such pertinent factors. As noted in chapter I, paragraph 7b, page II-5, acreage figures contained herein have been calculated from Master Plan maps for recreation and general land use planning and are not to be considered accurate for legal purposes. Significant variance may exist between the acreages given and the official records maintained by the Real Estate Division of the Rock Island District Office.

2. Water. As with the other navigation pools in the system, pool 12 contains the general characteristics of both a river and a shallow lake in its 10,500 surface acres at the authorized flat pool elevation. The 1963 report of the Public Health Service indicates no significant pollution of the pool waters from either municipal or industrial sources. However, the bordering watershed feeding the tributary streams and the pool offer a potential source of agricultural pollutants. Approximately 40 percent, or 4,200 surface acres, are channel waters with a minimum depth of 9 feet, while the remaining 60 percent, or 6,300 surface acres are considered off-channel waters, vary in depth and may present navigational hazards to recreational boating.

3. Land. Original land acquisition in fee, as acquired by the Federal Government for the 9-foot channel project in the pool, amounted to 8,489 acres of both shore and island real property. Land presently remaining above flat pool, as established by dam No. 12, totals 5,865 acres of which 5,198 acres are administered by the Corps of Engineers; 487 acres by the Department of the Interior, Bureau of Sport Fisheries and Wildlife; and 180 acres by the Savanna Ordnance Depot, another Federal agency. Of existing Corps administered lands, an additional 4,291 acres have been outgranted to the Bureau for fish and wildlife management purposes under the provisions of the General Plan and Cooperative Agreement. Identifiable accretions to Government-owned property totaled 17 acres through 1964. The flat pool shoreline (mainland and islands) totals 280 miles, of which 203 miles are controlled by the Corps of Engineers; 26 miles by the Bureau; 11 miles by the Savanna Ordnance Depot; and 40 miles by States, Counties, or

or private individuals. Some 182 islands, totaling 3,674 acres, lie within the pool limits with all but 255 acres under Government ownership.

Leases on project lands for agricultural purposes are generally granted, subject to availability, for a 5-year period. One such commitment lease, involving 19.2 acres of project land, is presently in force. No additional leases within the pool limits are currently being advertised.

4. Vegetation. Vegetative cover on Government lands, within the pool limits, is quite general and ranges from fairly dense in the extreme lower areas to very dense throughout the remainder of the stretch. Of the 5,865 acres of Federal lands, 4,516 acres, or 77 percent is classified as dense; 352 acres, or 6 percent as sparse; and 977 acres, or 17 percent as open. Cottonwood, willow, locust, maple, and red birch are common in the lower areas while oak, ash, American elm, walnut, cedar, hickory, hackberry, and linden are found on higher ground. The timber management program, instituted in 1941, allows for the select harvesting of mature trees chosen and marked by District personnel. A total of 1,710,120 board feet of timber was sold between October 1950 and February 1967 to private interests, which represented an income to the Government of \$21,593.42. The controlled timber harvesting program is designed for increased annual yields and improvement of quality and species composition.

5. Wildlife. The pool and environs attract and support a wide variety of wildlife; however, no wildlife sanctuaries have been established on water areas within the pool limits nor have any been established on pool lands.

a. Birds. The water areas, as part of the "Mississippi Flyway", are host to some 19 species of ducks and 4 species of geese during the migratory periods. Timber stands offer ideal nesting habitat for wood ducks, and an occasional pair of mallard, blue-wing teal, coot, and/or hooded merganser will raise their young in the area. The grebe, American egret, bittern, gull, and numerous shore birds and song birds are resident or migratory visitors.

b. Animals. Small animal populations include raccoon, skunk, weasel, opossum, mink, muskrat, beaver, fox, squirrel, rabbit, woodchuck, and on occasion, otter and badger. The white-tailed deer, classified as a big game animal, is also found in the area.



Muskrat, common to abundant, fluctuate in numbers from year to year depending largely on water elevations. Beaver, distributed throughout the pool reaches, are relatively numerous but have likely reached a stable concentration. The mink population is considered to be stable, but low in numbers. Deer, which mainly frequent the timbered bottomlands of tributary streams, are not numerous, but have wide distribution. Raccoon and squirrel are abundant but vary widely in numbers because of changes in habitat conditions caused by fire, flood, and timber harvest. Populations of other small animals are considered to be stable and relatively more numerous than pool 11 as a result of better habitat.

Of a variety of non-poisonous snakes, the watersnake is probably the most numerous and widely distributed. The timber and Massasagua rattlesnake, both poisonous and fairly common in the days of the early settlers, are now seldom seen.

6. Fish. Species composition is similar to that found in pool 11 and includes walleye, northern, saugar, perch, bluegill, freshwater drum, crappie, white bass, channel catfish, and bullheads. The population of any one species will vary from year to year and also with season and water conditions. No creel census of the sport fishery classification is available; however, the total catch is considered to be substantially less than that of pool 11 becuase of the small water area. The commercial fishery, too, indicates less activity with an average 12-year catch of 274,335 pounds per year. Carp, buffalo, freshwater drum, and catfish constitute 90 percent by weight of the commercial catch, and again, the species taken vary with the year, the season, and water conditions.

7. Recreation. Considerable undeveloped recreational potential exists within the pool limits, largely along the Illinois shore. Only one Corps of Engineers public use area presently exists with facilities severely taxed by increasing usage. Excellent hunting, fishing, and pleasure boating opportunities are present throughout most of the pool. Boating, however, is largely related to the sport of fishing. Camping and day-use activities are restricted to the one developed public use area because of lack of other access. The generally heavy timber growth offers excellent potential for the location of nature trails and primitive camping as well as additional development of public use sites.

8. Historical and Archaeological. The site of the city of Dubuque, Iowa's oldest settlement, was first occupied in 1686 and later named for Julien Dubuque who entered the area in 1785 and was the only white man permitted by the Indians to mine lead in the surrounding hills. Dubuque died in 1810 and is buried on a hill overlooking the confluence of Catfish Creek and the Mississippi River, south of the city. Excavations in the Dubuque area during 1968 uncovered Indian remains dating to the period of 380 A.D.

Catfish Creek is also the site of the legendary account of white traders, who, captured by Indians, ignited oil poured upon the waters and bought their freedom by assuring the Chieftains of their power to cause the fires to withdraw from the stream.

Lead was discovered by the Indians near the present site of Galena, Illinois, 6 miles upstream of the Mississippi on the Galena River. The region was investigated by early settlers in 1687 and a trading post established - known to the French as La Pointe, and to the English as Feore River. The town of Galena, (the word for lead ore), was founded and named at this site in 1826. The first steamboat arrived in 1822, and by 1837 as many as 350 steamboats had visisted the town in a single year. River traffic remained heavy until the arrival of the railroad in 1855. A 100-foot wide channel, 4 feet deep at low water, was accomplished in 1878-1881 through Congressional appropriations and in 1890 the city was authorized to construct a lock and dam 4 miles downstream. The U. S. Government reimbursed the city for construction costs. In 1894 the Rock Island District Office assumed operation of the structure until authorization for abandonment in 1922 because of excessive costs for needed repairs and dredging. The installation was removed in 1926 and the Galena River has not been used for commercial navigation since that time.

The historic city of Galena, with its downtown area existing virtually in its original form, was also the home of General U. S. Grant, post Civil War President of the United States and wartime leader of the Union Armies. The Grant home has been preserved as a historical site and attracts visitors from all parts of the country.

Tete Du Mort Creek takes its name from a former Iowa settlement, now known as St. Donatus, some two miles inland and established in the early 1800's. Houses, still existing, are of the old-world peasant type, having the stable in the downstairs front room.

