NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

1. Name of Property

historic name **Lock and Dam No. 14 Historic District**

other names/site number **Le Claire Lock; Old Le Claire Lock and Lateral Canal** ____ N/A

2. Location

street & number **25549 182nd Street** ____not for publication ____N/A
city or town **Pleasant Valley** vicinity _____ ____N/A
state **Iowa** code **IA** county **Scott** code ~~171~~ 163
zip code **52767**

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this X nomination ____request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets ____does not meet the National Register Criteria. I recommend that this property be considered significant X nationally ____ statewide ____locally. (See continuation sheet for additional comments.)

Paul D Rebuski Deputy FPO, USACE — 3 Dec 2003
Signature of Certifying Official — Date

Wilbur C. Schulz ISHPO — 9-8-03
Illinois State Agency or Society Official — Date

Russell J. Sokol — June 12, 2003
Iowa State Agency or Society Official — Date

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register ____See continuation sheet.
____determined eligible for the National Register ____See continuation sheet.
____determined not eligible for the National Register
____removed from the National Register
____other (explain)_____

for Edson Beall — MAR 10 2004
Signature of the Keeper — Date

5. Classification

Ownership of Property (Check as many boxes as apply)
___ private
___ public-local
___ public-State
_x_ public-Federal

Category of Property (Check only one box)
___ building(s)
_x_ district
___ site
___ structure
___ object

Number of Resources within Property

Contributing	Noncontributing	
__1__	__8__	buildings
__0__	__0__	sites
__6__	__3__	structures
__2__	_13__	objects
__9__	_24__	Total

Number of contributing resources previously listed in the National Register __0__

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) **Upper Mississippi River 9-Foot Navigation Project, 1931-1948**

6. Function or Use

Historic Functions (Enter categories from instructions)
Cat: **TRANSPORTATION** Sub: **water-related**

Current Functions (Enter categories from instructions)
Cat: **TRANSPORTATION** Sub: **water-related**

7. Description

Architectural Classification (Enter categories from instructions)
OTHER: **lock and dam**
MODERNE: **control station**
OTHER: **machinery**

Materials (Enter categories from instructions)
foundation OTHER: **bedrock**
roof **ASPHALT**
walls **CONCRETE**
BRICK
other gates **STEEL**
machinery **STEEL**

Narrative Description (Complete text on following ten continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

__x__ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

____ B Property is associated with the lives of persons significant in our past.

____ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

____ D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

____ A owned by a religious institution or used for religious purposes.

____ B removed from its original location.

____ C a birthplace or a grave.

____ D a cemetery.

____ E a reconstructed building, object, or structure.

____ F a commemorative property.

____ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)
Transportation
Maritime History
Social History
Commerce
Conservation
Military
Economics
Politics/Government

Period of Significance **1921-1948**

Significant Dates **1939**
1922

Significant Person (Complete if Criterion B is marked above)
N/A

Cultural Affiliation **N/A**

Architect/Builder **U.S. Army Corps of Eng., R. I. Dist.**
Abbott, Edwin E.

Narrative Statement of Significance (Complete text printed on the following five continuation sheets.)

Lock and Dam No. 14 Historic District
name of property
Scott County, IA
county and state
Upper Mississippi River 9-Foot Navigation Project, 1931-1948
name of multiple property listing

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)
___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # _____
_x_ recorded by Historic American Engineering Record # **IA-25**_____

Primary Location of Additional Data
___ State Historic Preservation Office
___ Other State agency
_x_ Federal agency
___ Local government
___ University
___ Other
Name of repository: U**SACE, Rock Island District**_____

10. Geographical Data

Acreage of Property _____

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing		Zone	Easting	Northing
1	__	_____	_____	3	__	_____	_____
2	__	_____	_____	4	__	_____	_____

___ See continuation sheet.

Verbal Boundary Description and Boundary Justification printed on the same continuation sheet.

11. Form Prepared By

name/title_**Mary Yeater Rathbun, Principal Historian**_____

organization_**Rathbun Associates**_____ date **June 1998**_____

street & number_**1792 Sandy Rock Road**_____ telephone **608-967-2144**____

city or town_**Hollandale**_____ state_**WI**_ zip code _**53544**_____

Additional Documentation

3 maps and 10 black and white photographs all printed on the following ___ continuation sheets

Property Owner

name **U.S. Government—Rock Island District, Army Corps of Engineers**

street & number_**Clock Tower Building**_____ telephone_**309-794-5185**____

city or town_**Rock Island**_____ state_**IL**__ zip code **61204-2004**

Description

The 304.34-acre Lock and Dam No. 14 Historic District is made up of two navigation lift locks (one built as part of the Upper Mississippi River 9-Foot Channel Project and the other built as part of an Upper Mississippi River 6-Foot Channel Project), two nonnavigable dams (one from each of those same projects), and 29 associated resources. The Rock Island District of the Corps of Engineers had the old Le Claire Lock, the Le Claire Canal Lateral Dam, and the Le Claire Canal Closing Dam built between 1921 and 1924. A general contractor and numerous subcontractors, all employing the maximum number of people possible for a relief work project, built Lock and Dam No. 14 and many appurtenances between 1935 and 1939. Other contractors built the rest of the district's main features in 1942 and 1951 as part of an effort to control outdraft problems, making entrance and exit from the upstream end of the new lock difficult. Once these elements were in place, the district arrived at its mature configuration. Since May 13, 1939, the district has been in continuous use as a part of the Upper Mississippi River 9-Foot Navigation Project. Although significant features associated with the operation of the navigation system have, by necessity, been subjected to continuing maintenance, upkeep, or replacement throughout these 59 years, the district looked the same for 18 years (1951-1970). This fact may have been lost on some observers, however, because the Corps-operated facility on the Iowa shore adjacent to the district changed so much in these years. The addition of four large warehouse buildings, drastic alterations to the roadways, and removal of the three houses make it unrecognizable as a lock and dam residence/service and access area. The initial changes within the historic district were, by contrast, quite discrete. Only with the 1979 major $4.5-million rehabilitation of the old Le Claire Lock and its appurtenances, did change within the district become obvious. In 1998, the new lock and dam were in the midst of an equally major 50-year rehabilitation. As a result of this, both dams, both locks, and all of the associated resources, save the abandoned central control station, are in excellent condition, except that all original architectural details are not intact. The central control station is in good condition.[1] However, neither lock retains integrity of workmanship. They have been resurfaced. The rehabilitiations did not structurally alter them. Moreover, even with all the change on the Iowa shore, the basic character of the district's setting has not been altered. The intrusions are small compared to the focal points of the district: the locks and dams, the esplanade, Smith Island and lily pond, the mooring area, and the central control station. These focal points, the undeveloped bluffs, and the river dominate the district, preserving its integrity of setting and feeling. The district also retains integrity of location, design, materials, and association.

Setting

The Lock and Dam No. 14 Historic District extends across the Upper Mississippi River at a narrow point where the bluffs on both sides of the river are close together. Smith Island, lying below the bluffs on the Iowa side, reduces the width of the river even further.

The district is within the metropolitan area of the quad cities of Moline and Rock Island, Illinois, and Davenport and Bettendorf, Iowa. It is at the far southern

edge of the sprawl reaching out from Le Claire, Iowa, and at the northern edge of the developing suburb of Pleasant Valley, Iowa. However, a visitor to the district is unaware of the urban development surrounding it. The Davenport Country Club occupies the high ground on the Iowa bluffs overlooking the district. The main road along the Iowa shore—U.S. Route 67—is cut into the bluffs at a level well above that of the government property. A steep, wooded slope isolates the district from the backs of the limited commercial development along this road. This separation is emphasized by the fact that the only access to the district from that road is now over a quarter of a mile south of the district. The government access road turns north from that point and leads back to the government property at the government property's level, giving the visitor the sense of entering another place. The Illiniwek Forest Preserve overlooks the district from the Illinois Bluff. Taken together, these factors have conspired to keep the district's overall setting rural.

The Le Claire Base Compound occupies the less than 8 acres of flat land at the base of the bluffs on the Iowa shore. The Corps first developed this area in 1921-1924 as a staff housing and service area, providing land access to the downstream end of the Le Claire Canal. It originally accommodated the lockmaster's and two locktenders' residences, parking, a warehouse, and other service related functions, as well as the access road. Of those buildings, only one remains—the warehouse, now known as the Mississippi River Recreation Office. The residences were moved off the site in the 1970s when all the residences at all the lock and dam complexes in the 9-foot navigation system were removed (see Section E, Multiple Property Documentation Form). In 1952 the Corps added what is now known as Motor Shop No. 2. The next year, 1953, three more buildings went up: Warehouse Nos. 3 and 4 and Mississippi River Recreation Shop Building No. 5. All four of these new buildings are large and dominate the space. The smallest is 50 feet by 150 feet. Between the addition of these buildings and the removal of the three houses, the area is totally unrecognizable as the residential and service area it was in the pre-1948 Period of Significance of the district.[2]

The Lock and Dam No. 14 Historic District is visually separated from today's Le Claire Base Compound by the old Le Claire Lock and the portion of the Le Claire Canal extant between Smith Island and the Iowa shore. These are features of the historic district.

Le Claire Canal, Le Claire Lock, Le Claire Canal Closing Dam

In its natural form, two sets of rapids impeded modern powered navigation on the Upper Mississippi River between St. Louis and Minneapolis. The Des Moines Rapids extended 11.25 miles upstream from Keokuk, Iowa. The Rock Island Rapids extended 13.75 miles from the foot of Arsenal Island in the heart of the quad cities to Le Claire, Iowa (see Section E, Multiple Property Documentation Form). The Lock and Dam No. 14 Historic District is located in the Rock Island Rapids section of the Upper Mississippi River, 3.6 miles below the head of the rapids. In this reach of the river, chains of rock stretched out from each shore. A narrow navigation channel, plagued by strong currents, twisted from shore to shore through the rapids.

The Corps has been struggling to improve this part of river for nearly 150 years. From 1854 until 1856, John G. Ford supervised deepening, widening, and straightening work on the main channel through the Rock Island Rapids. However, well before the project was completed, the Corps ceased work on the job and did not resume until after the Civil War.[3]

Beginning in 1866, Brevet Major General James Wilson oversaw efforts to reduce the navigational impairments presented by the Des Moines and Rock Island Rapids. General Wilson began by excavating the main channel through the Rock Island Rapids. He had cofferdams built around some work areas, blasted obstructions, and then had the loose rock removed. In other areas he used chisel boats to break up the rock under water with a device resembling a pile-driver. The broken rock was then dredged up. A third, seldom used operation, was submarine blasting. The end result, by 1878, was a 200-foot-wide by 4-foot-deep channel, although it was a very crooked channel.[4]

As early as 1888, a Corps Board of Engineers had developed a plan to allow circumnavigation of the Le Claire section of the Rock Island Rapids (the 3.6 miles from Smith Island to Le Claire) via a lateral canal along the Illinois side of the river. Nothing was done with this idea, however, because the improvements already made were sufficient to serve the existing traffic. But by 1900, the rest of the river had been improved to a point that the Rock Island Rapids were again a problem. Because the Moline and Duck Creek chains of rock had the steepest slopes and swiftest current in the Rock Island Rapids, the Corps began its new improvements there. The Moline Lock, designed between 1902 and 1905 and built between 1905 and 1908, dealt with this reach of the rapids (see Section E, Multiple Property Documentation Form).[5]

In 1905, just as construction on the Moline Lock was beginning, the Corps turned its attention to developing a plan for dealing with the upper stretch of the Rock Island Rapids, the Le Claire section. Pulling out and dusting off the 1888 plans for a lateral canal, these twentieth-century Corps engineers moved the canal to the Iowa side of the river for several reasons. The improved channel through this stretch of rapids was on the Illinois side of the river. This channel could continue to be used while a canal was being built on the other side of the river and at high water even after the canal had been built. In other words, moving it best preserved open-water navigation (see below Section 8 and Section E, Multiple Property Documentation Form). Also, a canal on the Iowa side could be a half mile shorter. Finally, incorporating Smith Island, a long narrow piece of land near the Iowa shore, into the design as part of the lateral canal, would save another mile of construction.[6]

In 1907, Congress authorized the Corps to create a 6 foot channel in the Upper Mississippi River, including an Iowa side lateral canal around the Le Claire section of the Rock Island Rapids. In 1913, the Corps developed specific plans for the lateral canal, lift lock, and closing dam. Congress authorized construction of the project on March 5, 1914. However, the outbreak of war in Europe dashed any hopes for a quick construction start up. When, by the summer of 1920, construction had still not begun, the Cincinnati Division of the Corps took the opportunity to reexamine and revise the designs for the lock, dam, and canal in light of some, but not all, recent developments in waterway improvement technology. In 1913, the same

year that the Corps had originally designed this lock, the Louisville District of the Corps solved the technological miter gate problem which had kept the Corps from building 110-foot-wide lock chambers for 30 some years (see Section F, Multiple Property Documentation Form). Yet neither the original designers nor the 1920 revisers of the Le Claire Lock plans made use of this new technology. The Cincinnati Division, which was concurrently churning out designs for the new improved miter gates for 110-foot-wide locks on the continuing Ohio River 9-Foot Channel Project, designed a "mini" version of these gates for the 80-foot lock.[7]

There was nothing "mini," however, about the longitudinal dam the Corps built paralleling the Iowa shore from the head of the rapids at Le Claire to the head of Smith Island. This earthen dam extended 6.5 feet above the average low water depth of the upper pool, then Smith Island, and a curved section of closing dike formed the riverward wall of the canal. The closing dike was also a solid, earth dam. The Iowa shore formed the land wall of the canal.[8]

