Appendix A:
Cultural Resources Investigation

GREEN AND BARREN RIVERS NAVIGATION DISPOSITION STUDY
CULTURAL RESOURCES STUDIES

This appendix contains the following documents:

1. Kentucky State Historic Preservation Officer Letter dated 27 March 1998

2. Kentucky State Historic Preservation Officer Letter dated 13 September 2000

3. Kentucky State Historic Preservation Officer Letter dated 23 August 2001

4. Kentucky State Historic Preservation Officer Letter dated 26 March 2014

5. Phase 1 Cultural Resources Reconnaissance of Locks and Dams 3-6 on the Green River and Lock and Dam 1 on the Barren River, Kentucky – dated February 1998

6. Summary of History and Architecture of Green River Locks 3-6 and Barren River Lock 1, Kentucky – dated July 2000

Education, Arts and Humanities Cabinet

KENTUCKY HERITAGE COUNCIL
The State Historic Preservation Office

Paul E. Patton
Governor
Roy Peterson
Cabinet Secretary

David L. Morgan
Executive Director
and SHPO

March 27, 1998

Ms. Sharon M. Bond, Chief
Economics and Environmental
Resource Branch
Louisville District
U. S. Army Corps of Engineers
P.O. Box 59
Louisville, Kentucky 40201-0059

Dear Ms. Bond:

The State Historic Preservation Office has received for review and approval an archaeological survey report entitled "A Phase I Cultural Resources Reconnaissance of Locks and Dams 3-6 on the Green River and Lock and Dam 1 on the Barren River, Kentucky" by Donald B. Ball.

The survey found no evidence of prehistoric or early historic occupation in the project areas. Consequently, the proposed disposal of these tracts will have no effect on any archaeological site listed in or eligible for listing in the National Register of Historic Places.

The locks, dams, and associated standing structures are potentially eligible for listing in the National Register of Historic Places. In order to continue our review of this undertaking, will need information on the historic resources at each lock and dam. This information should include a brief history of each lock and dam supplemented with photographs of the lock chambers, the dams, and all the structures that are still existing at each facility. The age and function of each structure should be noted. This information should be presented in a professional historic resources report and submitted for our review. Upon review, we will advise the Corps of our eligibility findings and discuss appropriate recordation of resources determined to be eligible for the National Register.

Should you have any questions, feel free to contact Charles Hockensmith of my staff at (502) 564-7005.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

cc: Mr. Donald B. Ball

300 Washington Street
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Governor
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Cabinet Secretary

David L. Morgan
Executive Director and
SHPO

September 13, 2000

U.S. Army Corps of Engineers, Louisville District
ATTN: PM-P-E
P.O. Box 59
Louisville, Kentucky 40201-0059

Re: Summary of History and Architecture of Green River Locks 3-6 and Barren River Lock 1
Butler, Edmonson, Ohio, and Warren Counties, Kentucky

Dear Mr. Shelton:

We have received the above referenced project, and have the following comments. We agree with the determination that the locks documented as part of this study are eligible for the National Register. We accept the completed documentation as part of the mitigation for the transfer of these properties. However, we would request that Kentucky Inventory Forms be completed on all the sites and that archival quality photographs be taken.

If you have any questions concerning these comments, please feel free to contact Jayne H. Fiegel of my staff at 502-564-7005, ext. 121.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

300 Washington Street
Frankfort, Kentucky 40601

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FAX (502) 564-5820

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Governor
Marlene M. Helm
Cabinet Secretary

David L. Morgan
Executive Director and
SHPO

August 23, 2001

Ms. Jane C. Ruhl, P. E.
Project Manager
Planning Branch
Louisville District
U. S. Army Corps of Engineers
P.O. Box 59 ATTN: CELRL-PM-P
Louisville, Kentucky 40201-0059

Dear Ms. Ruhl:

The Kentucky Heritage Council has received for review a two volume document entitled "Navigation Disposition Study, Green River Locks and Dams 3, 4, 5, and 6 and Barren River Lock and Dam 1" prepared by the Louisville District. Both archaeological and historic surveys have been conducted and reviewed in the past. The archaeological study did not locate any archaeological sites. Likewise, the historic survey did not locate any significant on-shore historic properties. However, past consultation with the Louisville District has determined that Green River Locks and Dams 3, 4, 5, and 6 and Barren River Lock and Dam 1 were eligible for listing in the National Register of Historic Places. The proposed disposition of Green River Locks and Dams 3, 4, 5, and 6 and Barren River Lock and Dam will have an adverse effect on these National Register eligible properties.

At their earliest convenience, the Louisville District should notify the Advisory Council on Historic Preservation of this undertaking. Also, Mammoth Cave National Park should be invited to participate in the Section 106 consultation. I would suggest that a meeting be scheduled including all consulting parties to determine appropriate mitigation measures and to develop a Memorandum of Agreement. Finally, no action should be taken to finalize the proposed treatment of the Locks and Dams until the consultation process is completed. We look forward to future consultation with the Louisville District. Should you have any questions, feel free to contact Charles Hockensmith of my staff at (502) 564-7005.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

cc: Donald B. Ball

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STEVEN L. BESHEAR
GOVERNOR

TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL

BOB STEWART
SECRETARY

THE STATE HISTORIC PRESERVATION OFFICE
300 WASHINGTON STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-7005
FAX (502) 564-5820
www.heritage.ky.gov

CRAIG A. POTTS
EXECUTIVE DIRECTOR AND
STATE HISTORIC PRESERVATION OFFICER

March 26, 2014

U.S. Army Corps of Engineers, Louisville District
ATTN: Jan Marie Hemberger
PO Box 59
Louisville, KY 40201-0059

Re: Green and Barren River locks and dams disposition study

Dear Ms. Hemberger,

Our office has recently received the above referenced report and supporting documentation. The Corps is considering the feasibility of disposing of a number of lock and dam facilities. Preferred alternatives reflected in the study include a range of activities, from minor work on a number of facilities before removing them from federal ownership to demolition of Green River Lock and Dam 6.

In general, we continue to concur with the original findings presented in this report as they relate to eligiblity for listing in the National Register of Historic Places. We continue to agree that work proposed (including removing the facilities from federal ownership), will result in an adverse effect to historic properties. In accordance with 36 CFR Part 800, we also agree that consultation on a Memorandum of Agreement or Programmatic Agreement is the appropriate course of action to resolve adverse effects and ensure compliance with the National Historic Preservation Act.