The Bellevue Bandit War, a little known page in history, occurred while the present State of Iowa was still a part of the Wisconsin territory. James Thompson, son of a wealthy Philadelphia grocer, established a business in Savanna, Illinois, in 1838, and soon moved to Bellevue to become a member of a gang of thieves and counterfeiters headquartered in a hotel operated by W. W. Brown, who was also leader of the outlaws. Early in 1840 Thompson was killed in a street gunfight with a resident whom he had robbed, and the citizens banded together to rid the town of the bandit element. Brown was killed in the ensuing fight, and the hotel set afire to dislodge the outlaw gang. By a close vote of the townspeople, the captured men were whipped, rather than hanged, and set adrift in skiffs on the current of the Mississippi.

Large stone buildings still existing on the riverfront of Bellevue, were used to store commodities for shipment by steamboat before the arrival of the railroad.

Indian mounds exist along the high ground on both sides of the river, although no archaeological investigations are known to have been pursued in the area. Such sites are all on private property and likely date to tribes known as the "Effigy Mound Builders" whose burial mounds, shaped in a relief form of a bird or animal, follow the river from the vicinity of St. Paul, Minnesota, to Baton Rouge, Louisiana. Similar evidence also exists in the Ohio River valley.

## SECTION IV

### FACTORS AFFECTING RESOURCE USE

1. General. Pool 12, extending from Bellevue, Iowa, to Dubuque, Iowa, comprises another step in the navigational stairway on the upper Mississippi River. Although only one major port exists within the pool limits - Dubuque, Iowa - considerable commerce is generated to and from the city in the form of agricultural and industrial commodities. Numerous docks and storage facilities exist and the industries of the area require raw materials for creation of products for transshipment. Plate IV-2.1 graphically portrays the commercial activities of lock No. 12 over a period of nearly two decades. Very little of the pool recreational potential has so far been realized.

2. Zone of influence. The primary zone of influence is considered to be two counties in width, extending inland approximately 50 miles, and following each side of the river the entire length of the District. The total population of all counties contained within this zone is given in chapter I; however, it is believed to be impractical to attempt to enumerate populations by pools since a given pool may span parts of several counties. Only one major urban area lies almost entirely within the pool limits - Dubuque, Iowa, with a 1960 census of 56,606. East Dubuque, Illinois, without dock facilities or industry, had a population of 2,181 in 1960 and is situated adjacent to the river. Bellevue, Iowa, extending along the shores of both pools 12 and 13, is also without docking facilities or industry and had a 1960 population of 2,082. Residents of all three population concentrations are in a position to make use of the recreational offerings of two pools.

3. Economic conditions. Except for a number of docks and petroleum storage areas at Dubuque, Iowa, and one dock some two miles upstream of Bellevue, Iowa, the economy of non-Federal lands paralleling the pool are entirely agricultural. Dubuque, the largest urban center in the area, is a scenic city of industry, educational facilities, and sites of historic significance. An excellent city park, situated on the heights above the area, affords a panoramic view of the river, the lock and dam, and of three States. The western shore is generally above the established ordinary high water elevation; consequently, very little Government-owned property exists along the Iowa boundary. Practically all islands,

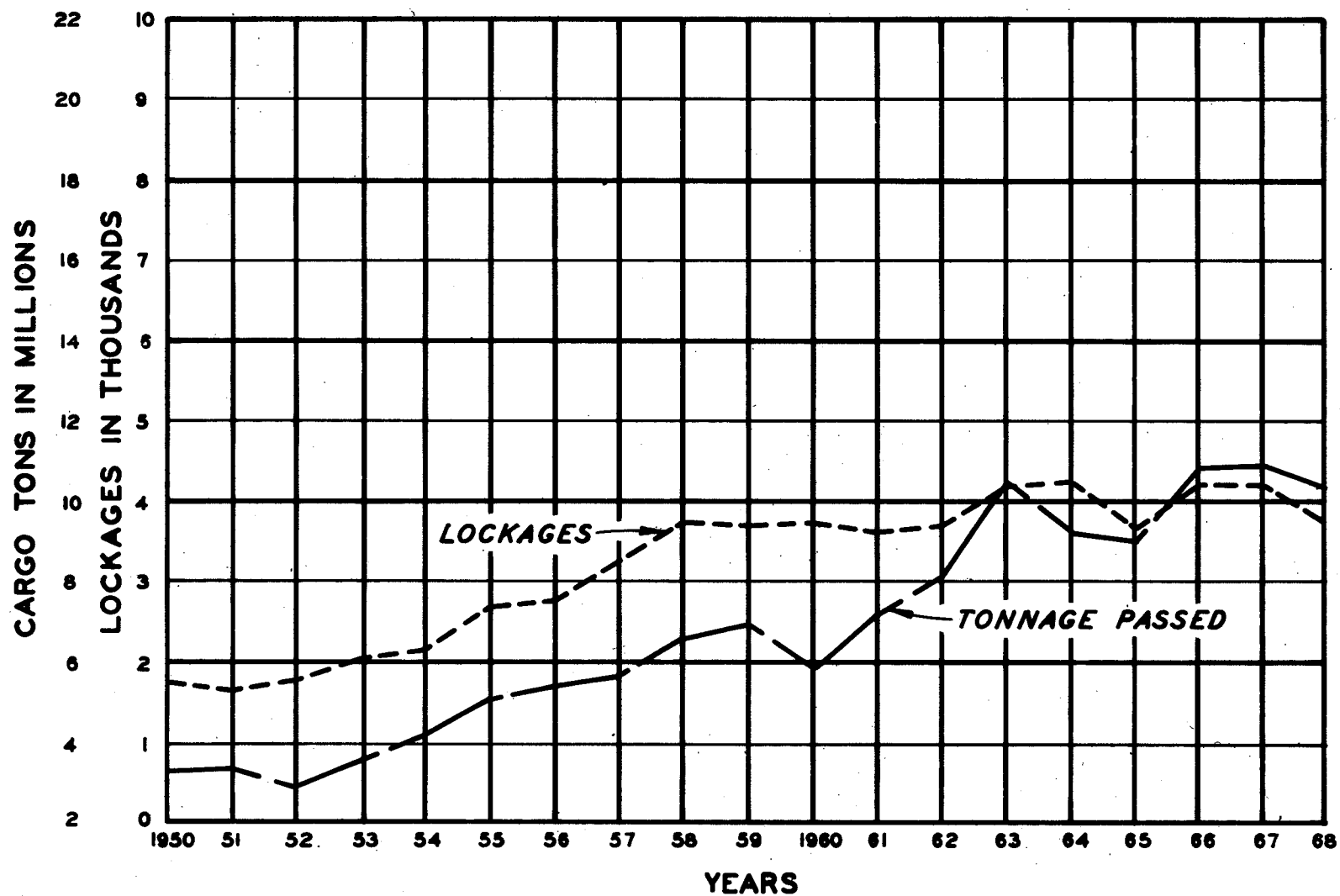
however, and most of the immediate Illinois shoreline is under Federal ownership. Bellevue, Iowa, is somewhat noted as a center of sport and commercial fishing activities. Industry-zoned lands have been provided at river mile 572.9 - 573.9 (Illinois) but are not presently occupied. Should a 12-month navigation season - presently under study - prove feasible, interest in development may be realized.

4. Accessibility. Railroads closely parallel both shores of the pool, although no passenger service is available on the north-south stretch of the Iowa line. Passenger facilities are available to Dubuque, Iowa, and East Dubuque, Illinois, on Illinois north-south and east-west lines. Road access to the river exists at 7 points on the Iowa shore and at 9 points in Illinois with 11 of the 16 roads leading to Government property and one leading to property adjacent to a Government-owned tract. The Great River Road is being planned to eventually closely follow both shores of the river from Canada to the Gulf of Mexico and will offer outstanding scenic attractions. The present route views the river for only a short stretch at and approaching Bellevue, Iowa. Two highway bridges and a railroad bridge span the pool in the extreme upper reaches at Dubuque, Iowa, and the city receives scheduled commercial airline service. Neither Bellevue, Iowa, nor East Dubuque, Illinois, has commercial or private plane facilities.