The depth of water needed in the Le Claire Canal was determined by the elevation of the surface of the water at Le Claire. The natural elevation of the water at Smith Island was lower than at Le Claire. Therefore, an end, or stopper, was needed for the canal. The lift lock just downstream from Smith Island, known as the old Le Claire Lock, and the curved closing dam extending from the downstream end of Smith Island to the lock served this purpose. The lock also allowed boats using the canal to move from the higher (Le Claire) elevation to the lower (Moline) level or vice versa. The Corps opened the lock to navigation on November 29, 1922, but did not complete the structure until 1924.[9]

The Le Claire Lock has two massive fixed sides of standard concrete masonry, a concrete floor, and two pairs of traditional, flat-leaf style miter gates. The gates have steel-skin plates surrounding a metal interior bracing frame. The two leaves in each set of gates are hinged panels balanced on steel pintels embedded in the lock floor and attached at their quoin ends to the lock walls. When closed, the miter cut ends of the two leaves toe together in the center of the lock chamber forming a "V" configuration pointing upstream. The area inside the gates and walls is called the lock chamber. It is 80 feet wide and 320 feet long with a low water depth of 8 feet at the upper sill and 7 feet at the lower. The lock was designed between 1913 and 1921 to allow boats to pass between bodies of water with a 5.5-foot difference in elevation. In other words, it was designed to provide a 5.5-foot lift. Between 1930 and 1939, after it had been slated to become part of the Upper Mississippi River 9-foot navigation system, it was altered so that it could provide an 11-foot lift—the difference in elevation between the upstream and downstream pools created by the Lock and Dam No. 14 bank to bank structure, of which this old lock became a part.[10]

Water flows into the lock chamber through a culvert in the land wall of the lock. The flow of water in the culvert is controlled by steel Wagon Gate valves located within the lock wall. The lock staff operates each valve independently. Similarly, the lock staff operates each lock gate independently. A strut runs from each leaf to its own set of gears. Each set of gears is located in its own machine pit in the lock wall. An electric motor in the pit with the gears powers them. The lock staff have always operated both the lock gates and the lock valves on this lock

by remote control. Since 1979, when this lock was rehabilitated and new valves and gears were installed throughout, the switches to operate all four gates and all the valves have been located in the new lock operator's house.

This new lock operator's house is located on the land wall of the Old Le Claire Lock. The rectangular-plan, one-story masonry building has a hipped roof and is approximately 20 feet by 15 feet. Five metal windows span the entire principal southeast facade which faces the lock chamber. There are single metal doors on both the northeast and southwest ends.

The 1979 rehabilitation of the Le Claire Lock also added a dewatering pump and a bubbler system (see Section F, Multiple Property Documentation Form). These alterations allowed it to serve as a winter dry dock. The bubbler uses compressed air to keep the water in the lock moving so it does not freeze. Although a bubbler system will not keep a lock open throughout a typical upper Midwestern winter, it is enough (providing the water is not allowed to freeze in the culvert in the lock wall) to allow a lock to be filled once, the gates to be opened once, and the chamber emptied—all that is needed to move a boat in or out of a dry dock. This process can be repeated as many times as necessary throughout the winter. The upstream end of the lock, the northeast (or upstream) side of the curved Le Claire Canal Closing Dam, and the landward side of Smith Island define a mooring and storage site for the Rock Island District's floating plant as well as for vessels to be worked on or just released from this dry dock.

Commercial river traffic ceased using the Le Claire Lock in 1939 when the new lock and dam went on line. However, the Le Claire Lock was incorporated into the new complex, serving in the place of an auxiliary lock (see Section F, Multiple Property Documentation Form). Then, in 1969, the Rock Island District began operating the lock on weekends and holidays from May to October for the passage of pleasure craft. The 1979 rehabilitation included new miter gates and miter gate operating machinery, replacement in kind of the downstream timber crib guide wall, and a new wall surface.

1930s Structures

The 1930s elements of the Lock and Dam No. 14 bank-to-bank structure are on the opposite side of Smith Island from the old Le Claire Lock. In 1934, this site was inaccessible from the nearest highway. L. A. Littig of Davenport, Iowa, rebuilt Wells Ferry Road, the existing roadway from U. S. Route 67 to the Le Claire Lock housing and service areas (now the Le Claire Base Compound), built a new section of road, and then built a temporary swing bridge across the upper end of the old lock in order for contractors to be able to drive equipment out onto the manmade land southwest of the closure dam. This bridge rested on a 20-foot by 100-foot wooden barge. A similar (although not swinging) temporary bridge, resting on a smaller, modern barge still provides the only vehicle access to the 1935-1939 complex. This bridge is pulled out of the way when the 1921-1924 lock is used to pass pleasure craft between Pools 14 and 15.[11]

An irregularly shaped, approximately 15-acre lawn on manmade land extends from the downstream (or southwest) side the Le Claire Canal Closing Dam. The westernmost

portion of this esplanade is roughly the shape of a 600-foot by 600-foot equilateral triangle. The southernmost portion is rectangular and adjoins the triangle at its southernmost angle. The rectangular portion of the esplanade was originally about 1,000 feet long and 300 feet wide. Not only was this esplanade unusual in shape, it was also different from the standard park/service area and access road lock and dam complex component (see Section F, Multiple Property Documentation Form) in that it included neither residences nor a central control station. The Corps did not build new lockmaster and locktender's residences. There were already three houses in the old Le Claire Lock housing and service area on the Iowa shore. The primary responsibility of the staff that lived in them simply shifted to the newer lock and dam, although they were still responsible for maintaining the old lock and closing dam. The 2a Style central control station/power house (see Section E, Multiple Property Documentation Form) is on the riverward wall of the main lock, adjacent to the north end of the moveable section of the 1939 dam. Turbines were never installed in this building, so it has never been used as a power house. It was used for the office and workshop functions of a central control station until 1984 when the Corps built a new Style 2 workshop (see Section F, Multiple property Documentation Form) on the landward side of the lock in 1984. The interior of this workshop is different than the other Style 2 workshops because the lockward portion of it was fitted out as an office from the very beginning. However, the central control station/power house remains the most prominent building in the historic district and the only one contributing to its historical character.

The main lock adjoins the east side of the rectangular portion of the esplanade. A standard Upper Mississippi River Style lock (as defined in Section F, Multiple Property Documentation Form), it has an 11-foot lift. As at all the 1930-1940 locks in this system, monolithic concrete walls extend the land wall of the main lock 600 feet upstream from the upstream gates and 600 feet downstream from the downstream gates. The lock staff and the boat crews use these guide walls when assisting barge traffic into and out of the lock. The downstream guide wall on this lock adjoins the east side of the esplanade. However, the entire upstream guide wall sticks out from the esplanade.

When this complex was put into service as part of the 9-Foot Channel Project in May 1939, this guide wall, the north side of the esplanade, the south side of the curved portion of Le Claire Canal Closing Dam attached to Smith Island, and the riverward side of Smith Island created a wide mouthed bay that made getting into and out of the upstream end of the lock difficult. The current would push boats into the bay on the Iowa side of the guide wall—the exact opposite side from where they needed to be. In 1951, when the Corps was putting in relatively short upstream guide wall extensions at several other locks with outdraft problems, contractors built a 1,500-foot mooring dike onto the upstream end of the upstream guide wall at Lock No. 14.

The mooring dike narrowed the opening into the bay enormously (see accompanying Map 2 entitled Lock and Dam No. 14 Historic District Based on June 30, 1961, Map by Rock Island District: Sheet 19, Mississippi River, River and Harbor Project, Lock & Dam No. 14). This not only kept boats and barges out of the shallow bay, it also slowed water movement so that the sediment in the water settled and accumulated behind the mooring dike and the two small islands on that map. If the 1961 map is

not just a tracing off an as-built drawing, the accumulation was not noticeable for the first 10 years. However, by 1982, when the aerial photographs included in the Historic American Engineering Records documentation of the site was taken, over 35 acres of new land had built up between the mooring levee and the upstream end of Smith Island. There was no longer an opening for boats or free flowing water to enter the former bay except during floods deep enough to overtop the mooring levee. What had been a bay had become an enclosed lily pond. Because the river was no longer flowing into the pond, except during high water, it was not dropping sediment there. There has been little additional land built in the 16 years since that photo was taken.[12]

Before building the mooring levee, the Corps had tried, in 1942, to correct the outdraft problem at Lock and Dam No. 14 by building a cell foundation guard wall to the riverward wall of the main lock (see Section F, Multiple Property Documentation Form). Strong outdrafts making navigation into and out of the upstream ends of the locks was a common problem in this system (see Section E, Multiple Property Documentation Form). Beginning in 1940, the Corps began applying this common solution: guard wall additions on the most riverward wall of the locks to all of the locks in the system with the problem. At some locks, the guard wall was sufficient to solve the problem, but Lock No. 14 was not unique in needing more structural modification to handle its outdraft problem after the wall was up.

The moveable portion of the dam consists of 11, 60-foot-wide by 20-foot-tall type 2a Tainter gates (see Section E, Multiple Property Documentation Form) and four, 100-foot-wide by 20-foot-long, 4.67-foot submersible roller gates (see below Section 8 and Sections E and F, Multiple Property Documentation Form). This portion of the dam extends 1,343 feet southwest in a straight line from the riverward wall of the main lock. This pier dam ends in a 200-foot-long storage yard. A 1,127-foot long, linear, nonsubmersible, rock-filled dike (see Section F, Multiple Property Documentation Form) with riprap revetment topped with a clay and gravel road extends from the southern end of the storage yard to the south side of the Chicago, Milwaukee, St. Paul, and Pacific Railroad tracks on the Illinois shore.

The Combined Complex

The Lock and Dam No. 14 Historic District includes both individually undistinguished features and individual distinctive features that serve as focal points. The distinctive focal points are the old Le Claire Lock, the Le Claire Canal Closing Dam, Lock No. 14, Dam No. 14, the esplanade, Smith Island and lily pond, the mooring and marine storage site upstream from the old Le Claire Lock, and the Central Control Station/Power House. All these focal points, plus the nonsubmerged portions of the Le Claire Canal Lateral Dam, the guard wall extending from the river wall of the main lock (see outdraft problem below) except for the 35+ acres of post-1961 land extending out from the upstream end of Smith Island, the lily pond, and the mooring and marine storage area upstream from the old Le Claire Lock, and the two stage recorders (see Section F, Multiple Property Documentation Form) contribute to the historic character of the district.

The relationships among all of these features is unaltered and all possess integrity, except for the buildup of new land between the mooring levee and Smith Island and the consequent creation of the lily pond. The old Le Claire lock has been most altered. It only retains integrity of location, setting, feeling, and association. Although the main lock and dam were in the midst of receiving their 50-year major rehabilitation (see Section E, Multiple Property Documentation Form) when the field work for this study was done, they will still retain integrity of location, design, setting, feeling, and association when the work is done. Although the last remaining building (the storage garage) on the esplanade is scheduled to be demolished in this rehabilitation, the esplanade itself will still retain integrity of location, design, setting, materials, workmanship, feeling, and association. None of the other contributing resources in the district will be impacted by the rehabilitation.

Although the district contains 24 intrusions, none are focal points for the district. Some, such as the new moveable crane on the dam, are simply replacements in-kind. Most are very small compared to the focal points. Even the office and workshop, the largest new building, is unobtrusive because the focal points so dominate this district. Even with noncontributing resources outnumbering contributing, the district still conveys the sense of the historic environment.

The general physical relationship of the largest-scale resources to each other and to the environment is shown on the accompanying map entitled "Lock and Dam No. 14 Historic District Based on June 30, 1961, Map by Rock Island District: Sheet 19, Mississippi River, River and Harbor Project, Lock & Dam No. 14" and in accompanying Photo Number 1 entitled "Aerial Photo of Lock and Dam No. 14." The physical relationship of the smaller resources (including the buildings) to each other and to the environment, the road plan, and open spaces, is shown on the accompanying map entitled "Detail of Iowa End of the Lock and Dam No. 14 Historic District Based on June 30, 1961, Map by Rock Island District: Sheet 19, Mississippi River, River and Harbor Project, Lock & Dam No. 14."

The Mature Complex

Once both the guard wall and mooring levee were added to the main lock in 1951, the district reached its mature configuration which it maintained virtually unchanged for the next 28 years. In 1979, the Old Le Claire Lock was rehabilitated for use in passing recreational traffic and as a dry dock. The Operator's House and the moveable bridge across the Old Le Claire Lock were added to the district at this time.[13]

In 1980, a rectangular-plan, one-story metal building with a low pitched gable roof was placed on the land wall of the main lock near the center of the lock chamber to serve as a welding shop. Both upstream and downstream traveling mooring kevels (see Sections E and F, Multiple Property Documentation Form) were installed on the guide walls of the main lock.

Four years later, in 1984, the office/workshop building, as noted above, was built on the land wall of the main lock parallel with upstream lock gates and in a system-wide initiative, the Corps replaced the 30-ton vertical lift electric crane boom (see Section F, Multiple Property Documentation Form) on the top of Dam No. 14.

From then until 1997, when the 50-year major rehabilitation of the main lock and dam (see Section E, Multiple Property Documentation Form) began, was another period of little change in the physical appearance of the district. In 1998, in addition to the resurfacing of the lock and dam, four new control stand shelters (see Section F, Multiple Property Documentation Form) were built, and four sets of new lock gate operating machinery and four sets of new valve operating machinery (see Section F, Multiple Property Documentation Form for all) were mounted on the tops of the lock walls. The old operating machinery had been in pits in the lock walls. In 1997, a new generator, compressor, and incoming power transformer (see Section F, Multiple Property Documentation Form) were installed just off the land wall of the main lock upstream (northeast) of the workshop/office.