Based on our review of the current study and recent discussions with your office, we recommend these additional items to consider as consultation moves forward:

When originally assessed for National Register eligibility, only the locks and dams were found eligible. In more than a decade since the original Corps studies were done, consultation on similar facilities on the Green River initiated by FERC and its license applicants have found on-shore buildings like extant lock tenders' houses to be contributing structures in a functionally related complex. Therefore, it would be advisable to update information on any extant buildings and structures at the locks and dams included in this Corps undertaking. Our office is willing to work with the Corps and consulting parties to assess the current condition and potential National Register eligibility of these resources at such time as the Memorandum of Agreement is being developed for the undertaking. We do not anticipate a need for further formal studies, but current photo documentation of the resources would be required.

Work proposed for Lock and Dam 6 likewise needs additional discussion, as the broadest range of possible effects may not have been considered in earlier studies. Specifically, nothing substantial is known about the existence of archaeological sites pre-pool, and we have concerns that sites may become exposed when water levels drop and the river returns to natural levels. We also have concerns that effects from dropping water levels in Mammoth Cave have not been thoroughly discussed. To address these issues, we recommend development of an inadvertent discovery plan outlining appropriate level of effort and measures for identifying and treating such sites after the undertaking has taken place. This would be written and incorporated into the Memorandum of Agreement. Because of his specific expertise on this area's resources, we recommend Dr. George Crothers, Director of the Office of State Archaeology, as a consulting party to participate in the Section 106 process moving forward. Other appropriate consulting parties may be identified when consultation resumes.

Finally, we would want consultation during development of the Memorandum of Agreement to include discussion about deed restrictions and/or other provisions to preserve the integrity of any historic properties which transfer out of federal ownership. If disposition of the properties is referred to GSA for sale with deed restrictions, we would still expect additional consultation with our office to ensure proper compliance with Section 106. It would be our position that if these properties are transferred or moved out of federal ownership, a Memorandum of Agreement would be needed regardless of the manner in which this happens.

The Louisville District Office has proposed Section 106 consultation and development of a Memorandum of Agreement be renewed after the approval of the Green and Barren Disposition Study and, if received, the appropriate authorization from Congress to deauthorize the lock and dam facilities. It is our understanding timing for the consultation would also be dependent on funding to undertake Section 106 consultation, design work for proposed activities, and/or disposal of the properties. The Section 106 consultation and execution of the agreement document would be completed prior to the commencement of any construction or demolition activities. As part of the Section 106 consultation process the Corps would notify the ACHP of the undertaking and any work which affects National Register eligible properties. We have no opposition to this approach. However, we strongly encourage the Corps to plan for an adequate period of time to complete the Section 106 process, allowing for meaningful consultation with our office and other consulting parties in development of the Memorandum of Agreement.

Thank you for the opportunity to comment. We look forward to working with you further. If you have any questions regarding these comments, please contact Jill Howe or Kary Stackelbeck of my staff at 502-564-7005, ext. 121 or 115, respectively.

Sincerely,

Craig A. Potts
Executive Director and
State Historic Preservation Officer

Cc: George Crothers
CP:jh

A PHASE I CULTURAL RESOURCES RECONNAISSANCE OF LOCKS AND DAMS 3-6 ON THE GREEN RIVER AND LOCK AND DAM 1 ON THE BARREN RIVER, KENTUCKY

U. S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ATTN: CEORL-PD-R
P. 0. BOX 59
LOUISVILLE, KENTUCKY 40201-0059
TELEPHONE: (502) 582-5696
FAX: (502) 582-6734

FEBRUARY 1998

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5. FUNDING NUMBERS

6. AUTHOR(S) Donald B. Ball

7. PERFORMING ORGANIZATION NAME AND ADDRESS
U. S. Army Corps of Engineer, Louisville District
P. O. Box 59 (Attn: Planning Division)
Louisville, KY 4020-0059

8. PERFORMING ORGANIZATION REPORT NUMBER

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13. ABSTRACT (Maximum 200 words)

During the period January 20-23 and 26-30, 1998, a cultural resources examination was undertaken of Governmnet property associated with Locks and Dams 3, 4, 5, and 6 along the Green River and Lock and Dam I on the Barren River in south-central Kentucky. These facilities cover a total of 101.874 acres (41.228 hectares). No evidence of either prehistoric era remains was encountered and no further archaeological studies are recommended on these parcels. The locks and dams per se are considered eligible for the National Register of Historic Places and the required level of recordation needed on these navigational facilities remains to be coordinated with the Kentucky State Historic Preservation Officer.

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Green River, KY
Locks and Dams, KY

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A PHASE I CULTURAL RESOURCES RECONNAISSANCE OF LOCKS AND DAMS 3-6 ON THE GREEN RIVER AND LOCK AND DAM 1 ON THE BARREN RIVER, KENTUCKY

ABSTRACT

During the period January 20-23 and 26-30, 1998, a cultural resources examination was undertaken of Government property associated with Locks and Dams 3, 4, 5, and 6 along the Green River and Lock and Dam 1 on the Barren River in south-central Kentucky. These facilities cover a total of 101.874 acres (41.228 hectares). No evidence of either prehistoric or undisturbed historic era remains was encountered and no further archaeological studies are recommended on these parcels. The locks and dams *per se* are considered eligible for the National Register of Historic Places and the required level of recordation needed on these navigational facilities remains to be coordinated with the Kentucky State Historic Preservation Officer.

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A PHASE I CULTURAL RESOURCES RECONNAISSANCE OF LOCKS AND DAMS 3-6 ON THE GREEN RIVER AND LOCK AND DAM 1 ON THE BARREN RIVER, KENTUCKY

I. INTRODUCTION

A Phase I cultural resources reconnaissance was undertaken during the period January 20-23 and 26-30, 1998, of a series of five now closed locks and dams along the reaches of the upper Green River system of central Kentucky. Specifically, these facilities are Locks and Dams 3-6 on the Green River proper, and Lock and Darn I on the Barren River (Figure 1), a tributary stream. This effort supplements previous on-site inspections of these facilities undertaken in the mid-1980s and 1989-1990.

Each of these government facilities has been deactivated for an extended period (some as early as 195 1) and is proposed for disposal. As will be discussed below in greater detail, the majority of structures associated with these facilities have been demolished and maintenance is limited to limited to occasional mowing at Locks and Dams 3 and 4 on the Green River and Lock and Darn I on the Barren River.