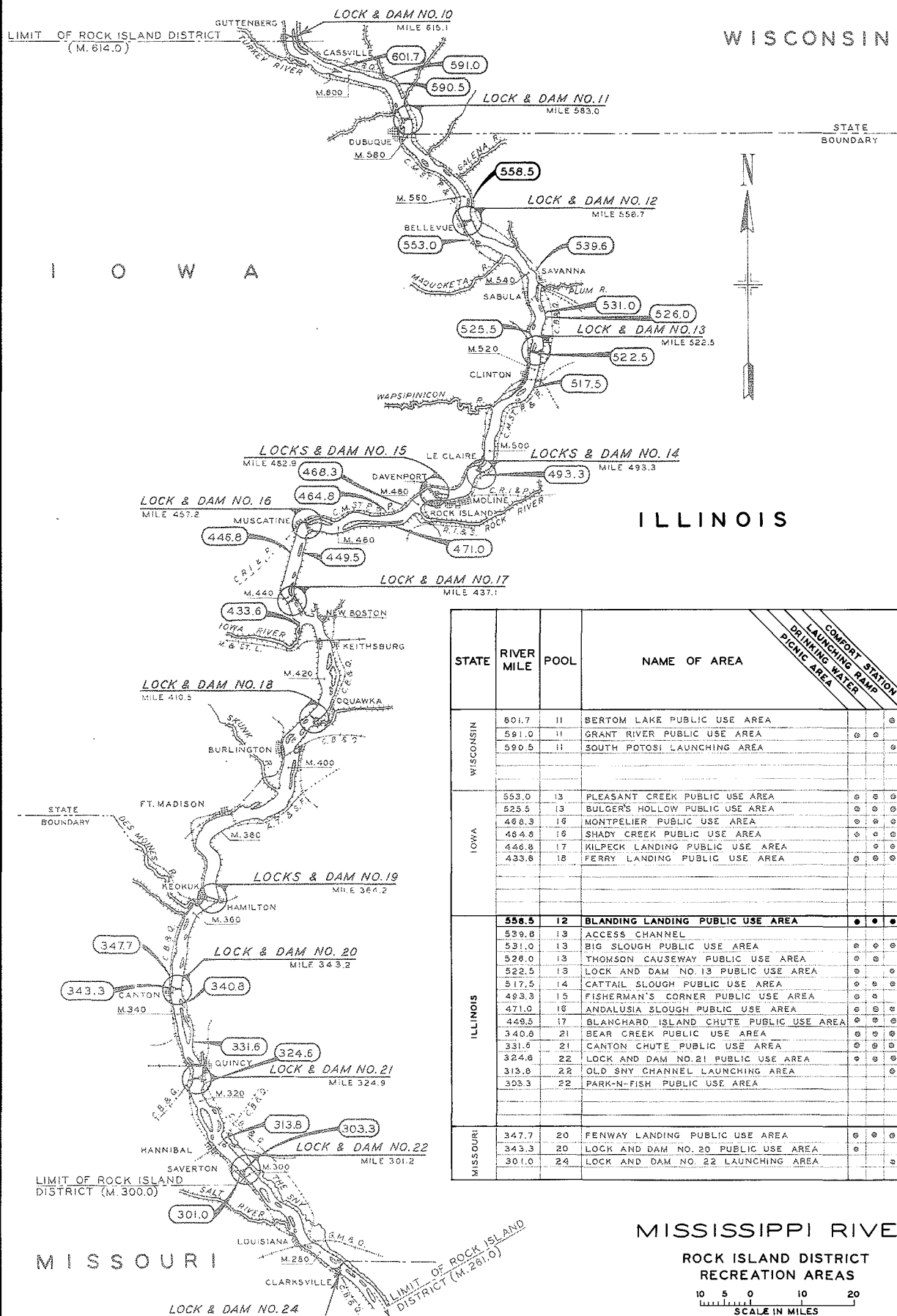
5. Existing recreational facilities.

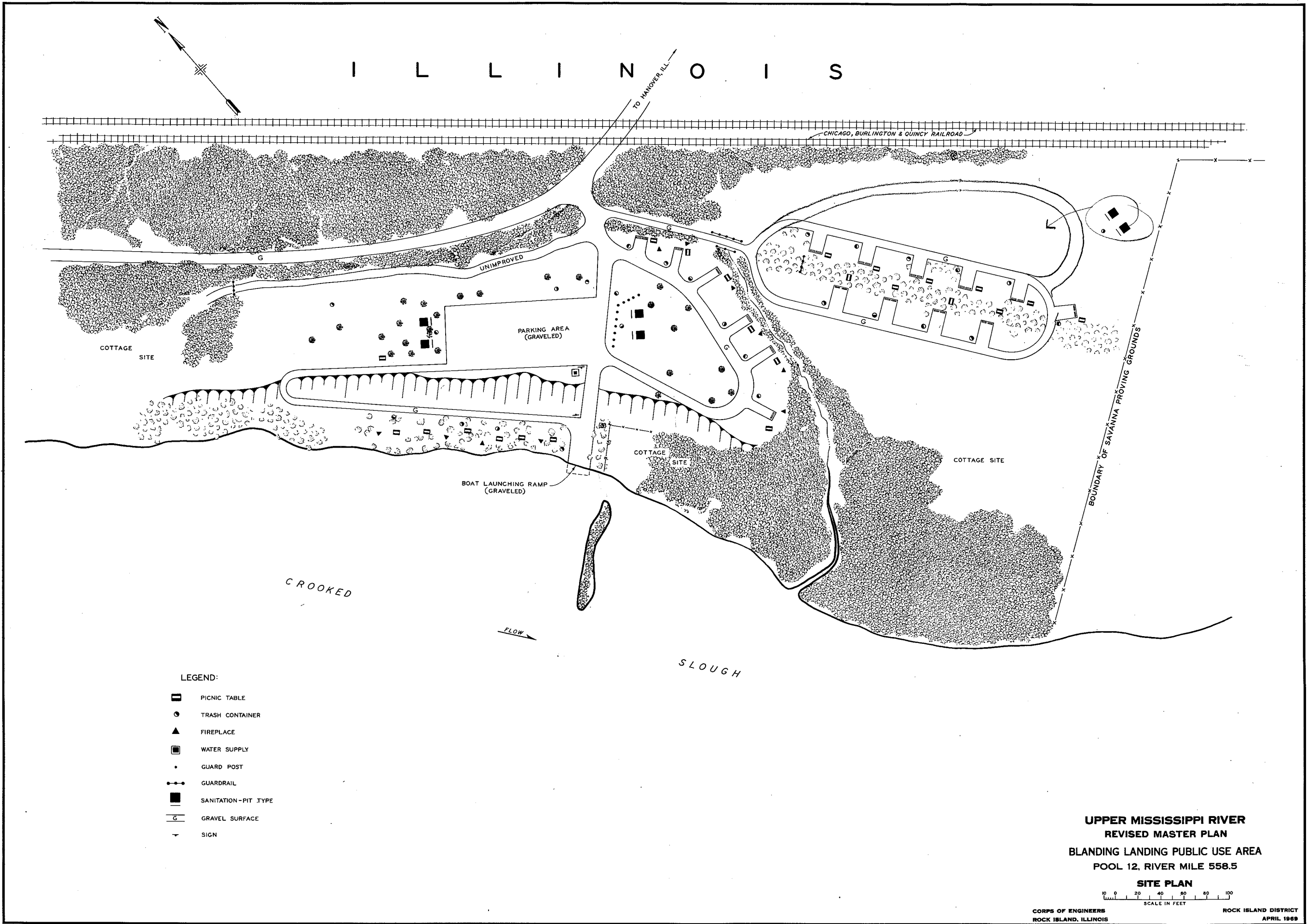
a. Of the 26 recreation areas presently established and maintained by the Corps of Engineers within the District, plate IV-2.2, one is located within the pool limits along the Illinois shore.