Although they were not in place when the field work for the study was done, two new haulage units were also installed on the lock walls before this rehabilitation was completed. However, because they were not on site at the time that the field work was done they are not included in the list of noncontributing resources within the district. Similarly, it is to be expected that standardized smoking shelters will also be built.

Contributing Resources with date completed or placed in operation and keyed to photographs

Building		
Central Control Station/ Power House	1936	PHOTOS 6 and 7 in Multiple Property Documentation Form
Structures		
Old Le Claire Lock	1924	PHOTOS 5 and 6 in this form
Non-submerged portions of Le Claire Canal Lateral Dam	1924	PHOTOS 1 and 4 in this form
Le Claire Canal Closing Dam	1924	PHOTO 1 in this form
Lock	1936	PHOTOS 2, 3, and 4 in this form
Dam	1938	PHOTO 2
Guard Wall	1942	PHOTOS 13 and 14 in Multiple Property Documentation Form
Objects		
2 Stage Recorders	1936	PHOTO 19 in Multiple Property Documentation Form

Noncontributing Resources with date completed or placed in operation and keyed to photographs

Buildings		
Operator's House Old Le Claire Lock	1979	PHOTO 6 in this form
Office and workshop	1984	PHOTO 29 in Multiple Property Documentation Form
Welding Shop	1980	PHOTO 7 in this form

4 Control Stand Shelters	1998	PHOTO 34 in Multiple Property Documentation Form
Storage Garage	1936	PHOTO 8 in this form

Note: This building is slated for demolition this year. It was still extant at time of field survey and initial draft of this form.

Structures		
Mooring Dike	1951	PHOTO 1 in this form
Moveable Bridge across Old Le Claire Lock	1979	PHOTO 6 in this form
Moveable Crane on Dam	1984	PHOTO 24 in Multiple Property Documentation Form
Objects		
2 Traveling Mooring Kevels	1980	PHOTO 22 in Multiple Property Documentation Form
Compressor	1997	PHOTO 32 in Multiple Property Documentation Form
Generator	1997	PHOTO 9 in this form
Incoming Power Transformer	1997	PHOTO 10 in this form
4 Sets of Lock Gate Operating Machinery	1998	PHOTO 16 in Multiple Property Documentation Form
4 Sets of Lock Valve Operating Machinery	1998	PHOTO 17 in Multiple Property Documentation Form

SECTION 7 NOTES

1. Current condition ratings are in accord with definitions supplied by Ann Swallow, Illinois Historic Preservation Agency National Register Coordinator, on Aug. 19, 1992. By these definitions excellent means all original architectural details are apparently intact and major elements (foundations, walls, windows, and roof) are in repair and good means almost all original architectural details are apparently intact and major elements (foundations, walls, windows, and roof) are in repair, but some original details are missing and major elements require some work but no stabilization.

2. U.S. Army Corps of Engineers, Rock Island District, Drawing Number 202.051.

3. U.S. Congress, Senate, *Report of the Secretary of War in Answer to a Resolution of the Senate Relative to the Improvement of the Des Moines and Rock River Rapids*, E. Doc. 12, 33rd Cong., 2nd sess., 1854; U.S. Congress, Senate, *Report of the Secretary of War, Communicating in Compliance with a Resolution of the Senate of December 26, 1856, Information Relative to the Des Moines and Rock River Rapids, and the Harbor at Dubuque, Iowa*, E. Doc. 45, 34th Cong., 3rd sess., 1857; U.S. Congress, House, *Letter from the Secretary of War, Transmitting a Report Furnishing Information in Relation to the Improvement of the Des Moines Rapids*, E. Doc. 83, 35th Cong., 1st sess., 1858; Roald Tweet, *A History of the Rock Island District U.S. Army Corps of Engineers 1866-1983* (Rock Island: U.S. Army Engineer District, 1984) (hereinafter

cited as Tweet, *Rock Island District*), pp. 57-61; and Roald Tweet, *A History of Navigation Improvements of the Rock Island Rapids (The Background of Lock and Dam 15)* (Rock Island: U.S. Army Engineer District, 1980) (hereinafter cited as Tweet, *Rock Island Rapids*), pp. 3-4.

4. Tweet, *Rock Island Rapids*, pp. 1-2 and Tweet, *Rock Island District*, pp. 250-251.

5. Tweet, *Rock Island Rapids*, p. 11 and Tweet, *Rock Island District*, p. 142.

6. Rivers and Harbors Acts are the basic legislation authorizing Corps of Engineers' (or between 1838 and 1865, the Corps of Topographical Engineers) waterway improvement activities. Since 1824, almost every Congress has passed one or more Rivers and Harbors acts. Each act has two principal parts. One section authorizes the Corps to conduct preliminary examinations and surveys at designated locations. The other major section authorizes specific rivers and harbors projects in accordance with reports previously submitted by the Chief of Engineers. A convenient printing of much of the legislation relating to the Corps of Engineers waterway improvements is the United States Army, Office of the Chief of Engineers, *Laws of the United States Relating to the Improvement of Rivers and Harbors, from August 11, 1790, to January 1, 1939*, 3 vols. (Washington, D.C.: U.S. Government Printing Office, 1913 and 1940). No exact page numbers for Rivers and Harbors Acts contained in those volumes as well as in the United States *Statutes at Large*, will be cited herein. The Rivers and Harbor Act of March 3, 1905, authorized the Corps to make an estimate of the cost of securing a 6-foot channel from Minneapolis to the mouth of the Missouri River. To make that estimate, the Corps had to decide what it was going to build. It was in this process that the initial plans for the Le Claire Canal were developed. These plans are contained in U.S. Congress, House, *Survey of the Mississippi River*, H. Doc. 341, 59th Cong., 2nd sess., 1907 (hereinafter cited as H. Doc 341). See also Tweet, *Rock Island District*, p. 251.

7. Rivers and Harbors Acts of March 2, 1907, and March 5, 1914; and District Engineer officer to Chief of Engineers, Aug. 27, 1913, Richard Monroe to H. Burgess, June 9, 1920, and H. Burgess to Div. Engineer, July 24, 1920, Record Group 77 (hereinafter cited as RG77), Entry 81, Box 798, National Archives and Records Administration-Great Lakes Region (Chicago), Chicago, IL (hereinafter cited as NACB). Although no direct evidence has been found in this study, which focused on the 9-foot channel rather than the 6-foot channel, it seems likely that the width of the lock was kept the same because there was no point in changing its width if the width of the canal was not increased to the same size. A waterway improvement's useful size is determined by its smallest portion, not its largest. Given the bedrock of the Le Claire section of the Rock Island Rapids, increasing the width of the canal while maintaining a minimum navigable depth of 6 feet might not have been feasible without either digging out a lot of rock or building a levee on the Iowa shore that would keep the deep water in the canal and off critical features along the shore.

8. District Engineer to Chief of Engineers, Aug. 27, 1913. Again, although no direct evidence has been found in this study, which focused on the 9-foot channel rather than the 6-foot channel, it is likely that the curved section of dam extending from the downstream end of Smith Island to the Le Claire Lock, the section of dam forming

the top half of a sweeping S curve, is part of the original closing dam. The dam would then, as now, have defined a boat mooring basin. Many canals, especially those whose dimensions were smaller than the body of water they were linked to, had basins just upstream from their downstream lock. Canal-size vessels could be held there while goods were transshipped between them and larger, river-sized vessels. A good regional example of this phenomena can be seen in the canal boat basin just upstream from Illinois and Michigan Canal Lock 15 at La Salle/Peru, Illinois. Given the relative sizes of the Le Claire Canal (maximum 80-foot width) and river barge/tow boat units on the Upper Mississippi (generally 100-feet wide) and the Corps commitment to open water navigation both at the time the canal was designed and revised (see Section E, Multiple Property Documentation Form), the Corps designers and revisers might well have wanted to keep transshipment as viable an option as possible. Analysis might even have shown that transshipment was more cost effective than using a Le Claire Canal-sized barge/tow boat unit all the way from Minneapolis to St. Louis or New Orleans.

9. *Ibid.*; U.S. Army Corps of Engineers, Rock Island District, "Environmental Assessment, Rehabilitation of Old Lock No. 14, Mississippi River, Le Claire, Iowa" (Rock Island: U.S. Army Corps of Engineers, Rock Island District, 1978) (hereinafter cited as "Rehabilitation of Old Lock No. 14), p. 1; Tweet, *Rock Island Rapids*, pp. 1-2; and U.S. Army Corps of Engineers, *Annual Report of the Chief of Engineers United States Army, to the Secretary of War for the Year 1924* (Washington, D.C. Government Printing Office, 1924) (The government has printed the *Annual Report of the Chief of Engineers* and bound it as a separate volume every year since 1867. Published at the end of the fiscal year, the exact title and format have varied slightly from time to time. Hereinafter all reports from this series will be referred to as *Annual Report* followed by the fiscal year which the report covers.), p. 1090.

10. "Rehabilitation of Old Lock No. 14," passim; C. L. Hall to A. L. Richards, April 26, 1930, RG77. Entry 81, Box 798, NACB; "lock and Dam No. 14, Mississippi River, Le Claire, Iowa: Specifications for repair of Miter gates Auxiliary Lock" (Rock Island: U.S. Engineer Office, Nov. 1937) and E. E. Gesler to Chief of Engineers, June 22, 1939, RG77, entry 111, box 982,file 3524-part 1, Washington National Records Center, Ft. Belvoir, VA (hereinafter cited as WNRC).

11. U.S. Army Corps of Engineers, Rock Island District, "Mississippi River Lock and Dam No. 14, Final Construction Report," Vol. I: "Introduction, Lock, Temporary Buildings" (Rock Island: U.S. Engineer Office, Dec. 1939) (hereinafter cited as "Final Report-Lock 14"), p. 6 and 12, RG77, Entry 81, Box 666, NACB.

12. Compare HAER Photo No. IA-25-33 in Rathbun Associates, "Lock & Dam No. 14, HAER No. IA-25" in "Upper Mississippi River 9-Foot Channel Project Locks and Dams 11-22, An Inventory for the U.S. Army Corps of Engineers, Rock Island District" (Lakewood, CO: Rocky Mountain Regional Office, National Park Service, 1988), to Photo 1 in this form.

13. Unless otherwise noted, the information in the subsequent paragraphs comes from Bill Ford, Assistant Lockmaster of Lock and Dam No. 14, interviewed by Mary Rathbun, February 4, 1998. Notes archived at American Resources Group, Ltd., Carbondale, IL.

Architect/Builder McCormick, Herbert G.
Reeves, James
Franzen, Edwin
Ashton, Frank W.
U.S. Army Corps of Eng., Cincinnati
Central Engineering Co., Davenport
Sterling Electric Co., Minneapolis
L. A. Littig, Davenport IA
Edgar D. Otto, Downers Grove IL
Sammons-Robertson-Henry Co., WV
Hunter Steel Co., Pittsburgh PA
Bethlehem Steel Co., Detroit MI
Henry Knudson & Co., Chicago IL
Lunecliff Construction Company
Commonwealth Edison
Perry Smith, Davenport IA[1]

Statement of Significance

The Lock and Dam No. 14 Historic District is nationally significant under Criterion A in the areas of transportation, maritime history, commerce, conservation, military, politics/government, economics, and social history both because it is part of the Upper Mississippi River 9-foot navigation system and because it includes some of the few remnants of the Upper Mississippi River 6-foot channel navigation system still extant. It is also nationally significant under Criterion A in the areas of economics, military, politics/government, and social history because its history exemplifies particularly well the role the Upper Mississippi River 9-Foot Channel Project had in the 1930-1940 national relief work effort and the effect that status had on the construction work.

For a detailed discussion of the Upper Mississippi River 9-foot navigation system's significance in transportation, maritime history, economics, commerce, conservation politics/government, military, and social history see Section E, Multiple Property Documentation Form. Because one of the major purposes of a Multiple Property Submission is to avoid needless repetition of information and keep the individual registration forms for related significant properties briefer than they would be if the resources were being nominated individually, only those aspects of these stories which are entirely specific to this historic district are included here.

A brief discussion of the Upper Mississippi River 6-foot navigation system's significance in transportation and maritime history is contained in the following portion of this statement of significance.

The Period of Significance for the Lock and Dam No. 14 Historic District begins in 1921 when construction of the Le Claire Lateral Canal began.[2] The Period of Significance ends in 1948 because 50 years ago is the recommended closing date for Periods of Significance where activities begun historically continued to have importance and no more specific date can be defined to end the historic period. The post-1948

transportation and commerce activities of the Lock and Dam No. 14 Historic District do not meet Criterion Consideration G. The district's significance in maritime and social history, conservation, military, economics, and political/government also falls within the 1921-1948 Period of Significance.

Significance of the Upper Mississippi River 6-foot navigation system

The Upper Mississippi River 6-foot channel navigation system is nationally significant in transportation and maritime history. The Upper Mississippi River drains 171,500 square miles, a region as large as the nations of Germany, France, Italy, and Great Britain combined. In all periods, transportation into and out of this region has had a significant impact on national economic, social, political, and environmental trends (see Section E, Multiple Property Nomination Form).