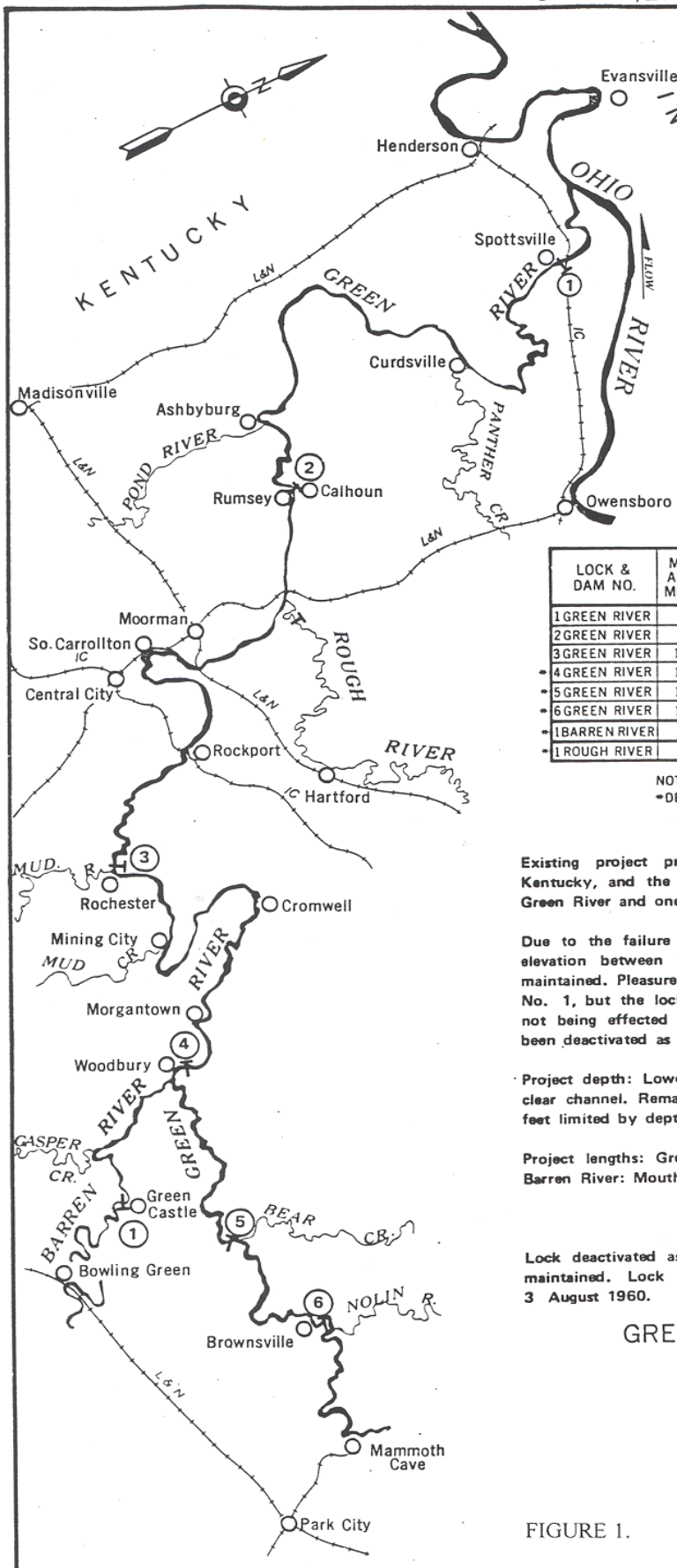
II. PROJECT LOCATION

Derived from headwaters originating in the Dripping Springs Escarpment, the Green River traverses a generally southeast to northwest route through the Western Kentucky Coal Field physiographic region (cf. McGrain and Currens 1978). The topographic setting of the examined facilities varies from relatively constricted valley in the area of locks and dams 5 and 6 to the broad floodplain surrounding Lock and Darn 3 near Rochester. In terms of the contemporary cultural landscape, each facility is located in an area, which may be termed rural.

III. SURVEY PREDICTIONS

As one aspect of various preliminary environmental studies undertaken in conjunction with prior (1989-1990) studies of the general study area by the Corps of Engineers, a review was undertaken of available cultural resources information relevant to known prehistoric and historic sites and properties adjacent to the Green (RM. 108.5 -168.1) and Barren (RM 0.0-30.0) rivers. Specifically, this information was obtained from the files of the Kentucky Office of State Archaeology, a listing of Green and Barren Rivers landmarks on Me with the Louisville District, -and an historical study of the Green River Valley authored by Harralson (1981). Further, it is noted that this information reflects sites or properties situated immediately adjacent to, or with 500 feet of, the extant banks of the Green and Barren rivers, and a maximum of 20 feet above normal river levels.

The majority of the recorded sites within the study area are prehistoric in origin although a lesser number of historic era properties (riverboat, ferry, and wharf landings) are known within the area. Information on file with the Kentucky Office of State



LEGEND

⊢ ① Lock & dam and number

STATUS

⊢ Completed

LOCK & DAM NO.	MILES ABOVE MOUTH	LOCK		TYPE OF DAM	POOL ELEVATION	
		WIDTH	LENGTH		UPPER	LOWER
1 GREEN RIVER	9.1	84	600	FIXED	349.1	337.3
2 GREEN RIVER	63.1	84	600	FIXED	363.4	349.1
3 GREEN RIVER	108.5	35.8	137.5	FIXED	380.4	363.4
*4 GREEN RIVER	149.0	35.8	138.0	FIXED	396.8	380.4
*5 GREEN RIVER	168.1	56	360	FIXED	412.0	396.8
*6 GREEN RIVER	181.7	36	145	FIXED	421.2	412.0
1 BARREN RIVER	15.0	56	360	FIXED	412.0	396.8
1 ROUGH RIVER	7.0	27	123	FIXED	373.3	363.4

NOTE: MITER GATES AT ALL LOCKS.
*DEACTIVATED

GREEN AND BARREN RIVERS

Existing project provides for slack water navigation to Bowling Green, Kentucky, and the operation and maintenance of three locks and dams on Green River and one on Barren River.

Due to the failure of Green River Dam No. 4 in May 1965, normal pool elevation between that works and Barren River Dam No. 1 cannot be maintained. Pleasure craft may operate in the pool above Barren River Dam No. 1, but the lock is closed to navigation and maintenance of the pool is not being effected at this time. Locks No. 5 and 6 on Green River have been deactivated as of 31 August 1951.