Blanding Landing Public Use Area. A 4-acre development, plate IV-2.3, was expanded in 1968 to partially satisfy the increasing public demand for outdoor recreational space and is located at river mile 558.5, approximately 7 miles northwest of Hanover, Illinois. Facilities include a graveled boat ramp and maneuvering area, a hand-pumped well, 6 pit-type toilets, a graveled parking area for 15 car-boat trailer units, 24 picnic tables, 10 pedestal fireplaces, 26 trash containers, and 27 graveled camping spurs. Approximately 0.4 mile of graveled circulation road serves the various sections of development. Existing leased cottage sites, in close proximity to the area, preclude further expansion and facility additions.



LOCK NO. 12







b. Other non-Federal recreation sites have been established at: river mile 583.0 - a privately owned fishing barge moored adjacent to Government land which has been out-granted to Jamestown Township, Wisconsin, for recreational development; a municipal dock at mile 582.2, operated by the city of Dubuque, Iowa, on city property; a marina at mile 582.1, also operated by the city of Dubuque, Iowa, on city property; a marina at mile 580.6, privately operated on city property; a marina at mile 579.6, privately operated on city property; a municipal launching site at mile 579.6, operated by the city of East Dubuque, Illinois, on Government land; a municipal launching site at mile 579.5, operated by the city of Dubuque on city property; a marina at mile 577.9, privately operated on private property; marinas at miles 576.3 and 576.2, privately operated on private property; a marina and boat launching ramp at mile 573.7, operated by the Dubuque County Conservation Board, Iowa, on Government property; a marina at mile 566.5, a private operation on Government property; a public use area at mile 559.6, operated by the Jackson County Conservation Board on Government property; and a public launching ramp at mile 557.4, operated by the Izaak Walton League on Government property. No State or city park exists on either shore within the pool limits.

6. Water quality. The entire pool is presently regarded as having water of such quality as to allow most forms of water-oriented recreation. The water area immediately downstream from Dubuque, Iowa, and East Dubuque, Illinois, may be questionable in regard to water-contact recreation, however, aquatic biota in this reach does not indicate a critical level of pollution. Uncontrolled industrial development in the vicinity of East Dubuque and agricultural pollutants from a tributary stream may present a potential threat to the water quality of the pool.

7. Climatic conditions. The prevailing climate is analogous to that of pool 11 with an average precipitation of 36 inches and a growing season of 160 days. Summer winds are generally from the west and southwest, and from the north or northwest during the winter months. The area experiences a mean annual temperature of  $46.5^{\circ}$  with a summer average of  $61^{\circ}$  and a winter average of  $25^{\circ}$ . A normal navigation season covers some eight months, beginning in late March and usually being ended by ice conditions in late November or early December. Studies are presently under way by the Corps of Engineers as to the feasibility of providing a 12-month navigation season.

## SECTION V

### CURRENT AND ANTICIPATED RECREATIONAL USE

The pool 12 area ranked in fifth place in 1968 in terms of public attendance to the 12 navigation pools within the Rock Island District of the Corps of Engineers. Visitations totaled nearly 373,000 persons and ranged from a low of 4,979 in January to a high of 75,440 in July. Hunting and ice fishing are recreational pursuits which account for winter visitations.

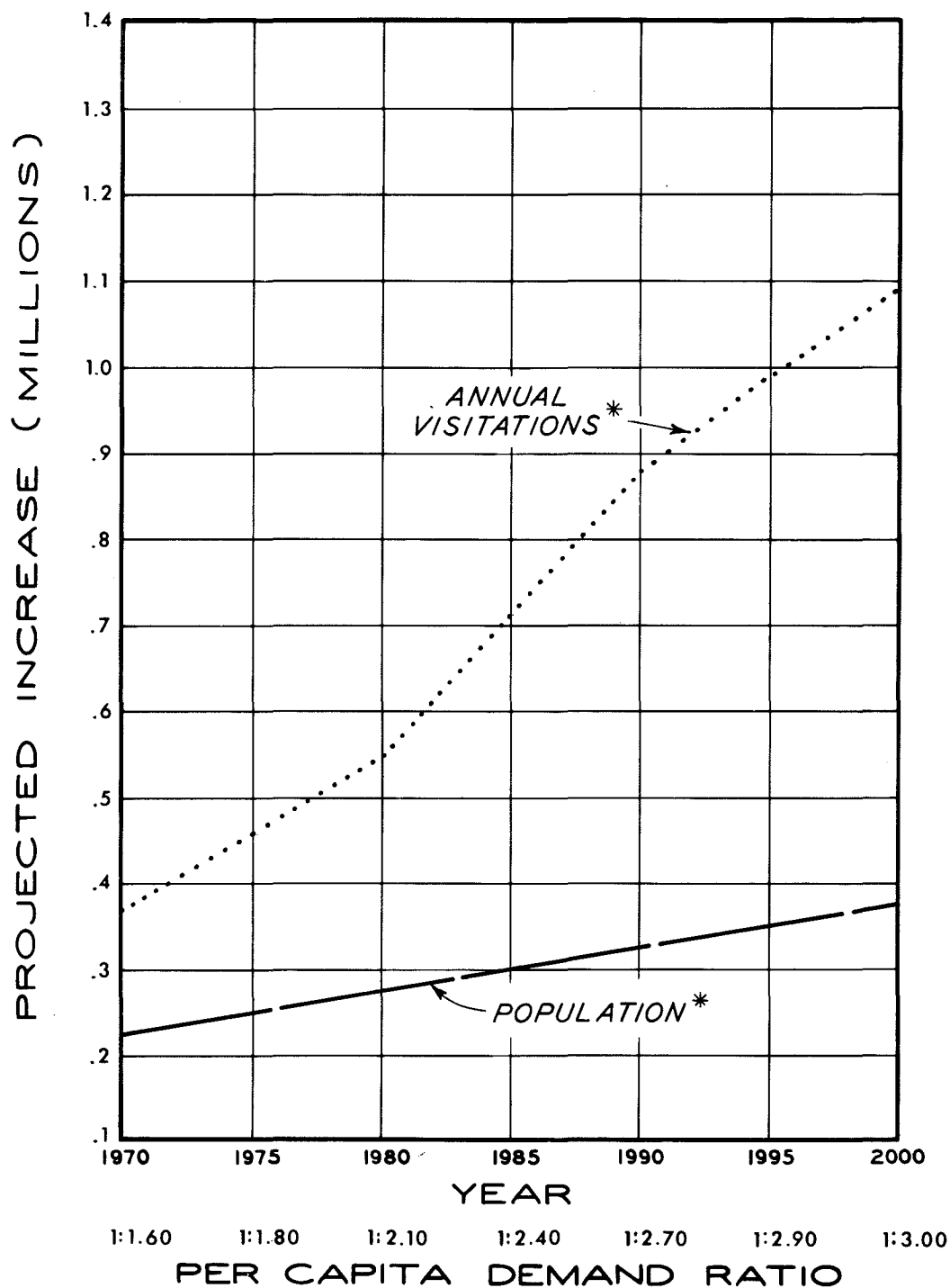
Plate V-1.1 graphically presents the anticipated population increase and corresponding projected recreational demand within the primary zone of influence - an area two counties in width (approximately 50 miles) extending inland on each side of the pool. The per capita use ratio, calculated on past reported visitations and projected 1970 population, is expected to hold relatively constant for the immediate future.