By 1907, when Congress authorized the Upper Mississippi River 6-foot channel, waterways were no longer the only means of conveying people and goods in and out of this region. The 1890s marked the victory of rail over waterborne transportation for long distance haulage throughout the Nation. However, the nature of grain—the most important single product of this agricultural heartland, a product which had to be shipped long distances to areas of more concentrated population density in order to be sold at a profit—lent itself particularly well to river haulage. Just as they are today, in the 6-Foot Channel Era, individual river hauling units were substantially larger than in other forms of freighting. Western rivermen developed the barge system in the immediate post-Civil War years. By the 6-Foot Channel Era, the cargo capacity of a single barge was five times that of one rail car. By the 1980s, that ratio had jumped to 15 times more than one rail car and 60 times greater than one semi truck.[3]

The means of moving this cargo into and out of grain barges in the 6-Foot Channel Era was just as easily mechanized as for railroad cars because grain does not require packaging and is not fragile. Not only could inland water transport carry vast amounts of grain, but the competition could lower or moderate rail rates. Moreover, in 1906 and 1907, the railroads of the region were unable, in the face of a record harvest, to carry the grain. During World War I the railroads' inability to handle intra-continental freight was so great that the federal government began operating barge and towboat fleets on the Upper Mississippi River. After the war, much of this fleet was transferred to the War Department which continued to offer barge service through its Inland and Coastwise Waterways Service. In 1924, this service became the Inland Waterways Corporation.[4]

Unlike the preceding improvement projects on the Upper Mississippi, the 6-Foot Channel Project was more than the formal enunciation of a goal. It marked the beginning of a new era in maritime history on the Upper Mississippi River, a period in sharp contrast to the year-by-year and isolated-spot-by-isolated-spot approach that the Corps had been using on this river ever since it had begun considering improvements for navigation in the 1820s. The 6-Foot Channel Project was a comprehensive plan which recognized the impact that work in one area of the river would have on another. The plan called for the progressive improvement of the river. The Corps wanted to secure a 4.5-foot channel during low water all the way from the mouth of

the Missouri River to Minneapolis first, and then turn to the task of converting that completed 4.5-foot channel into a 6-foot channel. The 6-Foot Channel Project was also the first of the successive Upper Mississippi River improvement projects to have a projected overall timetable (The Rivers and Harbors Act of June 25, 1910, gave the Corps 12 years to build the 6-foot channel.) and a cost estimate ($20 million).[5]

On March 2, 1907, Congress authorized the U.S. Army Corps of Engineers to construct a 6-foot channel in the Upper Mississippi River from the mouth of the Missouri River to Minneapolis. Although Congress expected the Corps to achieve a consistent 6-foot depth throughout this 570-mile reach of river, primarily by constricting the channel with wing and closing dams augmented by almost continual dredging and snagging as necessary (see Section E, Multiple Property Documentation Form), the authorizing legislation also identified three larger scale improvements which the Corps should make in order to solve specific problems in certain stretches of the river. These three improvements were 1) substantial modifications of what in the 9-Foot Channel Era became known as Lock and Dam No. 1 in Minneapolis, 2) the construction of what became known in the 9-Foot Channel Era as Lock and Dam No. 2 near Hastings, Minnesota, and 3) the creation of what became known as the Le Claire Lateral Canal.[6]

Except for Lock and Dam No. 1, which was at the head of navigation and thus impaired very little traffic and in fact, opened a whole new stretch of the river to any kind of substantial navigation for the first time, all of these methods and structures permitted open-water navigation of the river during periods of high water. Although the Corps had, because of special circumstances at the site, approved a bank-to-bank structure on the Upper Mississippi River which precluded open-water navigation in 1903, the Corps remained committed in overall terms to open-water navigation on the Upper Mississippi River as late as December 16, 1929. This was in keeping with the Corps approach to waterways engineering throughout the country at that time. For example, the Ohio River 9-Foot Channel Project was the Corps premier navigation improvement going on simultaneously with the 6-Foot Channel Project on the Upper Mississippi. This slackwater navigation project, which began in 1879 and only concluded in August 1929 with the completion of the 51st lock and dam in the system, used only navigable dams (see Section F, Multiple Property Documentation Form) which permitted open-water navigation of the river during periods of high water. The Corps only modernized the Ohio River 9-foot channel, replacing the navigable dams with nonnavigable ones beginning in the 1930s. Therefore, the extant structures from the Upper Mississippi River 6-Foot Channel Project are rare, intact examples of a national trend in navigation improvements. This gives them national significance under Criterion A in maritime history in addition to their national significance under Criterion A in the area of transportation.[7]

Significance of Lock and Dam No. 14 Historic District in Transportation, Maritime History, Commerce, Conservation, Economics, Politics/Government, Military, and Social History

The Rock Island District of the U.S. Army Corps of Engineers placed the Old Le Claire Lock, the Le Claire Canal Lateral Dam, and the Le Claire Canal in operation as components of the Upper Mississippi River 6-foot channel navigation system on

November 29, 1922 (hence Significance Date No. 1). Construction of the lock was not, however, totally completed until 1924. Commercial river traffic ceased using the lock and canal in 1939 when the bank to bank Upper Mississippi River 9-Foot Channel Project structure went on line. Both the Old Le Claire Lock and the Le Claire Canal Closing Dam are, however, integral parts of this new bank-to-bank structure. Although the district also includes nonsubmerged portions of the Le Claire Canal Lateral Dam that formed the riverward side of the Le Claire Canal (see above, Section 7), they are clearly ancillary to the new bank-to-bank structure, helping to define a mooring and storage site for the Rock Island District's floating plant.[8]

The Rock Island District of the U.S. Army Corps of Engineers placed the new bank-to-bank structure in operation as a unit of the Upper Mississippi River 9-foot navigation system on May 13, 1939 (hence Significance Date no. 2). It was the eighteenth of the 1931-1940 Upper Mississippi River 9-Foot Navigation Project complexes.

Significance of Lock and Dam No. 14 Historic District in Economics, Military, Politics/Government, and Social History

On October 5, 1933, the Public Works Administration allotted $22 million to the Chief of Engineers to build 14 locks, including Lock No. 14. The Rock Island District's chief civilian engineer Edwin E. Abbot and his staff completed the design for Lock No. 14 in January 1934. By January 11, 1934, there was no longer sufficient funds available from this allotment to build Lock No. 14, so the Corps postponed beginning its construction indefinitely. With at least 9 million people still without work, the midterm elections of 1934 were, in large part, a referendum on Franklin Roosevelt's unemployment policies. Despite the economic conditions in the country, the public endorsed Roosevelt's policies by increasing the Democrats already large majorities in both houses of Congress. So, Public Works Administration funds began to flow to the project again (see Section E, Multiple Property Documentation Form).

Lock and Dam No. 14 was only stalled on paper for about a year and in reality about a year and a half. On February 12, 1935, the Rock Island District let a contract to Central Engineering of Davenport, Iowa, to build the lock. Work did not, however, begin then. Charles H. Langman of Rock Island, Illinois, did not begin constructing the temporary buildings on the site on August 2, 1935, in conjunction with and under the same contact as his similar work on Lock Nos. 13 and 17. On August 12, Central Engineering began work. On November 16, 1936—just 10 days before they finished the lock, the Corps awarded Central Engineering the contract for construction of the dam and central control station/generator building. Lunecliff Construction Company, acting as subcontractors to Central Engineering, built the central control station/generator building. The Corps accepted both the dam and central control station as totally completed projects on December 31, 1938.[9]

SECTION 8 NOTES

1. "Final Report-Lock 14," pp. 13 and 20; "Final Cost Dam 14," p. C; W. H. Crosson to Chief of Engineers, March 31, 1939; M. E. Sorley to Central Engineering Company, Nov. 24, 1936; R. A. Wheeler to Central Engineering Company, Aug. 17, 1935, RG77, Entry 111, Box 982, File 3524, WNRC; and C. P. Gross to Chief of Engineers, Nov. 20, 1940, and E. E. Gesler to Chief of Engineers, June 22, 1939, RG77, Entry 111, Box 982, File 3648, WNRC.

2. Tweet, *Rock Island Rapids*, pp. 1-2; and *Annual Report, 1924*, p. 1090.

3. U.S. Army Corps of Engineers, Little Rock District, Public Relations Department, "Cargo Capacity Comparisons," (n.d., but 1980s); Louis Hunter, *Steamboats on the Western Rivers, An Economic and Technological History* (Cambridge, MA: Harvard University Press, 1949), pp. 566-584. By the time the 6-foot channel was authorized, logs were no longer a major commodity carried on the Upper Mississippi. Logging had been the largest industry in the Upper Midwest from 1870 until about 1905. There is a fuller discussion of this use of the river and its influence on the transportation technologies used to improve the Upper Mississippi River in Lock and Dam No. 19 Historic District National Register Nomination also covered by the Upper Mississippi River 9-Foot Navigation Project, 1870-1948 Multiple Property Documentation Form.

4. Herbert Quick, *American Inland Waterways, Their Relation to Railway Transportation and to the National Welfare; Their Creation, Restoration and Maintenance* (New York: G. P. Putnam's Sons, 1909), passim; Ralph H. Hess, "The Waterways and Commercial Evolution," *The Annals of the American Academy of Political and Social Science*, 49 (May 1915), 275; Hibbert M. Hill, "Developing the Upper Mississippi: Plans for Deepening Existing Channel," *Civil Engineering*, 1 (1931), p. 1352; Raymond H. Merritt, *The Corps, the Environment and the Upper Mississippi Basin* (Washington, D.C.: U.S. Army Corps of Engineers, Historical Division, Office of Administrative Services, Government Printing Office, 1984), p. 53; Jon Gjerde, "Historical Resources Evaluation: St. Paul District Locks and Dams on the Mississippi River and Two Structures at St. Anthony's Falls" (St. Paul: U.S. Army Corps of Engineers, St. Paul District, 1983) (hereinafter cited as Gjerde, "St. Paul Locks and Dams"), pp. 89-92; *Proceedings of the Twenty-Second Convention National Rivers and Harbors Congress, Washington, D.C., December 8 and 9, 1926* (Washington, D.C.: Press of Randall Inc., 1927), 31-33; Marshall E. Dimock, *Developing America's Waterways: Administration of the Inland Waterways Corporation* (Chicago: University of Chicago Press, 1935), passim; and Michael C. Robinson, "The Federal Barge Fleet: An Analysis of the Inland Waterways Corporation, 1924-1939," *National Waterways Roundtable Proceedings* (Washington, D.C.: U.S. Government Printing Office, 1980), pp.107-125.

5. The Rivers and Harbor Act of March 3, 1905, authorized the Corps to make an estimate of the cost of securing a 6-foot channel from Minneapolis to the mouth of the Missouri River. The cost estimate for the 6-Foot Channel Project is contained in H. Doc. 341. This document gives the specifics of what Congress authorized the Corps to do in the Rivers and Harbors Act of March 2, 1907.

6. Rivers and Harbors Act of March 2, 1907. The specifics of the plan are laid out in H. Doc. 341. The construction of Lock and Dam No. 2 was not included in the initial authorizing legislation. In February 1925, the new U.S. Army Corps Chief of Engineers, Major General Harry Taylor, decided that the best way to secure a 6 foot channel between St. Paul and the Chippewa River was not the blasting and dredging recommended in H. Doc. 341. So, he asked Congress to authorize a reexamination and survey of this section of the river. U.S. Congress, Senate, *Report on the Proposed River and Harbor Bill (H. R. 11472)*, S. Rpt. 1143, 68th Cong., 2nd sess., Feb. 17, 1925, p.15. Congress agreed and authorized the survey in the Rivers and Harbors Act of March 3, 1925. In December 1926, the Corps recommended that the best way to secure a 6-foot channel in this section of the river would be to construct a bank-to-bank lock and dam. However, the Corps carefully included a 100-foot-wide navigable pass adjacent to the lock. This pass preserved, at least technically, open water navigation. Congress authorized the Corps to build the structure in accord with this plan in the Rivers and Harbors Act of Jan. 21, 1927. However, by the same section of that same piece of legislation Congress also ordered the Corps to "examine the Upper Mississippi River with a view to securing a channel depth of 9 feet at low water with suitable widths," that is, to conduct a feasibility study for the 9-Foot Channel Project.

7. For Lock and Dam No. 1 see Gjerde, "St. Paul Locks and Dams," p. 117-119; and Raymond C. Merritt, *Creativity, Conflict and Controversy: A History of the St. Paul District U.S. Army Corps of Engineers* (St. Paul: U.S. Army Corps of Engineers, St. Paul District, 1980), pp. 141-146. The structure that the Corps approved in 1903 was the Keokuk and Hamilton Water Power Company's lock and dam complex, the remains of which are now part of Lock and Dam No. 19 Historic District. In order to create the 40 foot "head" which made the site attractive to hydroelectric power interests, the dam could not include a navigable pass, permitting open-water navigation at times of high water. No commercial vessel on America's inland waters at the turn of the century could navigate a 40-foot difference in water elevation. That would be like going over a major waterfall. For a fuller discussion of this case, see the Lock and Dam No. 19 Historic District National Register Nomination also covered by the Upper Mississippi River 9-Foot Navigation Project, 1870-1948 Multiple Property Documentation Form. For the Corps Dec. 16, 1929, stance see U.S. Congress, House , *Mississippi River, Between Mouth of Missouri River and Minneapolis, Minnesota (Interim Report)*, H. Doc. 290, 71st Cong., 2nd sess., 1930 (A1though not published until Feb. 15, 1930, the report was dated Dec. 16, 1929. Hereinafter cited as H. Doc 290). For the Ohio River 9-Foot Channel Project see Michael C. Robinson, *History of Navigation in the Ohio River Basin: National Waterways Study: U.S. Army Corps of Engineers Water Resources Support Center, Institute for Water Resources — Navigation History NWS-83-5* (Washington, D.C.: U.S. Government Printing Office, 1983); Clarence Newman, *Ohio River Navigation: Past, Present, Future* (Cincinnati: U.S. Army Corps of Engineers, Ohio River Division, 1979); and Leland R. Johnson, *The Davis Island Lock and Dam 1870-1922 (Pittsburgh: U.S. Army Corps of Engineers, Pittsburgh District, 1985).*

8. "Rehabilitation of Old Lock No. 14," p. 1.