Project depth: Lower 103 miles Green River improved (1955) for nine foot clear channel. Remainder of Green River and Barren River project depth 5.5 feet limited by depth of water on existing miter sills.

Project lengths: Green River: Mouth to mouth of Barren River 150 miles. Barren River: Mouth to Bowling Green, Kentucky, 30.1 miles.

ROUGH RIVER

Lock deactivated as of 1 November 1950 and project depth is no longer maintained. Lock and dam deeded to City of Hartford, Kentucky on 3 August 1960.

GREEN, BARREN & ROUGH RIVERS, KY.

PROJECT MAP

LOCKS AND DAMS

LOUISVILLE, KY. DISTRICT

SCALE IN MILES

5 0 5

REVISED 30 SEPTEMBER 1976

FIGURE 1.

Archaeology indicates that the entirety of this area has not been systematically examined for cultural resources. A quantified summary of known cultural resources by pool reach is presented in **Table 1**.

TABLE 1. QUANTIFIED SUMMARY OF KNOWN CULTURAL RESOURCES ADJACENT TO POOLS OF GREEN RIVER LOCKS AND DAMS 2 (UPPER POOL), 3, AND 4, AND. BARREN RIVER (MOUTH TO BOWLING GREEN)

Pool	Prehistoric Sites	Historic Sites	Pool Total
Green River –Pool #2 (upper reaches only) (RM 102.5-108.5)	3	2	5
Green River - Pool #3 (RM 108.5-149.0)	30	24	54
Green River - Pool #4 (RM 149.0-168.1)	7	13	20
Lower Barren River (RM 0.0-15.0)	6	3	9
Barren River - Pool #1 (RM 15.0-Bowling Green)	11	2	13
TOTALS	57	44	101

Reasonable archaeological expectations for the environs of the examined Government parcels are numerous prehistoric sites (of which the region's Shell Mound Archaic is likely the best known), historic era farmsteads, and riverboat landings. In addition to the sites enumerated in Table 1, it is noted that Green River Locks and Dams 3, 4, 5, and 6 and Barren River Lock and Darn 1 are considered eligible for listing in the National Register of Historic Places. The disposition of these facilities (and such support structures as are still standing), as well as all other cultural resource matters, must be fully coordinated with the Kentucky State Historic Preservation Officer.

IV. COMPLIANCE REQUIREMENTS

This archaeological investigation was conducted in compliance with Public Law 91-190 (NEPA), Public Law 89-665 (National Historic Preservation Act of 1966 as amended, 16 U. S. C. 470 D, Public Law 96-95 (Archeological Resources Protection Act of 1979), and Presidential Executive Order 11593. This project complies with the

specifications for field investigations and National Register of Historic Places assessment by the Secretary of the Interior (1983) and the Kentucky State Historic Preservation Office (Kentucky Heritage Council 1991).

V. FIELD METHODS

At the time of the reconnaissance, the preponderance of the projects' elements was variously covered with thick lawn, dense weeds, and/or secondary growth forest. Surface visibility was typically but 2-3% though some areas (animal burrows, road ruts resulting from unauthorized four wheel drive usage, and erosional gullies, and exposed river bank.

The field methods utilized in the conduct of the present reconnaissance effort were both systematic and straightforward. Dependent upon the nature of the subject terrain, the project elements were examined by means of pedestrian transacts supplemented where appropriate by shovel testing at 40-50 foot (12-15 meter) intervals in areas displaying little or no visual indication of prior disturbance. Where excavated, shovel tests were approximately 10 inches (25 cm) square and extended to a depth of ca. 6-8 inches (15-20 cm). Such test pits variably revealed a shallow humus zone directly above sterile soil or, alternately, mottled soil indicative of prior earth moving activities.

VI. PROJECT ELEMENT DESCRIPTIONS AND SURVEY FINDINGS

Four of the subject Federal facilities are located along the reaches of the Green River Valley from river mile 108.5 (Lock and Dam 3 near Rochester) to mile 181.7 (Lock and Dam 6 near Brownsville). The fifth facility inspected was Lock and Dam 1 on mile 15.0 of the Barren River, a tributary which enters the Green River just upstream of Lock and Darn 4 at mile 149.0 at Woodbury. A summary of mile locations, facility chronologies, areas, and counties in which these parcels are located appears as **Table 2**. Each will be discussed below.

Green River Facilities

Lock and Dam 3 (**Figure 2**) The lock side of this facility is situated on a floodplain at river mile 108.5 near the community of Rochester. At least two acres surrounding the remnants of the structural complex has been raised ca. 2-3 feet, likely by the deposition of spoil resulting from initial dam construction.

Though a two-story frame dwelling was destroyed by arson in the early 1990s and other support structures have likely been demolished, three structures remain on this tract.

These are:
1. Garage - ca. 20 x 25 ft, lumber frame with sheet metal siding;
2. Office and warehouse - ca. 20 x 20 ft, lumber frame with sheet metal siding; and
3. Dwelling - ca. 25 x 40 ft, one story brick with basement.

All have been extensively tooted (particularly the dwelling) and vandalized.

TABLE 2. LOCATIONAL, CHRONOLOGICAL, AND ACREAGE DATA FOR EXAMINED FACILITIES

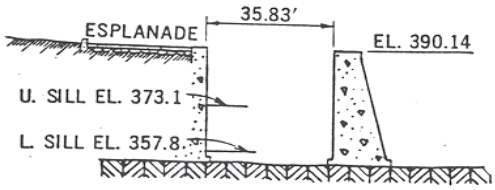
River/Facility	River Mile	Chronology	Lock Side - Area/County	Abuttment Side - Area/County
Green River (moving upstream)				
Lock and Darn 3	108.5	Built 1833-1836; Deactivated 1960s	6.72 (2.72)* - Ohio	10.0 (4.05) – Muhlenberg
Lock and Darn 4	149.0	Built 1834-1839; Loss of pool 1965	3.63 (1.47) - Butler	1.66 (0.67) – Butler
Lock and Darn 5	168.1	Old lock 1900-1934; New lock built 1933-1934; Deactivated 1951	27.064 (10.95) - Butler	5.21(2.11) – Warren
Lock and Darn 6	181.7	Built 1904-1905; Deactivated 1951	18.0 (7.28) - Edmonson	9.49 (3.84) – Edmonson
Barren River				
Lock and Darn 1	15.0	Old lock 1841-1934; New lock built 1933-1934; Deactivated 1965	20.1 ac - Warren	-0- Warren

* Acres (hectares)

Total area of Government property = 101.874 acres (41.228 hec).