Plate V-1.2 tabulates recreational facilities established and maintained by the Federal Government as well as those located by private individuals and non-Federal governmental agencies. Non-Federal developments are limited to installations immediately adjacent to the river and may or may not be situated on lands leased or outgranted from the Federal Government.

Recommended additional Federal developments, detailed and explained in Section VI of this Master Plan, are considered necessary to satisfy the expanding public demand for recreational facilities. However, provisions of the Federal Water Project Recreation Act of 9 July 1965 (Public Law 89-72) will apply.

Proposed non-Federal facilities are those known to be scheduled for completion in the near future by State, County, or municipal entities.

Future facility requirements, based on anticipated population increases and public recreational demand and participation, are calculated from criteria established in ER 1130-2-312. It is apparent that most requirements will not be satisfied by development of facilities currently proposed and recommended beyond calendar year 1980 on this basis.



\* PRIMARY ZONE - AREA TWO COUNTIES  
IN WIDTH (APPROX. 50 MILES) EXTENDING  
INLAND ON EACH SIDE OF POOL.

POOL 12  
MISSISSIPPI RIVER  
PROJECTED  
POPULATION & VISITATIONS

# POOL 12 1969 EXISTING AND PROPOSED FACILITY DATA

	EXISTING FEDERAL FACILITIES	EXISTING NON-FEDERAL FACILITIES	TOTAL EXISTING FACILITIES	* RECOMMENDED FEDERAL FACILITIES	** PROPOSED NON-FEDERAL FACILITIES	TOTAL PROJECTED FACILITIES	† TOTAL REQUIREMENTS FOR ANTICIPATED DEMAND			
							1970	1980	1990	2000
<b>DAY - USE</b>										
PARKING (UNITS)	10	90	100	39	0	39	93	136	215	271
PICNIC TABLES	7	60	67	39	0	39	93	136	215	271
FIREPLACES	4	15	19	27	0	27	46	68	107	135
POTABLE WATER	1	3	4	3	0	3	3	4	7	9
SHELTERS	0	0	0		0	0	27	40	63	80
<b>BOAT LAUNCHING</b>										
PARKING (UNITS)	15	250	265	10	50	60	90	130	210	270
RAMPS	1	12	13	1	0	1	9	13	21	27
CONCESSIONS, FUEL, ETC.	0	5	5	0	0	0	—	—	—	—
<b>SANITATION</b>										
PIT TOILETS	6	6	12	4	4	8	4	6	8	12
FLUSH TOILETS	0	10	10	0	0	0	NONE PROPOSED UNDETERMINED			
TRAILER STATIONS	0	0	0	0	0	0				
<b>CAMPING</b>										
PARKING SPURS (GRAVEL)	27	30	57	81	10	91	49	72	114	144
PICNIC TABLES	16	30	46	81	10	91	49	72	114	144
FIREPLACES	6	30	36	81	10	91	49	72	114	144

\* SUBJECT TO PL 89-72. REFERENCE: PAGE VI-3

\*\* SCHEDULED FOR COMPLETION IN 1975

† BASED ON ER 1130-2-312 CRITERIA:

- 1 PICNIC TABLE PER 4000 ANNUAL VISITORS
- 1 PARKING SPACE PER TABLE
- 1 FIREPLACE PER 2 DAY-USE PICNIC TABLES
- 1 FIREPLACE PER CAMP SPUR
- 1 SHELTER PER 225 WEEK-END DAY VISITORS
- 1 LAUNCHING RAMP PER 40,000 ANNUAL VISITORS
- 10 CAR-TRAILER PARKING SPACES PER RAMP
- 2 PIT TOILETS PER 3000 WEEK-END DAY VISITORS
- 1 CAMP SPUR PER 7500 ANNUAL VISITORS

## NOTES:

- Primitive camping is permitted on Federal lands - islands, shores, and sandbars.
- No supervised river swimming areas are in operation.
- Road access to the river exists at 16 locations within the 110 miles of mainland shoreline.

## SECTION VI

### POOL RESOURCE MANAGEMENT

1. General. In keeping with the stated purpose of a Master Plan, the various physical features of the pool as well as plans for utilization and development of the scenic, biological, and recreational potential require examination and analysis in depth. Orderly and controlled resource protection and development is the purpose of a management program.

2. Land use zoning. Section VI, chapter I, describes and outlines zoning classifications established to meet the criteria of a Master Plan development. Comparatively little land is Government-owned along the Iowa shore since the bank is generally above the ordinary high water elevation. Lowlands, between the river and the railroad embankment, however, are much more prevalent along the Illinois shore resulting in considerable land under fee title to the Government. Except for 255-acre Hamm Island, adjacent to and owned by the city of Dubuque, Iowa, all islands are owned in fee by the Federal Government.

Of the 5,865 acres of Government land, remaining above the flat pool elevation, 89 percent or 5,198 acres, are administered by the Corps of Engineers; 8 percent, or 487 acres, by the Bureau of Sport Fisheries and Wildlife, Department of the Interior; and 3 percent, or 180 acres, are within the boundaries of the Savanna Ordnance Depot. The Bureau has also been assigned administrative responsibility for the wildlife resources on 4,291 acres, or 81 percent, of Corps controlled land.

The 5,685 acres of lands administered by the Corps of Engineers and the Bureau of Sport Fisheries and Wildlife are classified as: recreation-developed, 460 acres, or 8 percent; recreation-undeveloped, 4,550 acres, or 80 percent; recreation-commercial, 56 acres, or 1 percent; quasi-private use, 170 acres, or 3 percent; private use, 225 acres, or 4 percent; special use, 56 acres, or 1 percent; houseboat mooring sites, 56 acres, or 1 percent; industrial, (mile 572.9 - 573.9, Illinois) 112 acres, or 2 percent. Federal lands administered by the Savanna Ordnance Depot, a military reservation, are not subject to classification in this instance.

3. Water zoning. Detailed water zoning is not considered in the Master Plan, although houseboat mooring sites - a classification of use - does necessarily have a bearing on the immediate water areas. Of the 10,500 acres of water at the flat pool elevation, 4,200 acres, or 40 percent, are classified as channel waters of minimum 9-foot depth with the remaining considered as off-channel waters. Submerged features in off-channel waters, as depicted on the navigation charts, will not generally present small-boat hazards in the lower reaches of the pool, but may, in some instances, in the upper areas. No practical purpose would be served in attempting to indicate water depths in off-channel areas since fluctuating pool levels, shifting currents, sandbar formations, etc., would soon render such information obsolete. Definite and enforced water zoning will become a reality, at least in certain areas, as population and water-oriented recreational demand continues to increase.

4. Timber management. Subsection 3 of Section VIII, chapter I, described and details the forest resource existing on Government-owned lands, administered by the Corps of Engineers within the Rock Island District, and pertaining to the Mississippi River reach. Each base map of the Master Plan features a transparent overlay depicting the relative forest cover, specie association, canopy and understory density, and management objectives. The management program, currently under extensive study, may modify or revise objectives presently indicated. Section III, paragraph 4, of this chapter also covers forest densities by acreages and percentages.

Management objectives for the 5,198 acres of pool 12 timber resource are defined as: 1,161 acres, or 31 percent, for recreation-developed; 623 acres, or 12 percent, for recreation-undeveloped; 1,923 acres, or 37 percent for wildlife-waterfowl; 155 acres, or 3 percent, for wildlife-upland game; 832 acres, or 16 percent, for timber-sawlogs; and 54 acres, or 1 percent, for timber-pulpwood. No stands of timber-special products are considered as part of the pool resource.