9. Drawing, number M-L 14 20/1; E. L. Daley to Chief of Engineers, Jan. 11, 1934, RG77, Entry 111, Box 982, File 35224-part 1, WNRC; "Final Report-Lock 14," pp. 13, 20, and 74; *Annual Report*, 1934, p. 791; *Annual Report*, 1936, p. 889; *Annual Report*, 1937, pp. 926-927; *Annual Report*, 1939, p. 1155.

Selected Bibliography

Because one of the purposes of a Multiple Property Submission is to reduce the amount of documentation on each property, only those sources which are entirely specific to this historic district are included here. If a listing seems incomplete or there is no reference here for a source cited in the endnotes in this form, please check Section I: Major Bibliographic References of the Multiple Property Documentation form for a complete reference.

Interviews

Ford, Bill. Assistant Lockmaster of Lock and Dam No. 14, interviewed by Mary Rathbun, Feb. 4, 1998. Notes archived at American Resources Group, Ltd., Carbondale, IL.

Drawings

The alphanumeric designation appearing on the drawings related to Lock and Dam No. 14 is M-L 14, followed by a drawing specific number.

U.S. Army Corps of Engineers, Rock Island District, District Library, Rock Island, IL. Drawing number 202.,051.

Photographs

U.S. Army Corps of Engineers, Rock Island District, Lock and Dam No. 14, Pleasant Valley, IA. Photographic Collection.

Reports

Rathbun Associates. "Lock and Dam Complex 14" in "Historical-Architectural and Engineering Study: Locks and Dams 11-22, 9-Foot Navigation Project, Mississippi River," Vol. 1, pp. III-13 to III-18 and figures III-35 to III-55 (1985). Environmental Impact Section, Planning Division, U.S. Army Corps of Engineers, Rock Island, IL.

——. "Lock & Dam No. 14, HAER No. IA-25" in "Upper Mississippi River 9-Foor Channel Project Locks and Dams 11-22, An Inventory for the U.S. Army Corps of Engineers, Rock Island District," 26 data pages, nine exterior photos, 23 interior photographs, one photographic copy of aerial photograph (1982), two photographic copies of photographs (1931-1939), and 19 copies of original construction drawings. Historic American Engineering Record Documentation (HAER). Lakewood, CO: Rocky Mountain Regional Office, National Park Service, 1988.

U.S. Army Corps of Engineers, Rock Island District. "Environmental Assessment, Rehabilitation of Old Lock 14, Mississippi River, Le Claire, Iowa" (1978). Environmental Impact Section, Planning Division, U.S. Army Corps of Engineers, Rock Island, IL.

——. "Final Cost Report Dam No. 14, Mississippi River" (Dec. 1939). Record Group 77, Entry 81, Box 666, National Archives and Records Center, Chicago, IL.

——. "Lock and Dam No. 14, Mississippi River, Le Claire, Iowa: Specifications for Repair of Miter Gates Auxiliary Lock" (Nov. 1937). Record Group 77, Entry 111, Box 982, File 3524-part 1, Washington National Records Center, Suitland, MD.

——. "Mississippi River Lock and Dam No. 14, Final Report Construction," Vol.I: "Introduction, Lock, Temporary Buildings" (Dec. 1939). Record Group 77, Entry 81, Box 666, National Archives and Record Center, Chicago, IL.

U.S. Congress, House of Representatives. *Survey of the Mississippi River*, H. Doc. 341, 59th Cong., 2nd sess., 1907.

Verbal Boundary Description

The boundary of the Lock and Dam No. 14 Historic District is shown as the solid gray line on the accompanying map entitled "Lock and Dam No. 14 Historic District Based on June 30, 1961, Map by Rock Island District: Sheet 20, Mississippi River, River and Harbor Project, Lock & Dam No. 14." The Lock and Dam No. 14 Historic District consists of approximately 304.34 acres.

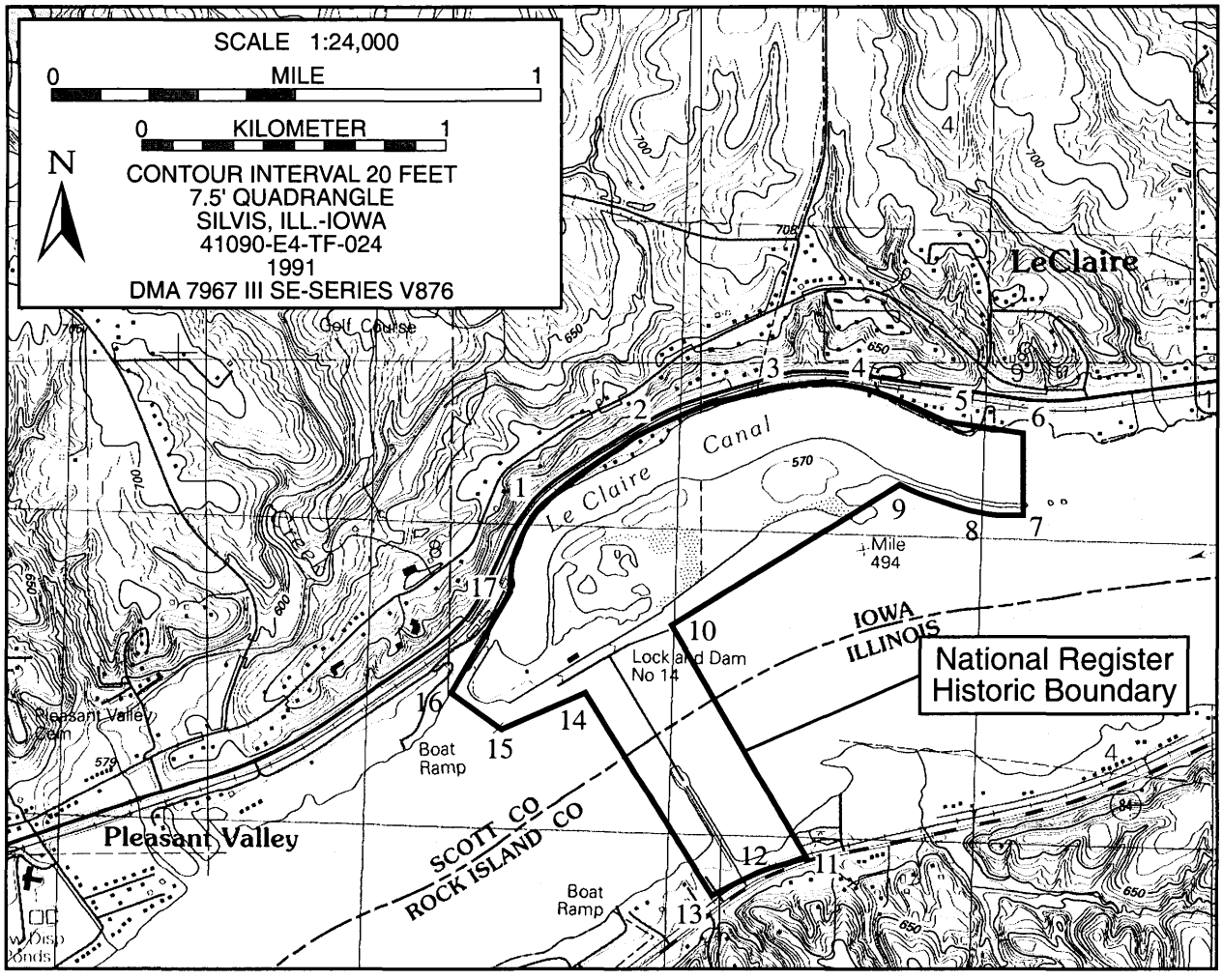
Vertex points noted on Map 1 correspond to the following UTM coordinate information from Zone 15. 1- N4606110 E716600, 2- N4606320 E716900, 3- N4606480 E717330, 4- N4606480 E717590, 5- N4606380 E717900, 6- N4606340 E718120, 7- N4606060 E718140, 8- N4606080 E717920, 9- N4606160 E717730, 10- N4605680 E717000, 11- N4604940 E717450, 12- N4604880 E717290, 13- N4604780 E717150, 14- N4605450 E716730, 15- N4605330 E716440, 16- N4605430 E716280, 17- N4605810 E716460, 18- N4605960 E716490.

Boundary Justification

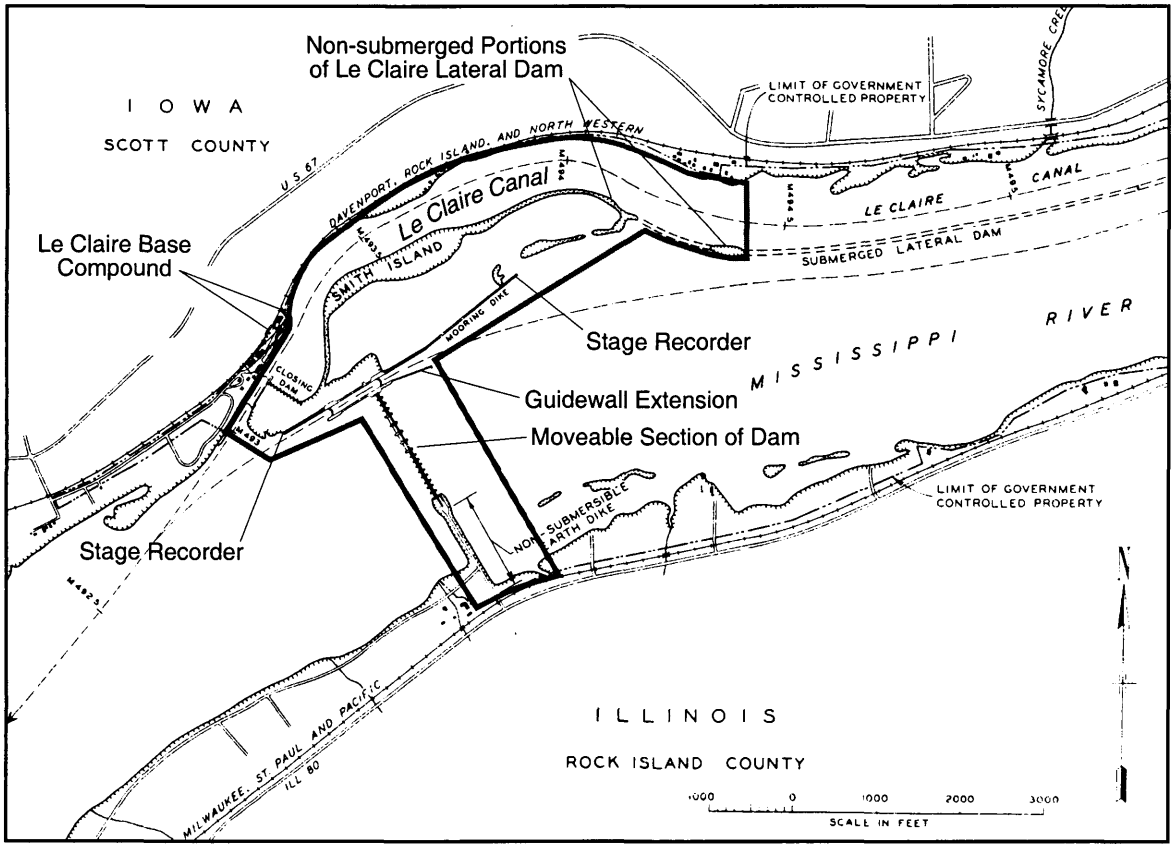
The district's boundaries encompass all extant resources from its Period of Significance except the Mississippi River Recreation Office in the Le Claire Base Compound. This building, now used as a warehouse, was built on the 1921-1924 esplanade as an appurtenance to the 1921-1924 Le Claire Lock and Canal. This esplanade area on the Iowa shore lost all integrity in the alterations that have occurred since 1950. The old Le Claire Lock and the portion of the Le Claire Canal extant between Smith Island and the Iowa shore form a visual barrier between the district and the Le Claire Base Compound.

The district's entire northern boundary conforms to the Iowa shore. The eastern extremity of the district encompasses the one portion of the lateral dam still visible above the water. The southern boundary is irregular in order to include this same chunk of lateral dam and the mooring dike attached to the lock without including acres of river which not only do not directly contribute to the property's significance, but are also ineligible for listing because they are not manmade. The Corps property line adjacent to the Chicago, Milwaukee, St. Paul, and Pacific Railroad tracks on the Illinois shore forms the district's southern boundary. The western boundary is irregular in order to encompass the new lock and the artificially enlarged southeast end of Smith Island which served as its esplanade.