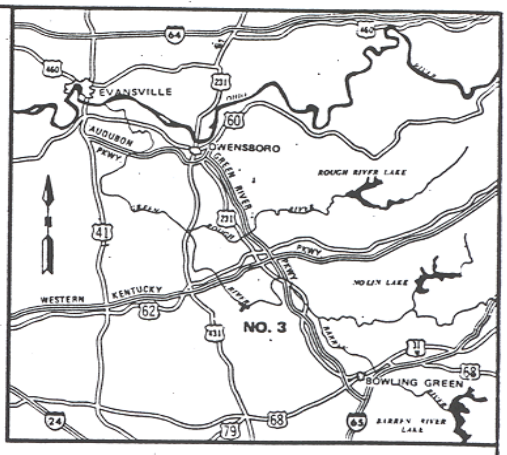
Shovel test pits yielded only sporadic clear glass fragments, wire nails, miscellaneous plastic, and obviously modem debris (much of it fishing related). An inspection of the exposed bank produced no evidence of early cultural materials.

The abutment portion of the facility is currently used as a park by Muhlenberg County. Much of this tract consists of a sizable exposed lock ledge. The balance of the floodplain encompassed by the parcel has been covered with deep gravel or asphalt to facilitate parking by area boaters and fishermen. As the project map shows an "old mill race" in this area, a particular effort was made to examine this location. No structural or artifactual evidence was observed to suggest the presence of a substantive building in this area. The likely site of the mill foundation just inland from the riverbank has been graded and paved.



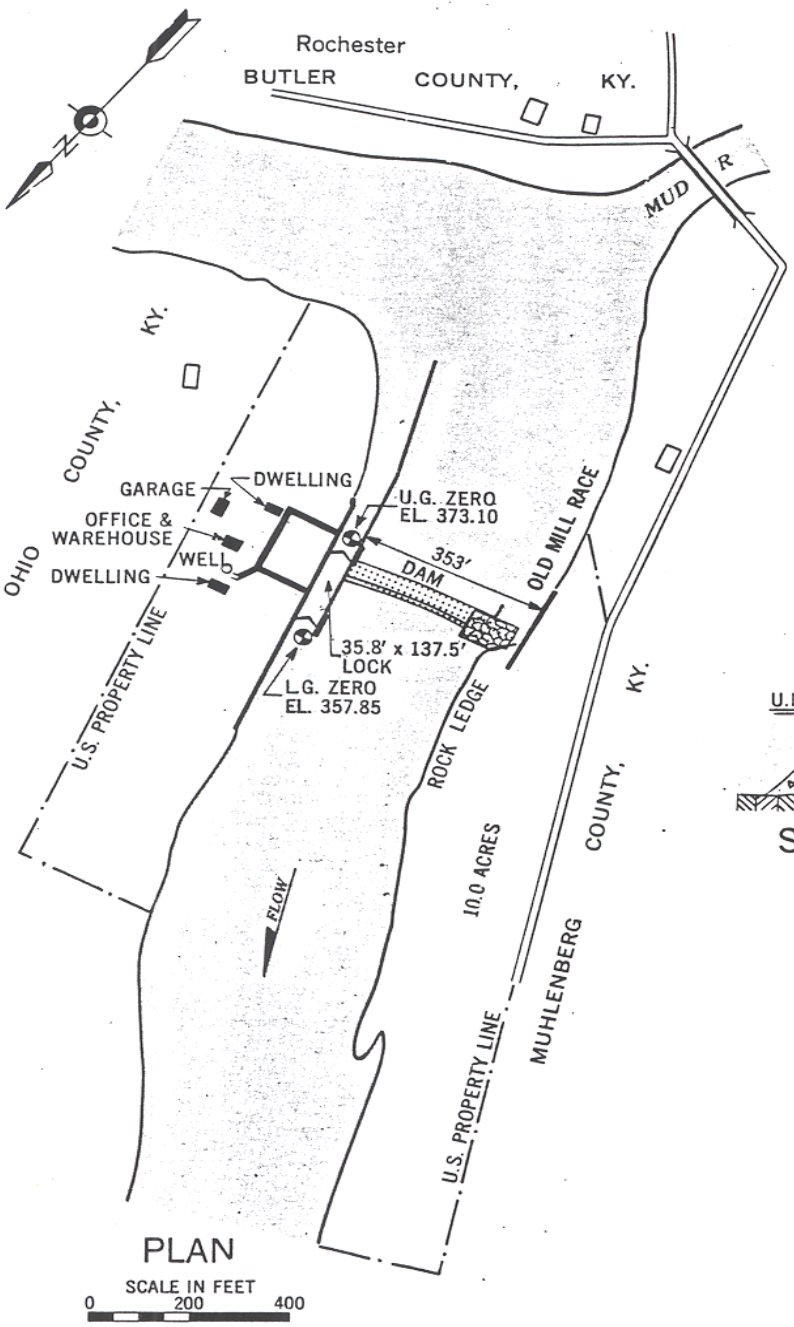
SECTION THRU LOCK

SCALE IN FEET
0 30 60



VICINITY MAP

SCALE IN MILES
0 10 20 30 40

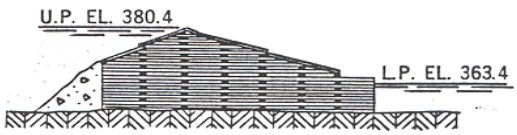


PLAN

SCALE IN FEET
0 200 400

MILE 108.5
H.W. 414.2 (1937)
U.P. 380.4
L.P. 363.4
LIFT 17.0'

BUILT 1833-1836
ACQUIRED BY U.S. GOV'T. FEB. 4, 189[illegible]
DEPTH ON UPPER MITER SILL 7.3'
DEPTH ON LOWER MITER SILL 5.6'
U.S. PROPERTY 16.72 ACRES FEE



SECTION THRU DAM

SCALE IN FEET
0 30 60

FIGURE 2.