5. Wildlife management. Federal ownership of certain lands, within the limits of the present pool, was vested in the Department of the Interior, Bureau of Sport Fisheries and Wildlife, prior to the construction of the 9-foot channel project and presently remain under such jurisdiction. In addition, other lands acquired in fee for the Corps of Engineers, as a part of the 9-foot channel project, are being

administered by the Bureau for fish and wildlife management purposes. In most pools the Bureau, in turn, has outgranted certain of these lands to the States for wildlife management purposes. However, to date, this practice has not been followed within the confines of pool 12. Lands of the pool outgranted to the Bureau are enumerated in Section III, paragraph 3, of this chapter and administration of Corps and Bureau holdings are covered in Section VI, paragraph 2.

6. Shoreline ownership. Of the 280 miles of shoreline, contained within the pool limits at the authorized water elevation, 240 miles are owned by the Federal Government and 40 miles by States, Counties, municipalities, or private individuals. Federal lands include 65 miles of mainland and 175 miles of island shoreline with 203 miles controlled by the Corps of Engineers, 26 miles by the Bureau of Sport Fisheries and Wildlife, and 11 miles by the Savanna Ordnance Depot.

7. Additional recreation development.

a. Corps of Engineers. Two additional sites are recommended for development of recreational facilities on Federal lands in pool 12. Both are considered as necessary to satisfy the increasing public demand for outdoor recreational opportunities.

(1) Lock and Dam No. 11, Public Use Area. Located in the extreme upper limits of pool 12 adjacent to the lock chamber, river mile 583.0, plate VI-4.1. The proposed development would include 7 picnic tables, 4 trash containers, and an observation platform similar to those in use in the St. Paul District and at Ohio River locks.

It has been necessary to expand parking facilities, adjacent to the lock chamber, to accommodate the numerous spectators who gather to observe boat lockages. The recommended observation platform will further serve the public in this respect. Development cost of the site is estimated at \$8,000.

(2) Smallpox Creek Public Use Area. A recommended 25-acre development, plate VI-4.2, would be located on the Illinois shore at approximate river mile 562.6. Planned facilities would include 40 day-use parking spaces, parking for 20 boat trailer units, a concrete boat ramp, 3 hand-pumped wells, 120 picnic tables, 81 camping spurs, 108 pedestal fireplaces, 72 trash containers, and 4 pit toilets. Graveled surfaced roads would require 1.1 miles of construction. Development cost is estimated at \$80,000.

Present laws and regulations prohibit the Corps of Engineers from initiating new developments to be constructed at Government expense. Existing Federal lands may be outgranted or leased to responsible non-Federal entities for recreational installations approved by the Corps of Engineers. No part of construction, maintenance, or improvement costs may be borne by the Government. No attempt has been made to interest a non-Federal agency in developing this project.

b. Bureau of Sport Fisheries and Wildlife.

The Bureau expects to develop a site on Government property at Frentriss Lake, some 2 miles below East Dubuque, Illinois. A preliminary cost estimate of \$4,000 for initial development is presently considered, although neither plans nor a timetable have been finalized.

c. States

(1) Iowa

The State has no present plans to request Government lands for recreational developments. Government ownership of shorelands within the Iowa portion of pool 12 are not extensive due to the generally high elevation of the river bank. Few Government-owned sites actually exist which would be suitable for extensive development for recreational facilities.

(2) Illinois

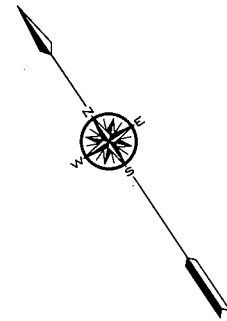
While the State has tentative plans to improve and expand an existing outgranted site at Menominee Station, river mile 570.2, no further requests concerning pool 12 lands are presently considered.

d. Counties

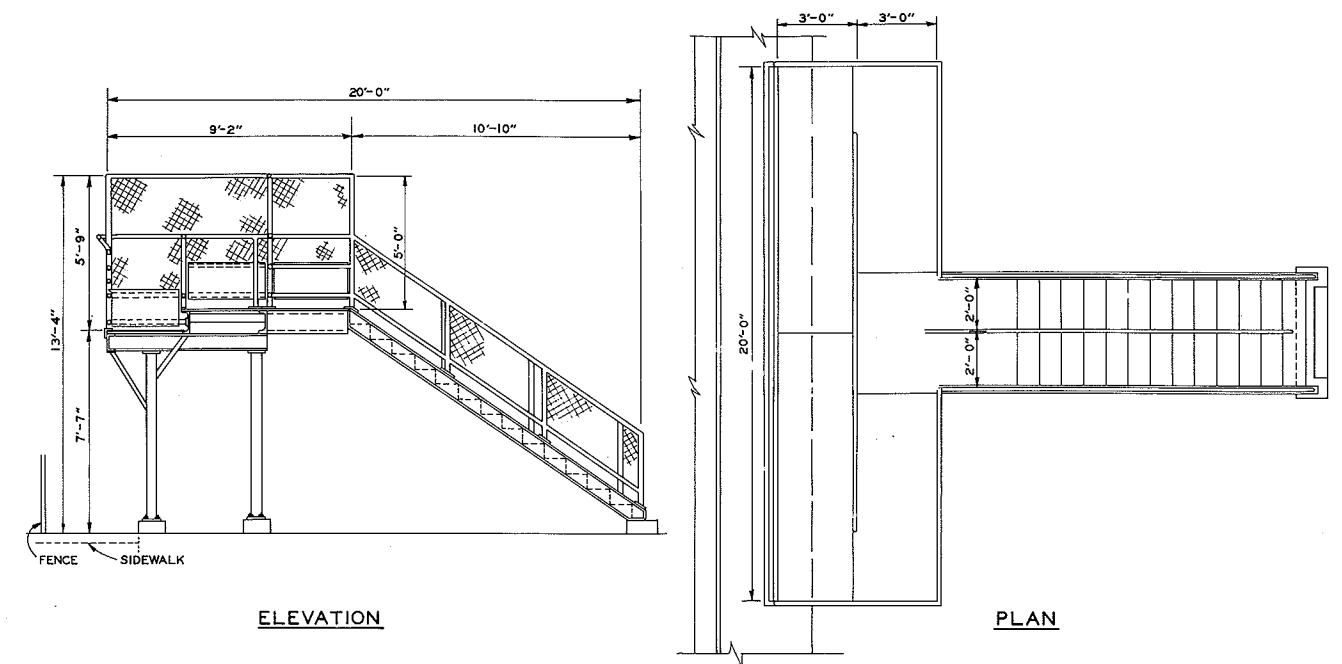
(1) Dubuque (Iowa)

The Dubuque County Conservation Board presently operates a sophisticated recreational area at Massey Landing, river mile 573.7, on land administered by the Corps of Engineers. Because of usage and public demand another 17 acres of Federal lands were made available to the Conservation Board in January 1969 for a harbor facility to accommodate transient craft and provide sufficient mooring space. An expenditure of \$37,500 is planned in 1969 for park development, buildings, and roads.