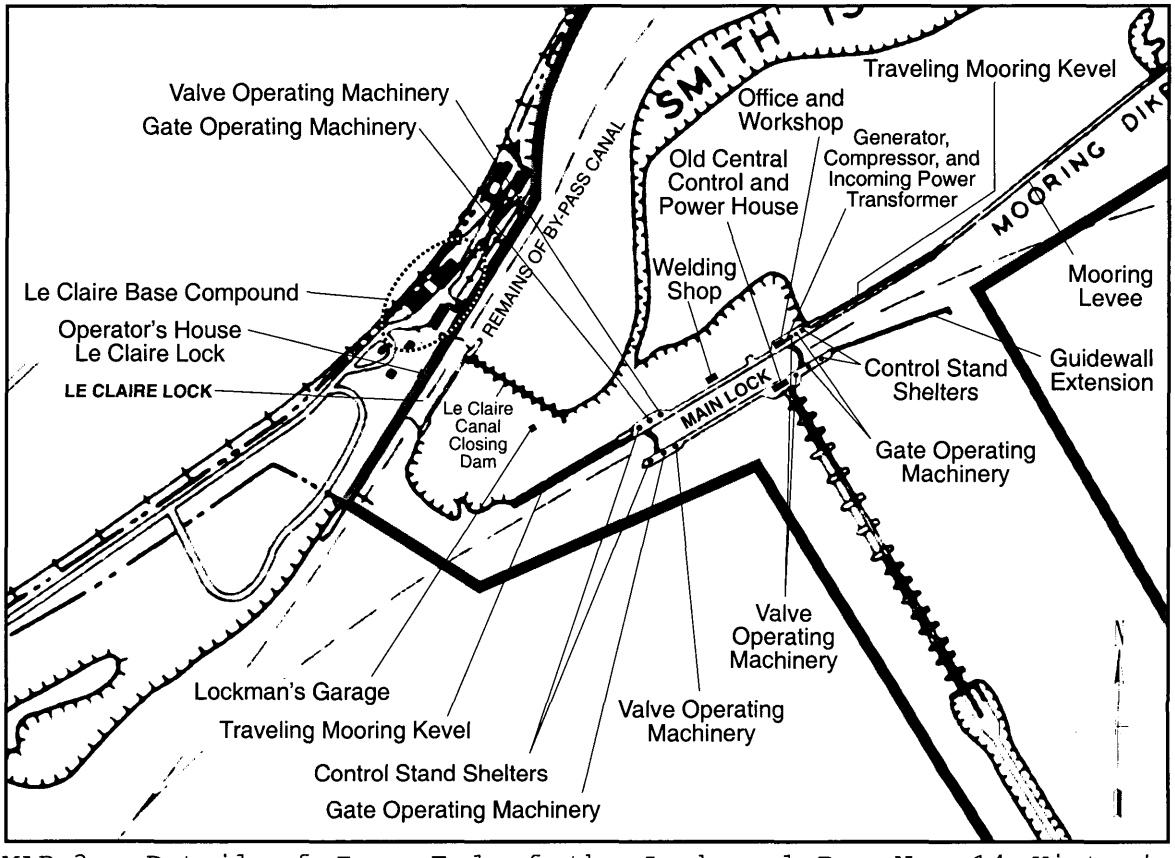
The district is clearly distinguished from development on the Illinois shore northeast of the dam by the railroad tracks and highway that parallel them and southwest of the dam by the minimally 300-foot open space between the dam and the Corps property line.



MAP 1. Lock and Dam No. 14 Historic District Boundaries Superimposed on Silvis, Iowa/Illinois 7.5' USGS Quadrangle Map.



MAP 2. Lock and Dam No. 14 Historic District Based on June 30, 1961, Map by Rock Island District: Sheet 20, Mississippi River, River and Harbor Project, Lock & Dam No. 14.



MAP 3. Detail of Iowa End of the Lock and Dam No. 14 Historic District Based on June 30, 1961, Map by Rock Island District: Sheet 20, Mississippi River, River and Harbor Project, Lock & Dam No. 14.

Lock and Dam No. 14 Historic District
25549 182nd Street
PLEASANT VALLEY, Scott County, IA

The above information is identical for each photo listed below. Some of the photographs were taken in 1998, some in 1997, and some in 1987. As discussed in Section H of the Multiple Property Documentation Form, new 35mm photos were taken in 1998 of all resources that had changed substantially or been added to each district since 1987. Therefore, the 1987 photos are only of resources that have not changed substantially since 1987.

There are several reasons why the 1987 large format photos are used. These 1987 photos are of resources that have not changed in ways visible at the scale needed to show the whole resource, or most of it, in one image. That scale is also the one which shows the essential physical characteristics necessary for that resource to contribute to the historic character of the district (see Section F, Multiple Property Documentation Form). The level of detail in prints from high quality large format negatives is worth the age, especially for resources which change so little over time.

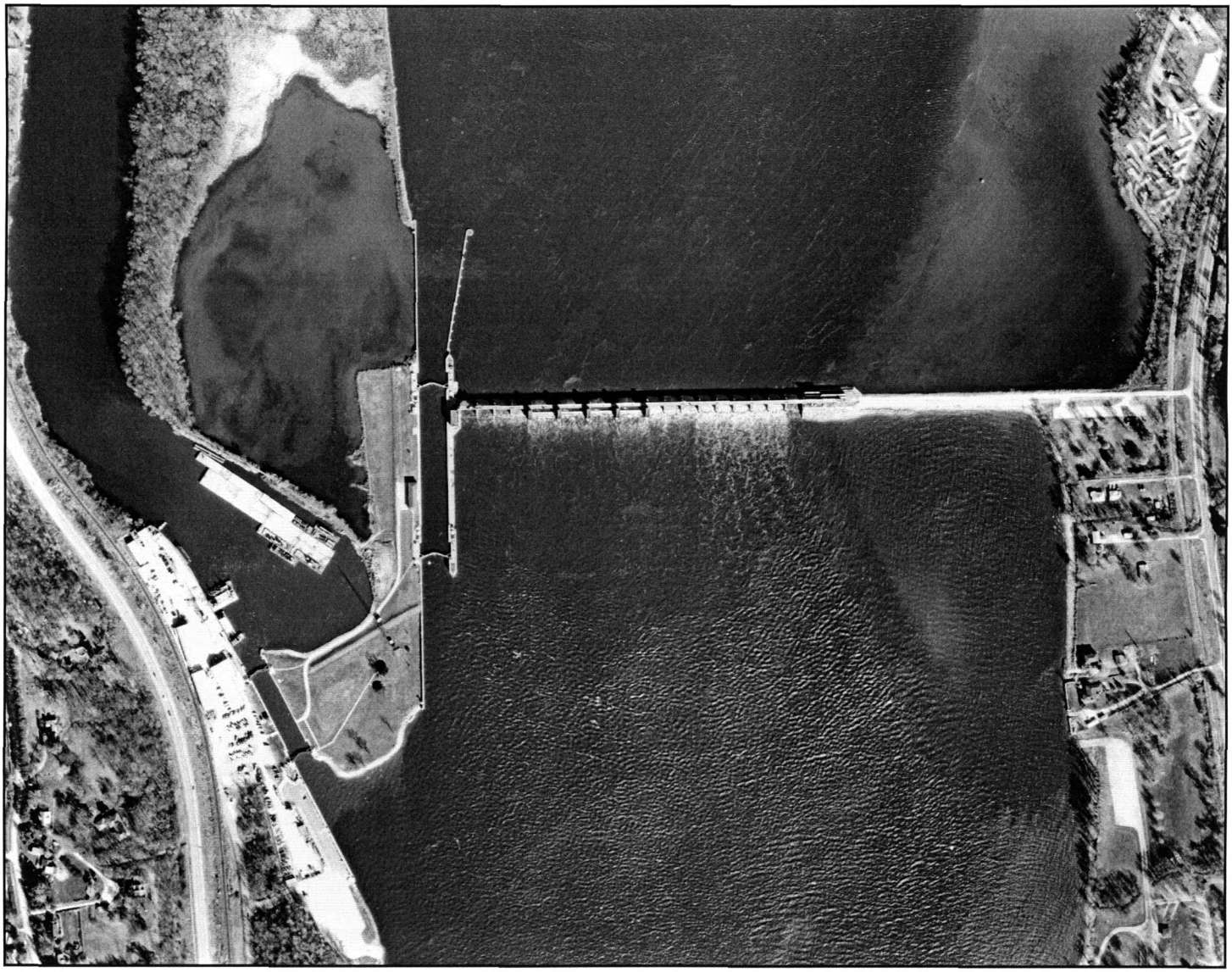


PHOTO 1. Aerial Photo.
Photographer: ?
Date of Photograph: ?
Location of Original Negative: Survey Branch, Rock Island District, U.S. Army Corps of Engineers, Rock Island, IL.

View:

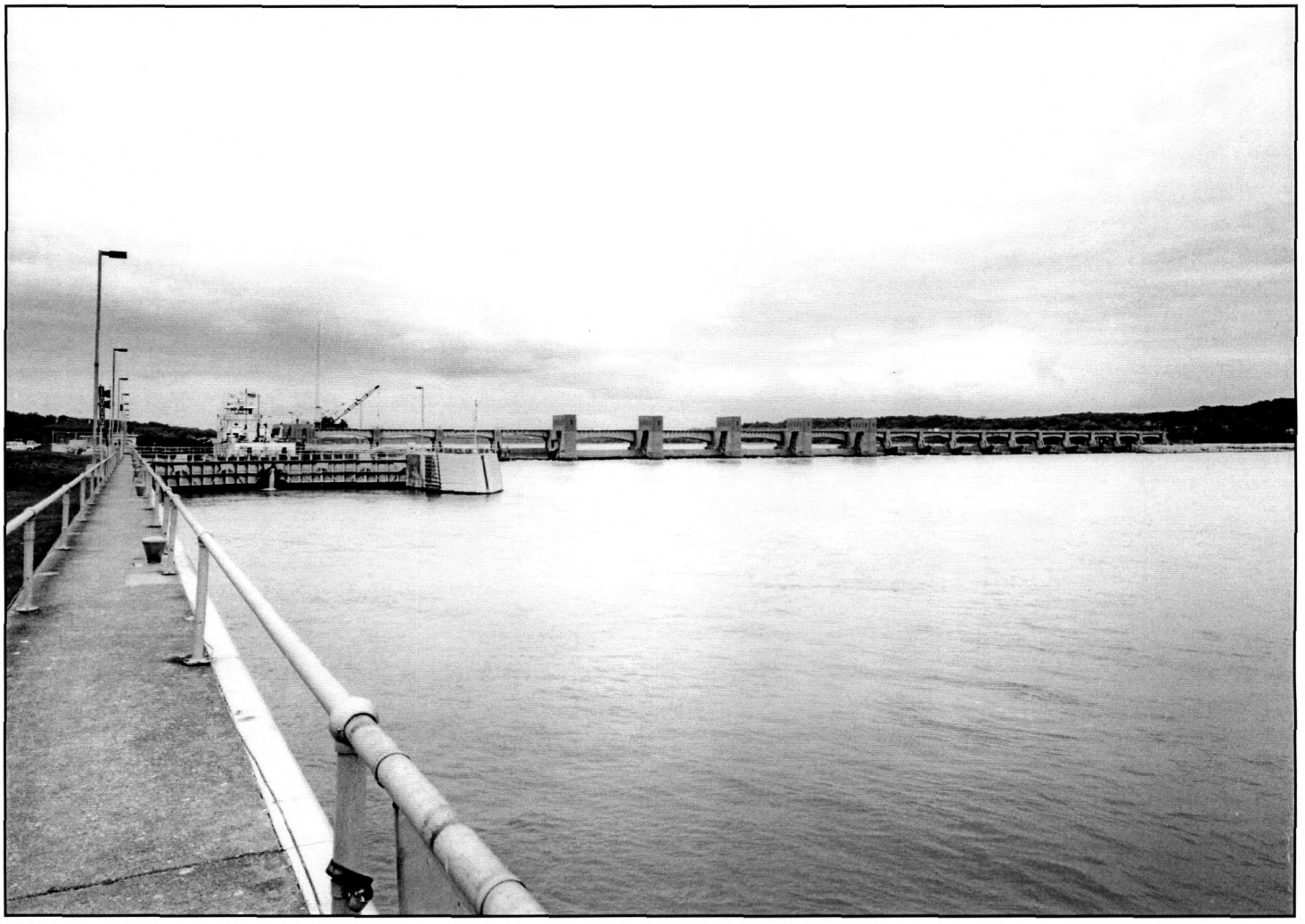


PHOTO 2. General View of Main Lock and Dam, Downstream Side.
Photographer: Peter A. Rathbun
Date of Photograph: September 1987
Location of Original Negative: IA-25-2, HAER, IOWA, 82-LECLA.V,1-
HAER Collection, Prints and Photographs Division, Library of Congress, Washington, D.C.
View: From downstream guide wall of the main lock, looking northeast

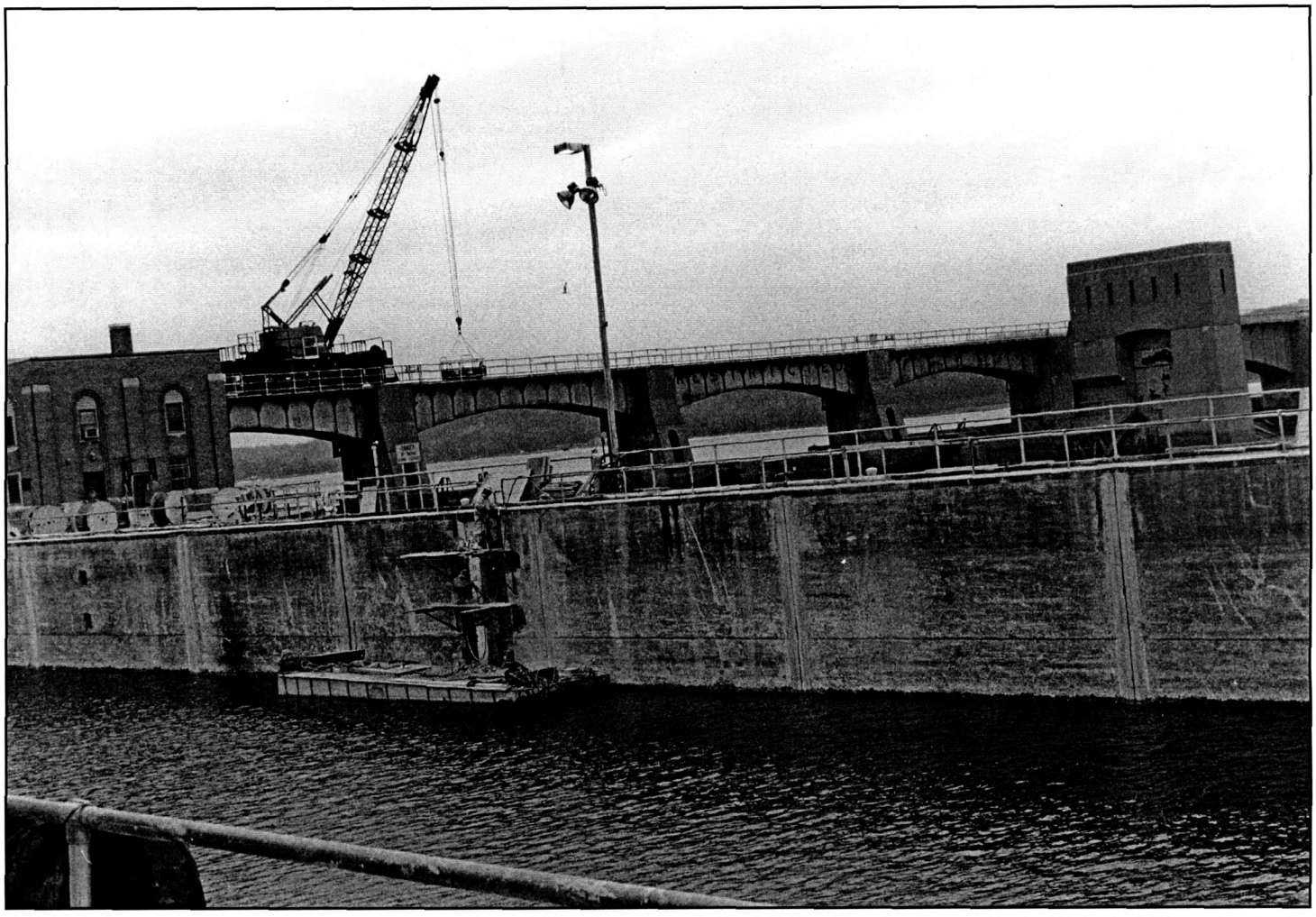


PHOTO 3. Men Working on Rehabilitation of Lockward Face of South Wall of Main Lock.