GREEN RIVER
LOCK & DAM NO. 3
LOUISVILLE, KY. DISTRICT
SCALES AS SHOWN
REVISED 30 SEPTEMBER 1981

An examination of the exposed bank profile revealed no in situ prehistoric or historic era deposits. Evidence was noted of 20th century over bank dumping activities. Materials observed along the bank and shore included one Champion spark plug ceramic core, one three hole machine made brick (no marker's mark), three green glass embossed Coca-Cola bottles fragments (produced 1916-1957), miscellaneous plastic, clear and brown glass bottle sherds, and other debris.

Lock and Dam 4 **(Figure 3)**. The lock side of this facility is situated in the community of Woodbury at mile 149.0. This facility was shut down when its aging rock filled wood crib darn breached on May 24, 1965, and the pool was lost. Some property has been sold since that date. The bulk of the remnant land holding is relatively steep (25+ degrees) or obviously terraced and therefore previously disturbed.

In the intervening years, the lock workers houses have been sold or transferred by the Government (one now serves as a local museum). Only two structures remain at this facility. These are:

1. Warehouse - ca. 30 x 30 ft, one story frame, pyramidal roof, currently used as local civic center; and
2. Pumphouse - ca. 10 x 12 ft, brick, gable roof oriented to long axis, door in center of short axis wall, typical "shed" floorplan.

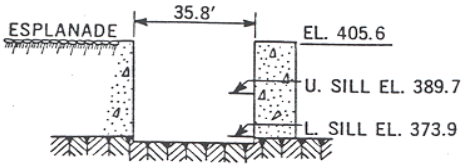
Shovel testing in the elevationally low lying up- and downstream portions of the lock side tract consistently revealed evidence of heavy siltation from flood episodes. Notably, in the context of the settlement and development of historic Woodbury, tracts at similar elevations have been generally avoided as construction sites. Limited numbers of bent nails, clear glass bottle sherds, and plastic fragments were noted. No artifactual concentrations were observed. No materials were observed along the accessible portions of the exposed bank.

The low lying abutment parcel had been examined during the course of a visit to this lock and darn in the mid-1980s. Shovel testing on this floodplain tract revealed only extensive deposits of silt containing only minor amounts of recent debris (aluminum beverage cans, plastic, etc.).

Lock and Darn 5 **(Figure 4).** The lock side of this facility is situated at river mile 168.1 near the confluence of Bear Creek and the Green River. During its active career, two locks have stood at this tract. The earliest, placed in operation in January of 1900, subsequently developed major structural problems. and was replaced by a second unit constructed from 1933-1934. The earlier dam was demolished in 1934 at which time the newer facility went into use. The second dam was deactivated on August 31, 1951.

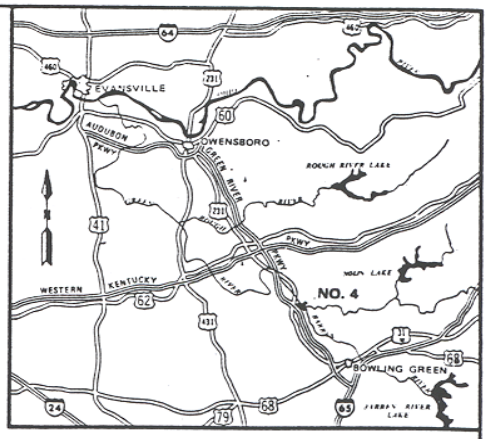
This lock and dam is situated in a relatively constricted portion of the upper Green River Valley. The portion of the facility paralleling the river is floodplain. The inland zone of the parcel rises abruptly to a terrace formation ca. 35 ft above the floodplain. Lock workers houses, and all frame support structures and roads have been demolished at this

GREEN RIVER R/H 6-2



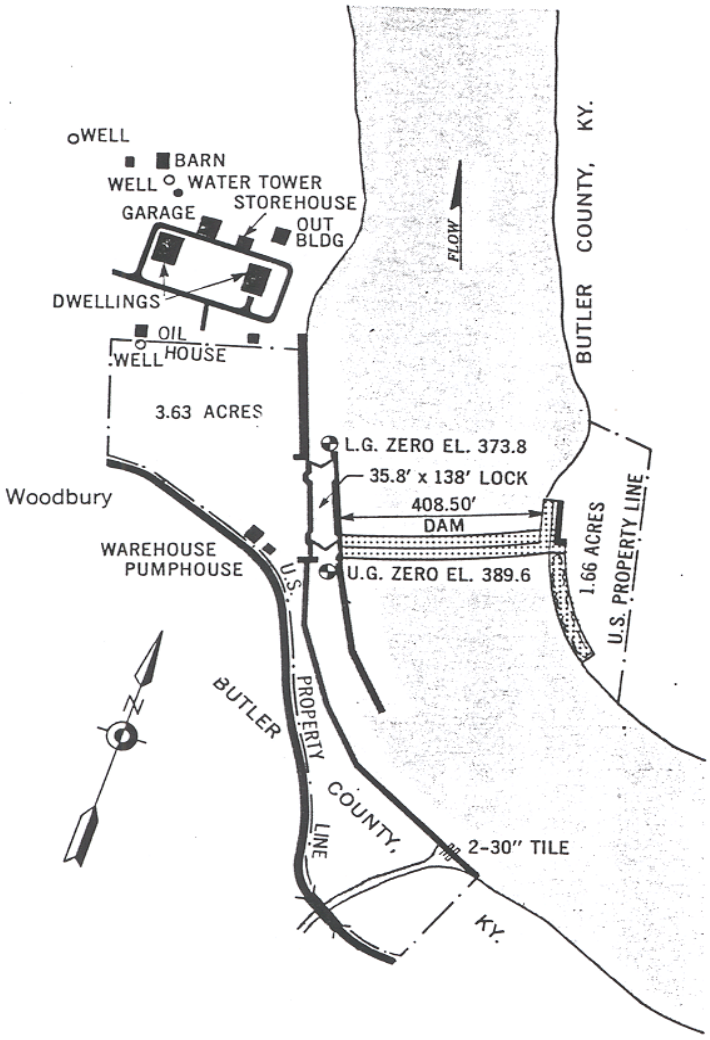
SECTION THRU LOCK

SCALE IN FEET
0 30 60



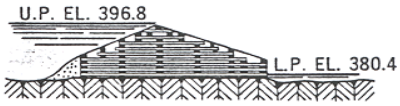
VICINITY MAP

SCALE IN MILES
0 10 20 30 40



PLAN

SCALE IN FEET
0 200 400



SECTION THRU DAM

SCALE IN FEET
0 30 60

MILE 149.0
H.W. 432.7 (1937)
U.P. 396.8
L.P. 380.4
LIFT 16 4'