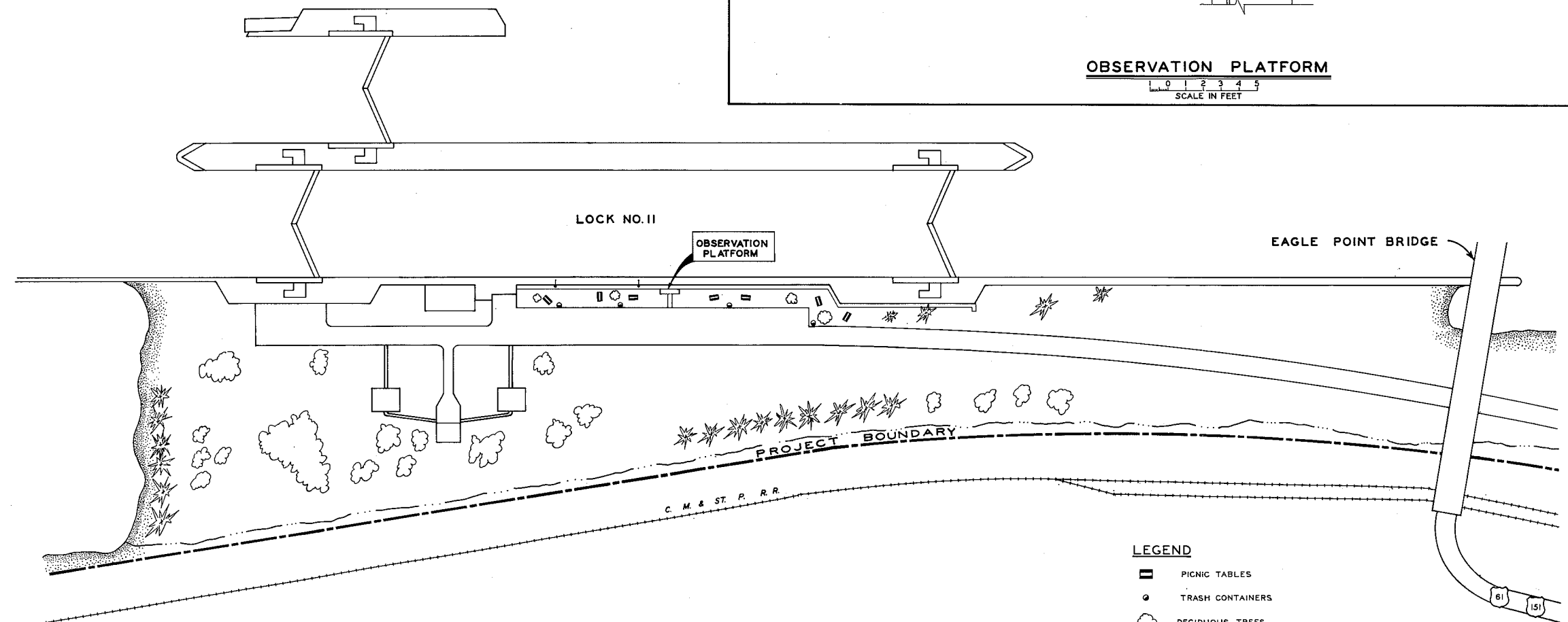


MISSISSIPPI RIVER



OBSERVATION PLATFORM

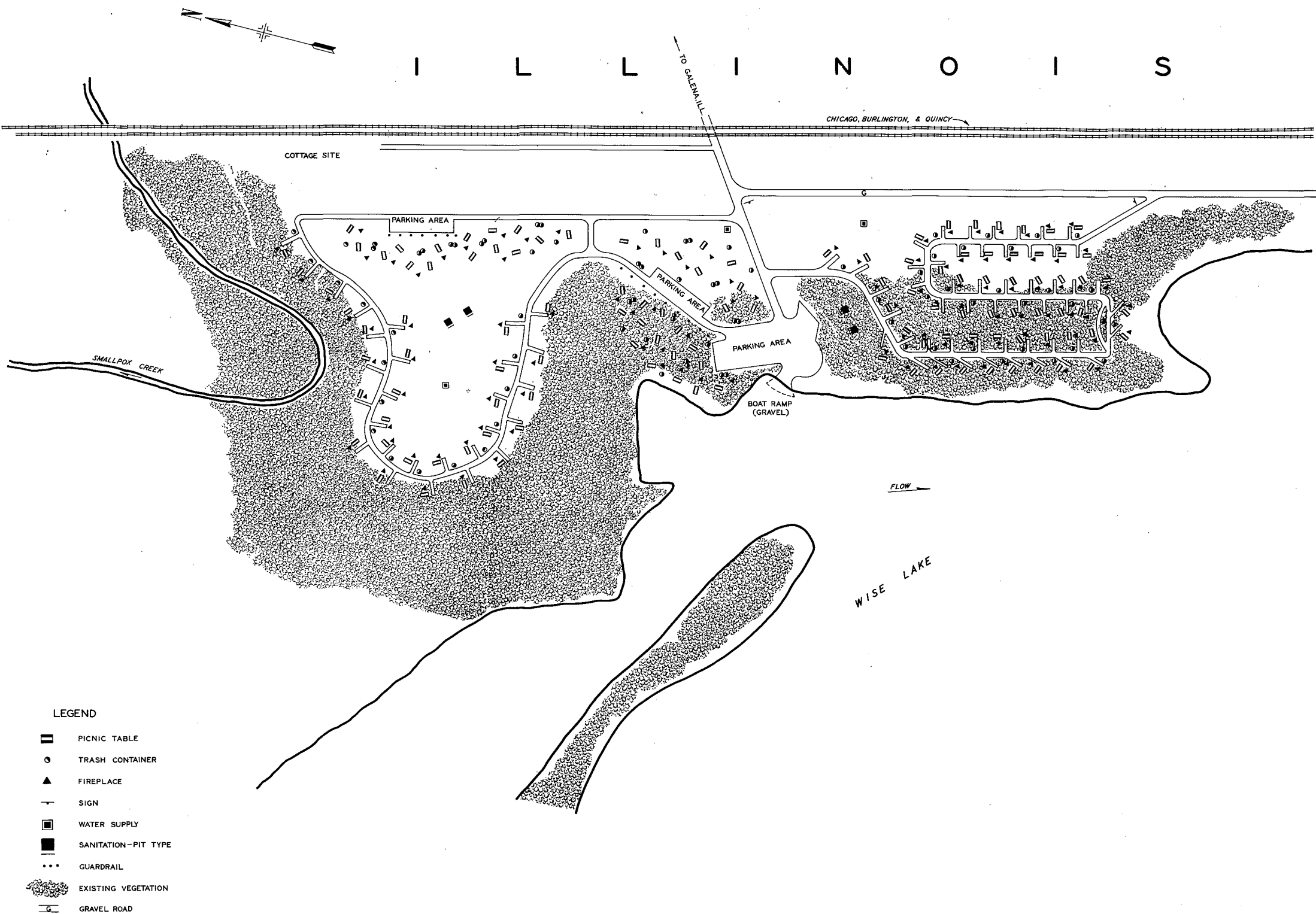
SCALE IN FEET



**UPPER MISSISSIPPI RIVER**  
**REVISED MASTER PLAN**  
**PROPOSED**  
**LOCK AND DAM NO. 11 PUBLIC USE AREA**  
**POOL 12, RIVER MILE 583.0**  
**SITE PLAN**

SCALE IN FEET

CORPS OF ENGINEERS  
ROCK ISLAND, ILLINOISROCK ISLAND DISTRICT  
APRIL 1969

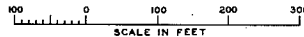


- LEGEND
- PICNIC TABLE
  - TRASH CONTAINER
  - FIREPLACE
  - SIGN
  - WATER SUPPLY
  - SANITATION-PIT TYPE
  - GUARDRAIL
  - EXISTING VEGETATION
  - GRAVEL ROAD

UPPER MISSISSIPPI RIVER  
REVISED MASTER PLAN

PROPOSED  
SMALLPOX CREEK PUBLIC USE AREA  
POOL 12, RIVER MILE 562.5

SITE PLAN



CORPS OF ENGINEERS  
ROCK ISLAND, ILLINOIS

ROCK ISLAND DISTRICT  
APRIL 1969

(2) Jackson (Iowa)

Except for a cottage site area and a developed recreational tract presently leased to Jackson County, no other land under Government ownership occurs within the county limits of pool 12.