Photographer: Mary Yeater Rathbun
Date of Photograph: February 1998
Location of Original Negative: URM-NATIONAL REGISTER, roll #2, frame 22, Environmental Impact Section, Planning Division, Rock Island District, U.S. Army Corps of Engineers, Rock Island, IL.
View: From downstream end of land wall of lock, looking northeast

PHOTO 4. One Pair of Main Lock Gates on Work Barge Anchored in the Portion of the Le Claire Lateral Canal Between Smith Island and the Iowa Shore.
Photographer: Mary Yeater Rathbun
Date of Photograph: February 1998
Location of Original Negative: URM-NATIONAL REGISTER, roll #2, frame 21, Environmental Impact Section, Planning Division, Rock Island District, U.S. Army Corps of Engineers, Rock Island, IL.
View: From Le Claire Canal closing dam, looking north

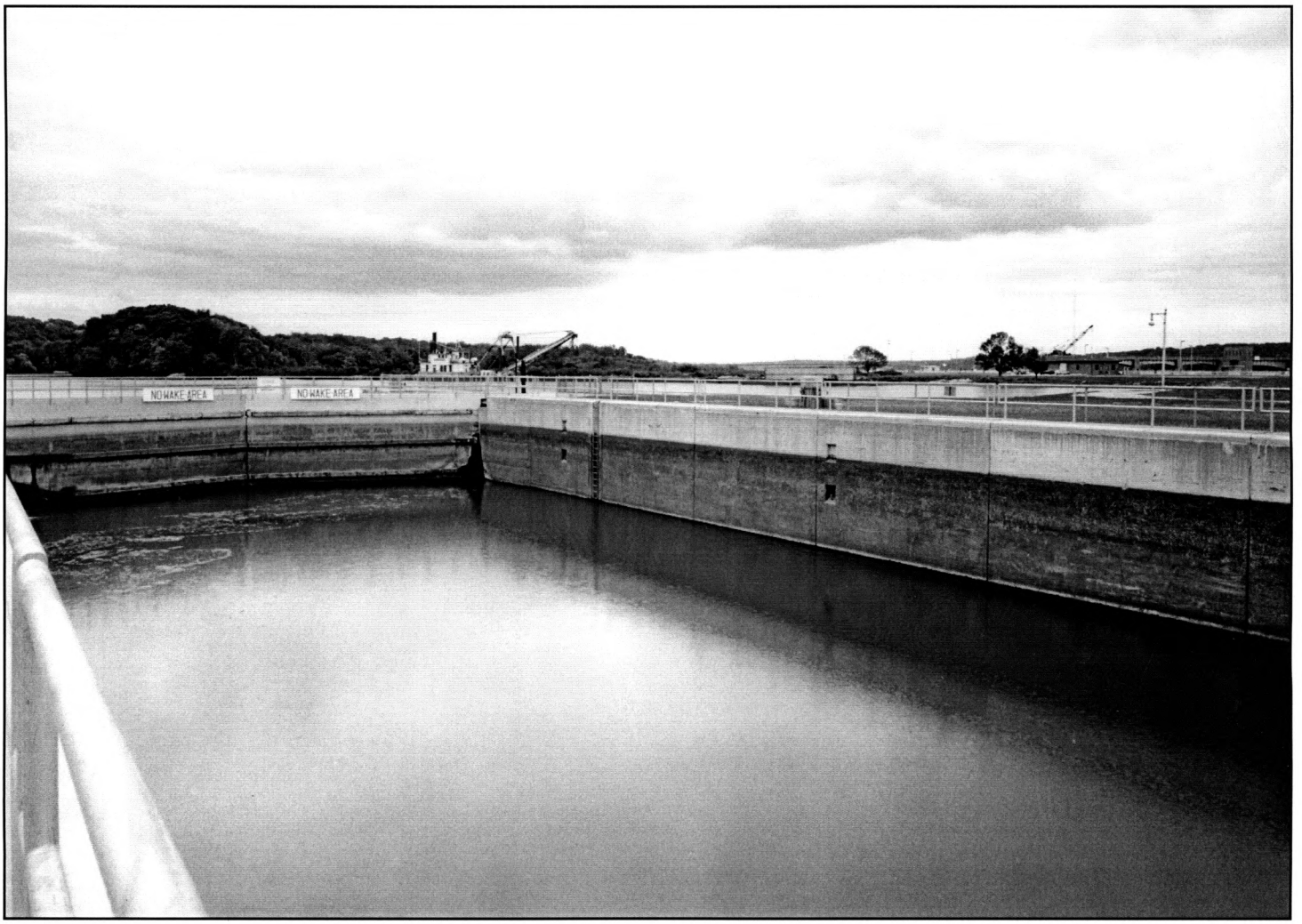


PHOTO 5. General View of Old Le Claire Lock, Downstream Side of Upstream Gates and Lockward Face of East (Riverward) Lock Wall.

Photographer:	Peter A. Rathbun
Date of Photograph:	September 1987
Location of Original Negative:	IA-25-20, HAER, IOWA, 82-LECLA.V,1- HAER Collection, Prints and Photographs Division, Library of Congress, Washington, D.C.
View:	From land wall of lock, looking northeast

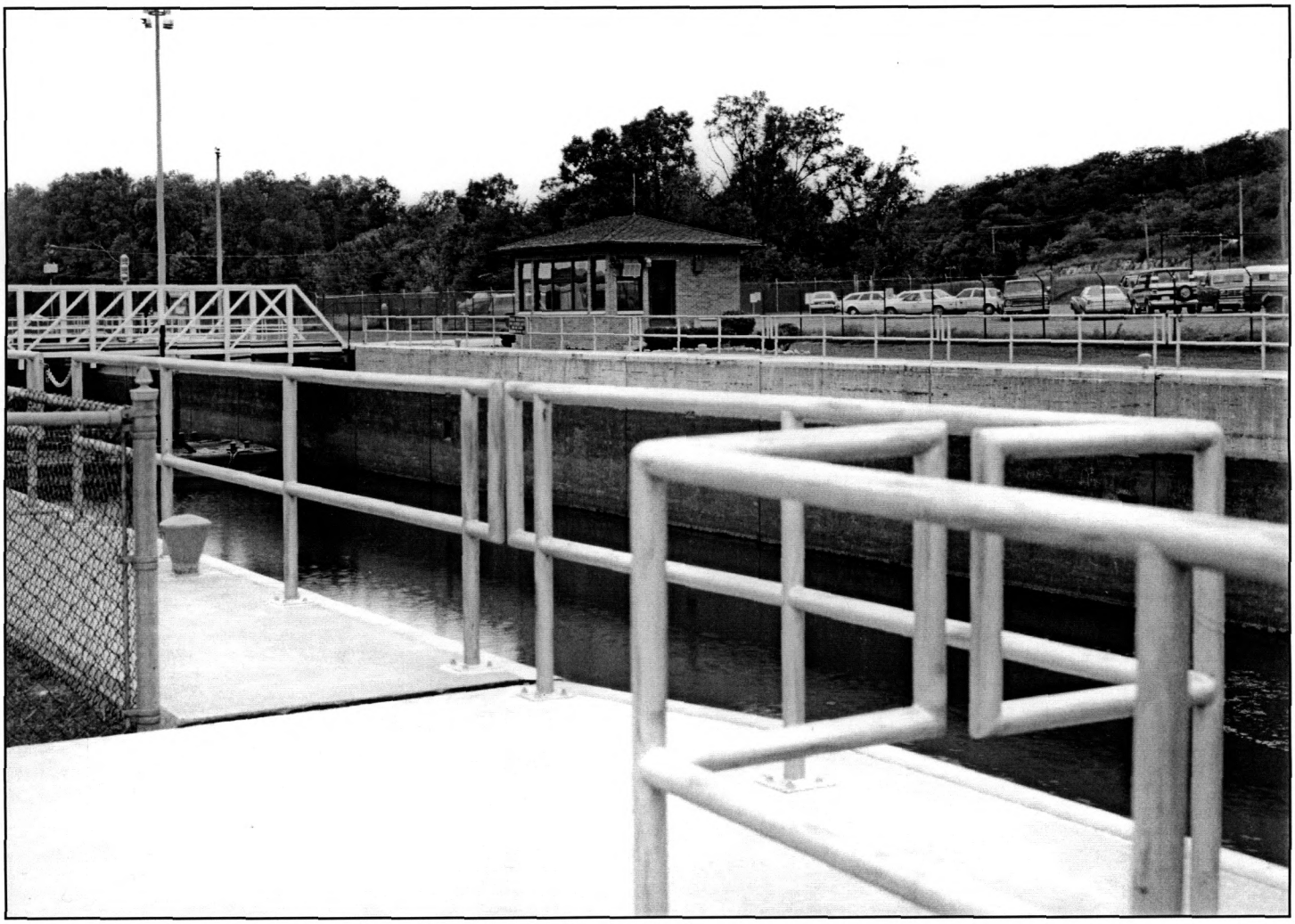


PHOTO 6. General View of the Old Le Claire Lock, Operator's House on Land Wall of Lock, Moveable Bridge Across Lock Towards Downstream End of Lock, and Lockward Face of West (Land) Wall.

Photographer:	Peter A. Rathbun
Date of Photograph:	September 1987
Location of Original Negative:	IA-25-25, HAER, IOWA, 82-LECLA.V,1- HAER Collection, Prints and Photographs Division, Library of Congress, Washington, D.C.
View:	From upstream end of riverward (west) lock wall, looking west

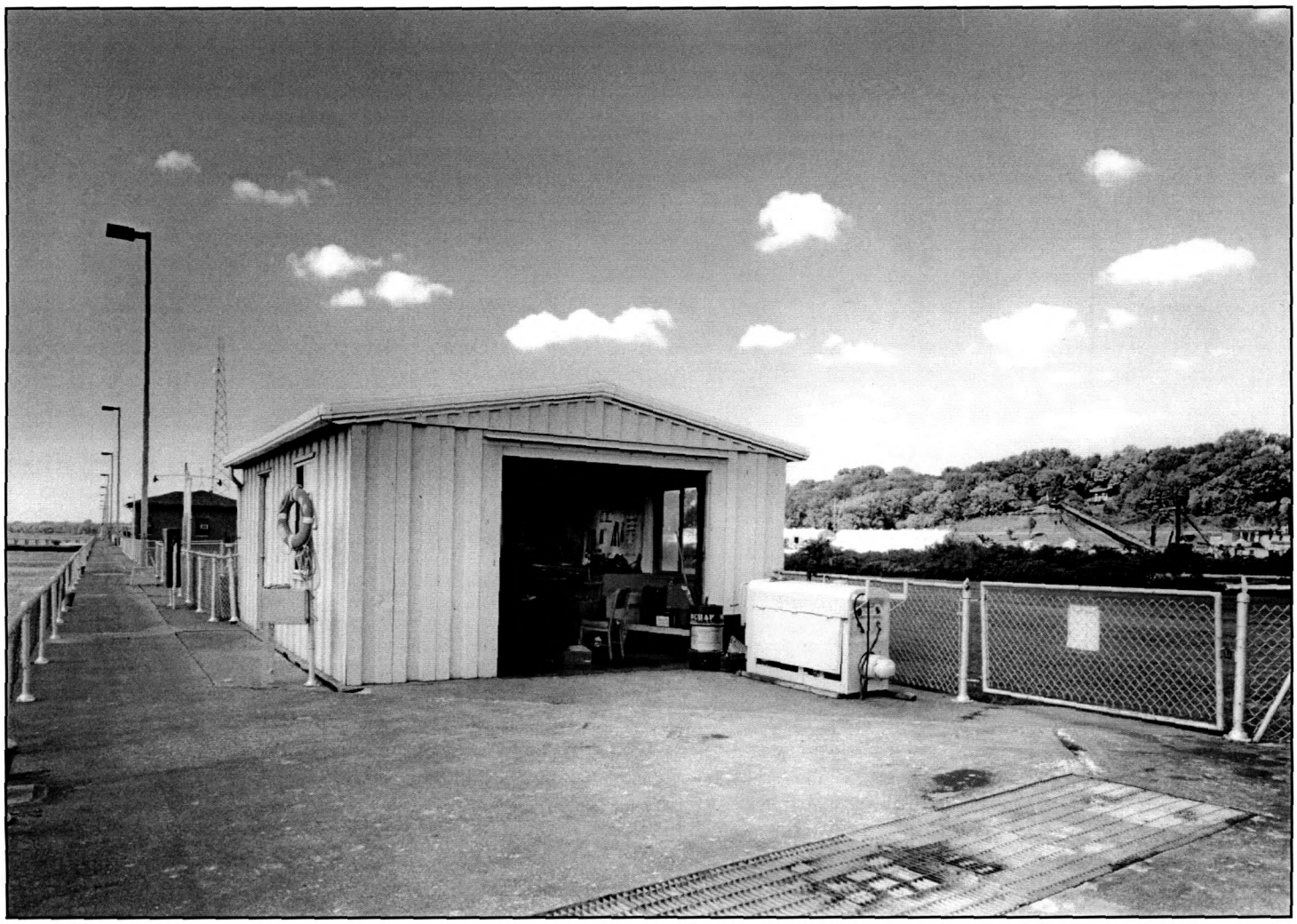


PHOTO 7. South and East Sides of the Welding Shop.
Photographer: Peter A. Rathbun
Date of Photograph: September 1987
Location of Original Negative: IA-25-18, HAER, IOWA, 82-LECLA.V,1- HAER Collection, Prints and Photographs Division, Library of Congress, Washington, D.C.
View: From downstream of the land wall (east) of the main lock, looking northeast