NOTE:
BUILT 1834-1839
ACQUIRED BY U.S. GOV'T. FEB. 20, 1886
DEPTH ON UPPER MITER SILL 7.1'
DEPTH ON LOWER MITER SILL 6.5'
U.S. PROPERTY 5.29 ACRES (FEE)
6.27 ACRES (FLOWAGE EASEMENT)
6.62 ACRES (EASEMENT OTHER)
DAM WAS BREACHED 24 MAY 1965
LOCK CLOSED TO TRAFFIC,
POOL NOT MAINTAINED

GREEN RIVER

LOCK & DAM NO. 4

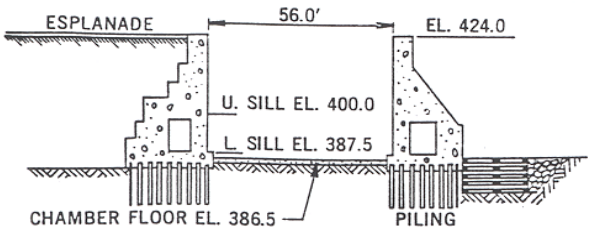
LOUISVILLE, KY. DISTRICT

SCALES AS SHOWN

REVISED 30 SEPTEMBER 1980

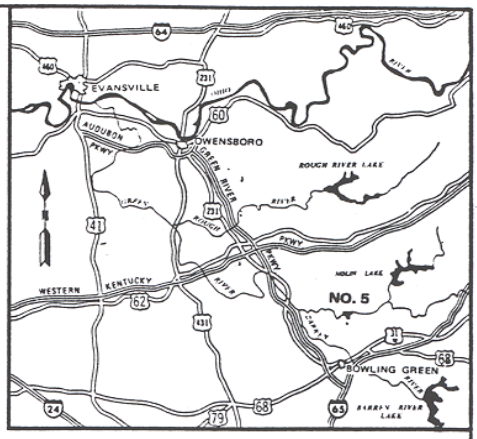
FIGURE 3.

GREEN RIVER R/H /-2



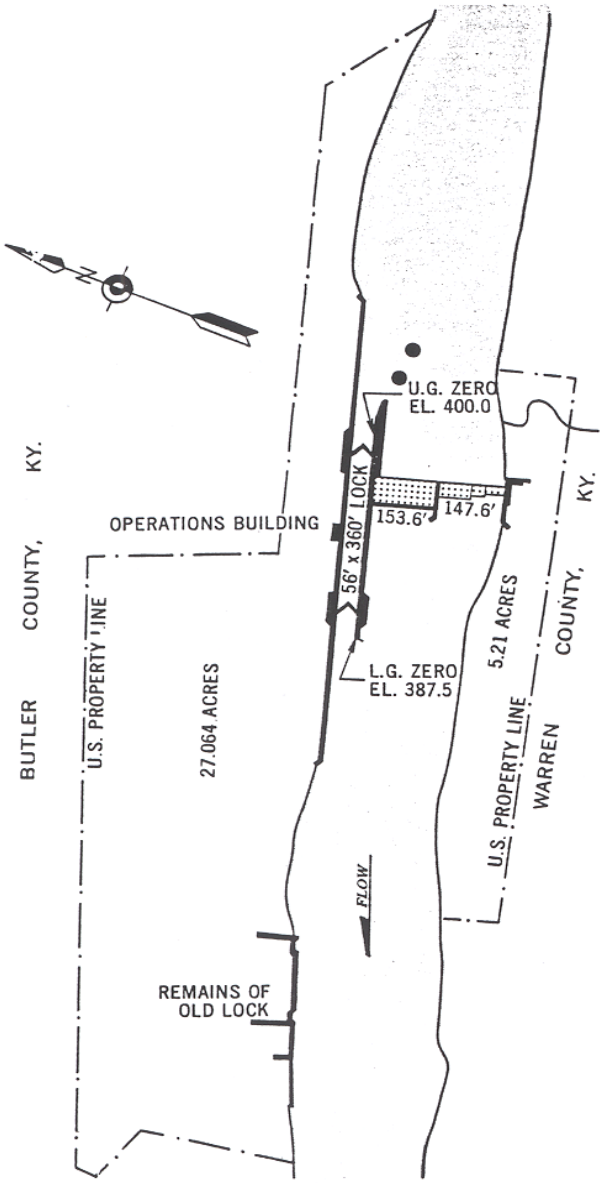
SECTION THRU LOCK

SCALE IN FEET
0 30 60



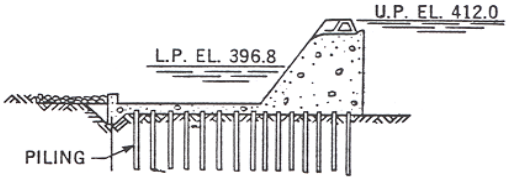
VICINITY MAP

SCALE IN MILES
0 10 20 30 40



PLAN

SCALE IN FEET
0 200 400



SECTION THRU DAM

SCALE IN FEET
0 30 60

MILE 168.1
H.W. 447.7 (1937)
U.P. 412.0
L.P. 396.8
LIFT 15.2'

OLD LOCK PUT IN OPERATION JAN. 17, 1900
NEW LOCK AND DAM BUILT 1933-1934
OLD LOCK AND DAM REMOVED 1934
NEW LOCK PUT IN OPERATION DEC. 22, 1934
DEPTH ON UPPER MITER SILL 12.0'
DEPTH ON LOWER MITER SILL 9.3'
U.S. PROPERTY 32.27 ACRES (FEE)
12.94 ACRES (FLOWAGE EASEMENT)
DEACTIVATED 31 AUG. 1951

NOTE:
32.27 ACRES INCLUDES 1.898 ACRES
IN ROAD AREA NOT SHOWN ON THIS MAP.

GREEN RIVER

LOCK & DAM NO. 5

LOUISVILLE, KY. DISTRICT
SCALES AS SHOWN
REVISED 30 SEPTEMBER 1980

FIGURE 4.

facility. The only remaining structure is a two-story steel reinforced, poured concrete operations building. This structure measures ca. 20 x 25 R. Situated immediately adjacent to the lock, this structure has been extensively vandalized. The first floor had piles of silt up to ca. 2 ft high showing the effects of numerous flood episodes. The gates to the lock are clogged with ca. 18 ft of flood deposited silt. Trees in this silted area have grown to a height of ca. 40 ft.