(3) Jo Daviess (Illinois)

Although State law permits the formulation of county conservation boards, no such entity presently exists in Jo Daviess County.

e. Municipal

(1) City of Dubuque, Iowa

No Government-owned property exists along the river and within the limits of the city, or immediately adjacent to such boundaries.

(2) Town of Bellevue, Iowa

A boat launching ramp, concrete motor shed, and a dock are maintained by the Izaak Walton League on Federal property within the upper town limits. A downstream back-water slough, between the installation and the mainland bluff, precludes further development of the area. Future spoil disposal, from channel dredging, would permit limited expansion and improvement.

No other Government-owned land exists within or near the town limits except for that directly associated with the lock and dam structure.

(3) Town of East Dubuque, Illinois

A boat launching area is maintained by East Dubuque on Government property downstream of the town limits. Extensive development and improvement has been accomplished and includes a concrete launching ramp, parking area, access road, and shore protection. There is no present intention to request additional Federal lands.

## SECTION VII

### OPERATION AND MAINTENANCE

1. Pool Manager-Ranger. The need for and suggested duties of a Manager-Ranger are outlined and explained in chapter I, Section IX, Project Administration. Although very little land exists under Government-ownership along the Iowa shore, such holdings are extensive in the bottomlands of Illinois and on the many islands. Supervision of existing recreational facilities, examination of recreation potential, protection of timber resources, and general administration of Federal lands are but a few of the reasons for the necessity of such a specialized position.

2. Recreation facilities maintenance. Under the existing restrictions of Public Law 89-72, no new recreational sites may be developed at Government expense. However, installations presently established may be improved, expanded, and maintained to the extent possible with funds requested and allocated.

Responsibility for new construction and general maintenance, within present site limits, rests with the Operations Division of the Rock Island District Office, which supports a field crew of 6 persons to accomplish such work. Construction and maintenance of the 26 Mississippi River public use areas continues throughout the year with occasional additional and temporary personnel hired as needed. The supervisor of the group also acts as a contracting officer with private individuals who accept seasonal appointments for trash and garbage removal, grass cutting, etc.

## SECTION VIII

### SUMMARY AND RECOMMENDATIONS

1. General summary. Considerable recreational potential exists within the pool limits, nearly all along the immediate Illinois shore which is largely under Federal ownership. The generally high Iowa shore, lack of urban concentrations, etc., likely precludes extensive industrial developments on such non-Federal lands in the foreseeable future. Scenic and recreational values, moreover, should be protected and preserved for the demands of an expanding population with increasing means, mobility, and leisure time. Visitation figures for pool 12 are impressive in the light of the very limited recreational facilities presently existing.

#### 2. Recommendations

a. Consideration is recommended towards the establishment of the Pool Manager-Ranger concept as outlined and explained in chapter I, Section IX, paragraph 2. Considerable time and effort by personnel of the District Office could be eliminated, improved liaison should result with other Federal and non-Federal agencies, unauthorized use of Government land and vandalism would be minimized, and closer public relations established.

b. The suggested installation at lock and dam No. 11 is recommended to accommodate the increasing numbers of visitors who gather to observe locking activities. Similar installations at several locks in the St. Paul District are reported to be well accepted and extensively used.

c. The suggested Smallpox Creek public use area is recommended and believed to be urgently needed, since only one such area is presently located within the pool limits. Although the existing Blanding Landing public use area has been expanded, public demand is outpacing available space for further facility development. The proposed area would be located approximately five miles south of the historic city of Galena, Illinois, and should serve numerous camping tourists visiting the area.

d. No off-channel dredging is considered necessary at the present time. Water depths are adequate at Blanding

Landing, considering the type of activities in the vicinity, and no other dredging for recreational purposes is currently recommended.

e. Approval is recommended of the zoning established for Federal lands as indicated on the transparent overlays accompanying the base charts of the Master Plan for pool 12. By order of the Chief of Engineers, private use areas shall cease to exist after 30 November 1988 and such sites will then be reclassified as to priority and use. However, the concept of a Master Plan allows for flexibility and is subject to continual review and revision. Other areas of priority, therefore, may be reclassified as demand and circumstances dictate prior to the blanket elimination of the private-use category. Certain of the private-use areas may be reclassified, prior to the date indicated, should a higher priority of use become apparent.

f. Some additional landscaping is desirable at the Blanding Landing public use area, especially on the steeper slopes which are subject to erosion. No immediate change is planned for the timber management program for the pool; however, future programs will be designed to reach assigned management objectives. Dutch elm disease has seriously decimated the American elm stand throughout the pool; however, no program for removal of affected trees is considered since costs would be prohibitive. Nor is reforestation of open areas presently contemplated, although future plans may include the propagation of walnut and pecan species in some of the more desirable and suitable areas. Timber management objectives, as indicated on the overlay, should be fully pursued through the implementation of sound silvicultural practices.

### 3. Suggested future recreation facilities

a. The island and slough complex lying between river miles 564 and 572 are especially suitable for the establishment of float-marked canoe trails. With State cooperation such trails might be extended up the Galena, Sinsinawa, and Little Menominee Rivers. Minor dredging and inter-connecting cuts may be necessary on Government property. Road access to Government lands exists at river miles 566.5 and 568.3.

b. Vantage points for sightseers, artists, and photographers might be located at various areas of outstanding scenic views, especially at points affording a view of the

spectacular autumn coloring for which the river shores and bluffs are noted. Specific locations would need to be established by seasonal survey.

c. A large tract of Federal land near river mile 574, lying riverward of the railroad and below the Menominee River, is considered ideal for the development of hiking, riding, and nature trails. Approximately 1,500 feet of access roadway would be required from Federal Highway 20 to an existing open area suitable for parking purposes. Riding stables might be located on adjacent private property or on Federal land under a concessionaire agreement. Nature trails should feature specimen identifications in this area of varied vegetative cover.

d. At several sites submerged wing dams could be raised or rock jetties built for the convenience of shore fishermen. Such construction, however, would be subject to hydraulic studies and recommendations of the proper District specialists concerned with the navigational aspects of the river.

e. A sealed bulletin-board type of display could be erected at Blanding Landing public use area with posted information as to phone facilities at the nearby concessionaire building for emergencies. Also featured might be hunting and fishing regulations, vandalism warning, littering appeal, and identified specimens of the flora and fauna of the area.

f. The constant and increasing usage of the Blanding Landing area indicates that lights, water-borne sewage-disposal facilities, and hard-surfacing of the circulation roads would be highly desirable. Concrete platforms are required under the picnic tables along the shore to minimize the shifting sand problem. Additional picnic tables are needed, and, since the picnic area is somewhat deficient in shade cover, some could be equipped with fibreglass canopies. Trailer sanitation facilities should also be considered.

g. Provision at Blanding Landing could be made for postage-free cards for the public to request recreation brochures available for the Rock Island District Office, and for comments and suggestions. These could, perhaps, be made available in the nearby concession building.

SECTION IX  
REVIEW OF PLAN

1. Real Estate Division

Pursuant to paragraph 5b of ER 405-2-835 the Master Plan was submitted for review and the Real Estate Division concurs that the Master Plan was prepared in accordance with sound real estate acquisition, management and utilization practices.



C. E. KELLEY, Attorney  
Chief, Real Estate Division

2. Operations Division

Sections of this Master Plan that have a direct or indirect bearing upon the operation and maintenance of the Mississippi River have been coordinated with the Operations Division.



ROBERT E. CLEVENSTINE  
Chief, Operations Division