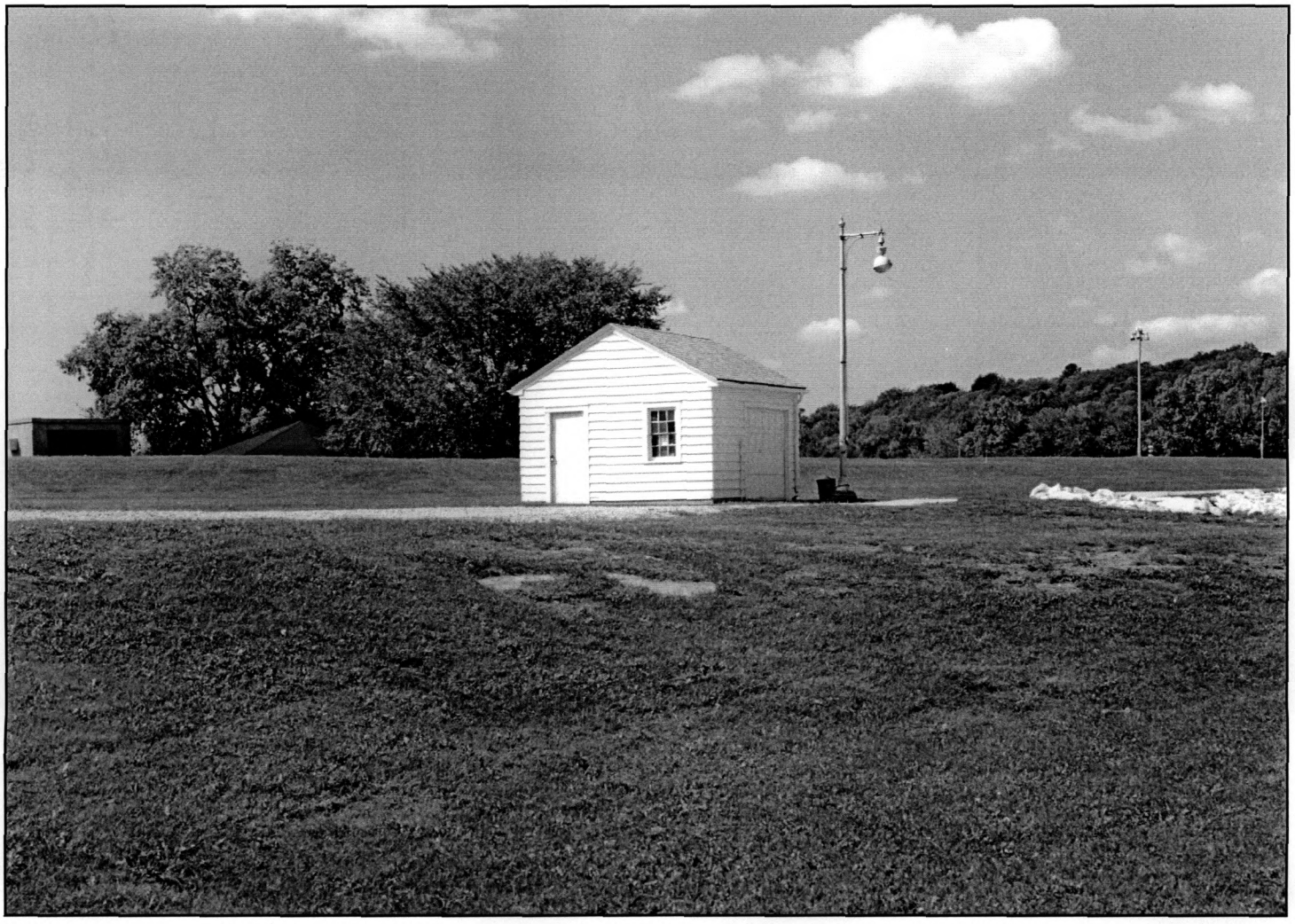


PHOTO 8. South and East Side of Lockmaster's Garage. Note: This building scheduled for demolition this year, but was still there as recently as April 20, 1998. When examined on February 4, 1998, still looked exactly as seen in this 1987 photograph.

Photographer:	Peter A. Rathbun
Date of Photograph:	September 1987
Location of Original Negative:	IA-25-19, HAER, IOWA, 82-LECLA.V,1- HAER Collection, Prints and Photographs Division, Library of Congress, Washington, D.C.
View:	From east side of 1939 esplanade, looking northwest

PHOTO 9. Generator.
Photographer: Mary Yeater Rathbun
Date of Photograph: February 1998
Location of Original Negative: URM-NATIONAL REGISTER, roll #2, frame 25, Environmental Impact Section, Planning Division, Rock Island District, U.S. Army Corps of Engineers, Rock Island, IL.
View: Looking east

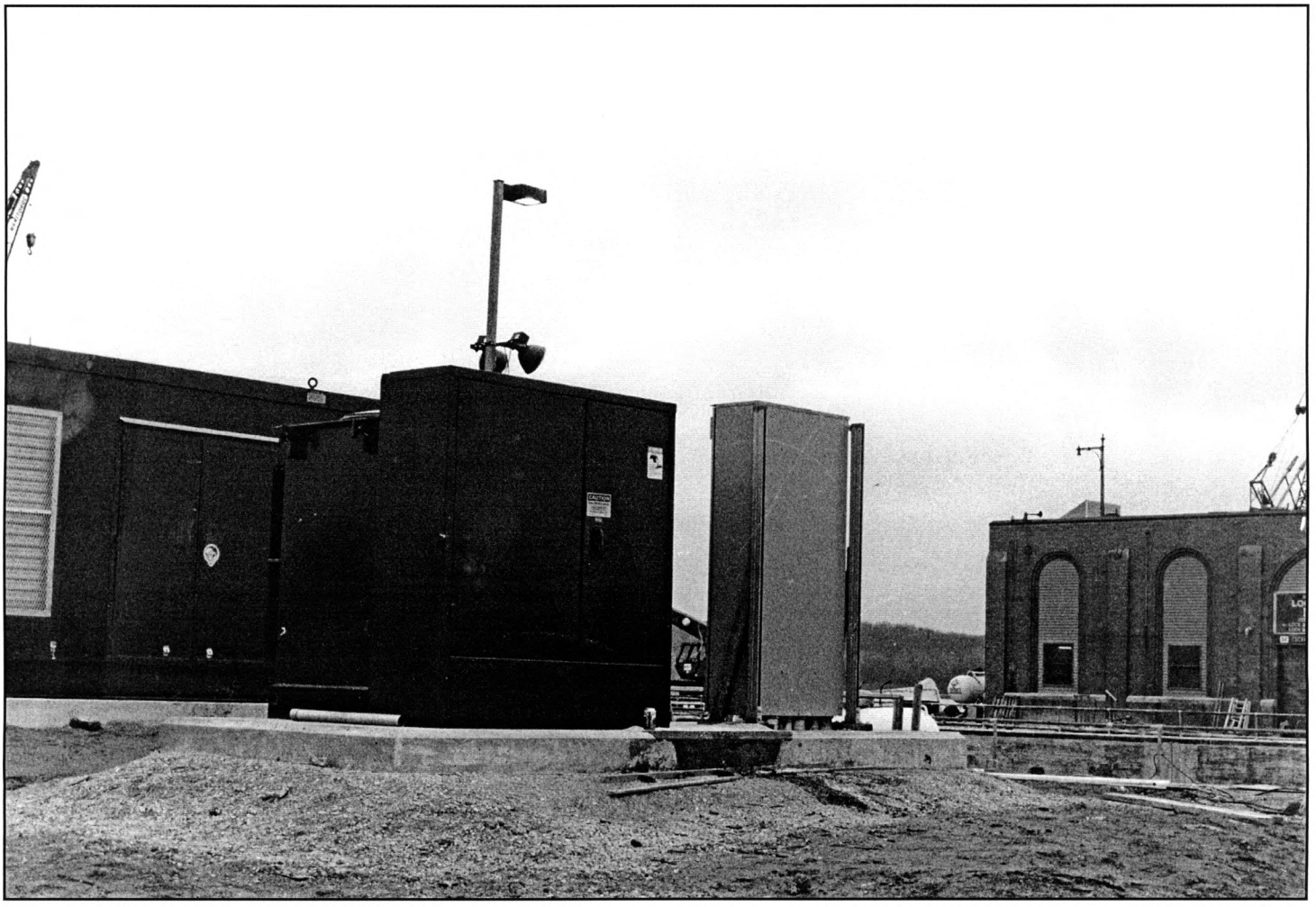
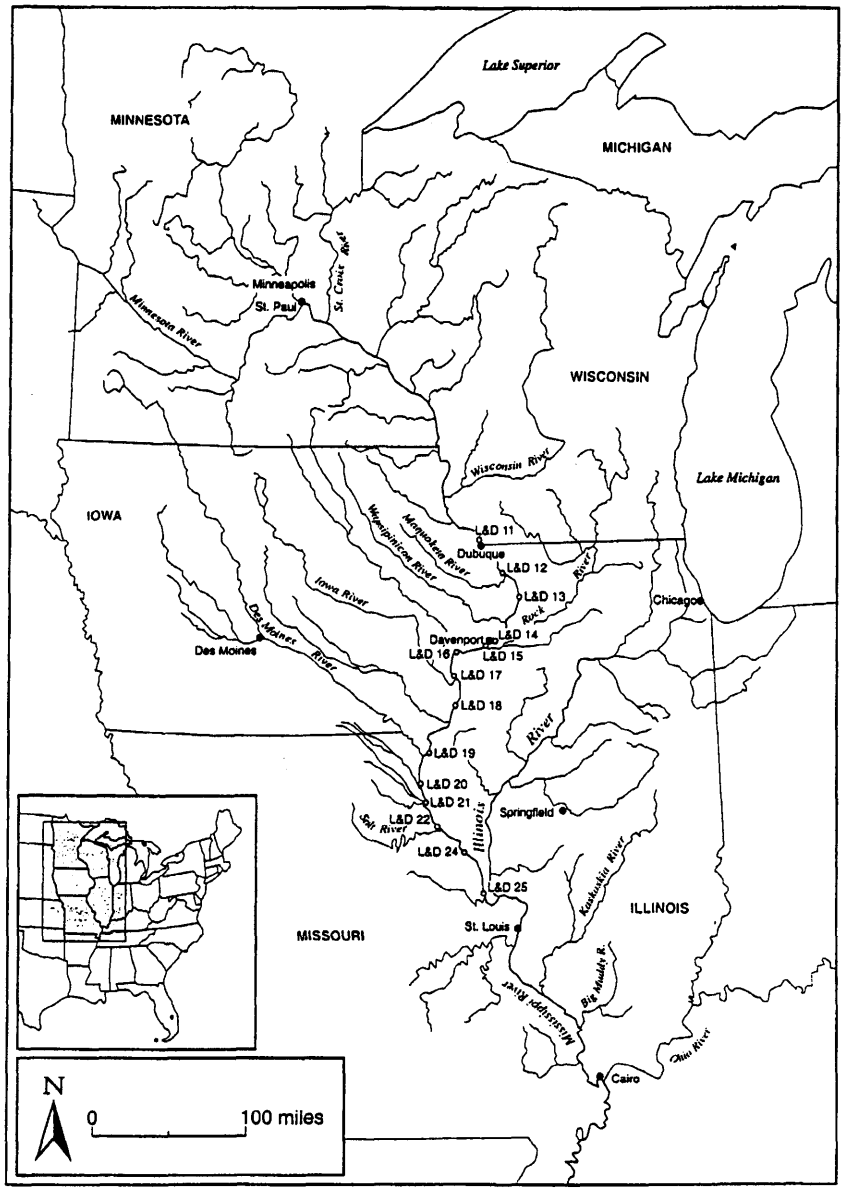


PHOTO 10. Incoming Power Transformer with Generator in the Background.
Photographer: Mary Yeater Rathbun
Date of Photograph: February 1998
Location of Original Negative: URM-NATIONAL REGISTER, roll #2, frame 24, Environmental Impact Section, Planning Division, Rock Island District, U.S. Army Corps of Engineers, Rock Island, IL
View: Looking south



General Project Location.