The foundational remnants of four support structures were noted just above, along the surface of, and atop the forward crest of the floodplain/first terrace interface near the area of the now demolished "old" lock. These remains were interpreted as follows.

Dwelling Area #1
1. Poured concrete steps ascending ca. 25-30 ft from the floodplain to the crest of the terrace.

Dwelling Area #2
2. Garage - situated at rearward edge of floodplain ca. 10 x 15 ft, roughly fashioned from local fieldrock (sandstone?), located near route of facility road.
3. Poured concrete steps and flat landing, possible foundation for wooden access stair up the terrace face, steps elevationally situated ca. 10 ft above the base of the terrace slope.
4. "Spring house". This humble foundation was likely the most interesting structural remnant encountered on the property. Situated at the forward face of the terrace, this structure represented an almost unique adaptation to local topographic conditions and spatial constraints and warrants some additional degree of discussion. The remain (foundational) portion of the structure is flush with the existing ground surface. These walls (inner dimensions of ca. 4 x 8 ft) are constructed of competently hewn limestone (?). Though of variable length, they are ca. 9 inches thick and ca. 11 inches wide. The resultant bond pattern is irregular. The wall stands four courses high and an exposed area beneath the lower course of stones near the southern ("downhill") short axis wall suggests that it rests on a footer of crude fieldrock. A short (5 ft) row of stone blocks parallels the southern short axis wall at a distance of ca. 3 ft. These may have served as supports for an extended roof.

Clearly visible in both the northern ("uphill") and opposing short axis walls were two ca. 12 inches red clay ceramic drainage pipes, one serving to direct water into the stone chamber and the other directing water out and downhill. The uppermost edge of the in- take pipe was ca. 2 ft below ground surface. The outflow pipe was ca. 3 ft below the surface. Much of the northern half of the floor was mounded with leaves and silt almost flush with the top of the in-take pipe. This debris may have obscured interior access steps.

In these general dimensional and construction details, this spring house is comparable to others encountered throughout the region. It differs, however, in that this traditional style of construction was built in terrain specifically altered to accommodate it. The source of water for the spring house was not a spring per se. Rather, water had been diverted via the ceramic pipe from an adjacent seasonal stream into the structure which
was dug into an area of extensive fill which had been dumped over the face of the terrace. This effort had required the placement of several hundred cubic feet of soil and the creation of an artificial platform which extended about 12 ft beyond the terrace face. This platform sloped abruptly downward at about 45 degrees. The water exiting the spring house flowed downhill and

entered a Corps of Engineers installed drainage system. Shovel testing around the spring house yielded only two fragments of clear container glass.

Shovel testing on the lock side parcel revealed only limited numbers of bent nails, clear glass bottle sherds, and plastic fragment. No artifactual concentrations were observed. No materials were observed along the accessible portions of the exposed bank.

The opposing abutment parcel rises rapidly from the river's edge at 25 degrees or more. This area had been previously examined during the course of a visit to this lock and dam in the mid-1980s. Limited shovel testing on this tract revealed only culturally sterile soil. Minor amounts of recent debris (aluminum beverage cans, plastic, etc.) were noted along the bank.

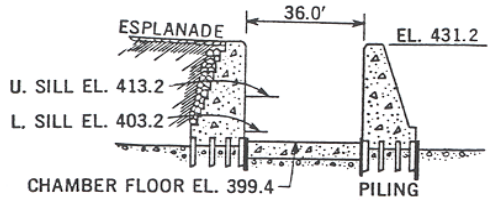
Lock and Darn 6 **(Figure 5)**. The lock side of this facility is situated near the community of Brownsville at mile 181.7. Constructed in the period 1904-1905, this facility was deactivated in August 1951. In common with the topography encountered at Lock and Dam 5, the setting of this facility is in a relatively constricted portion of the Green River Valley. The central portion of the tract's floodplain appears to have been built up with spoil earth to a height of 3 or 4 ft. There are no standing structures on this parcel. The lower (downstream) lock gates have fallen off their hinges. The upper gates have been sealed with a substantial poured concrete wall. The tract is in an advance state- of reforestation and surface visibility was typically zero percent. Some visibility was afforded by a number of four wheel drive tracks across the grounds.

Shovel test pits generally revealed extensive recent siltation near the up- and downstream portions of the tract. In the central (built up) area near the lock, testing revealed mottled (disturbed) earth resulting from prior construction and demotion episodes. In addition to obviously modem materials, sporadic examples of clear, brown, and green container glass, rusted wire nails, and other debris were noted in this area. No in situ materials were observed along accessible portions of the exposed banks.

I

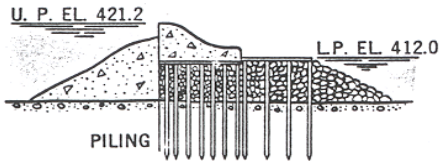
The opposing abutment parcel encompasses a very narrow (ca. 35 ft) floodplain which has been graded and filled at some point in the past for use as a local access road. The bulk of the property is ca. 35-45 degree slope. This area had been previously examined during the course of a visit to this lock and dam in the mid-1980s. Limited shovel testing on this tract revealed only culturally sterile soil. Minor amounts of recent debris (aluminum beverage cans, plastic, etc.) were noted along the bank, most of which is heavily rip-rapped from the dam downstream to the terminus of the Government parcel.

GREEN RIVER R/H 8-2



SECTION THRU LOCK

SCALE IN FEET
0 30 60



SECTION THRU DAM

SCALE IN FEET
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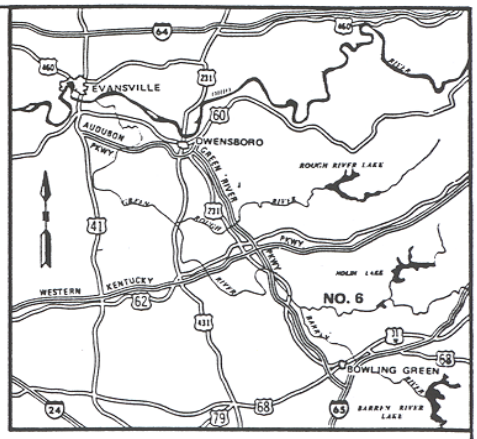
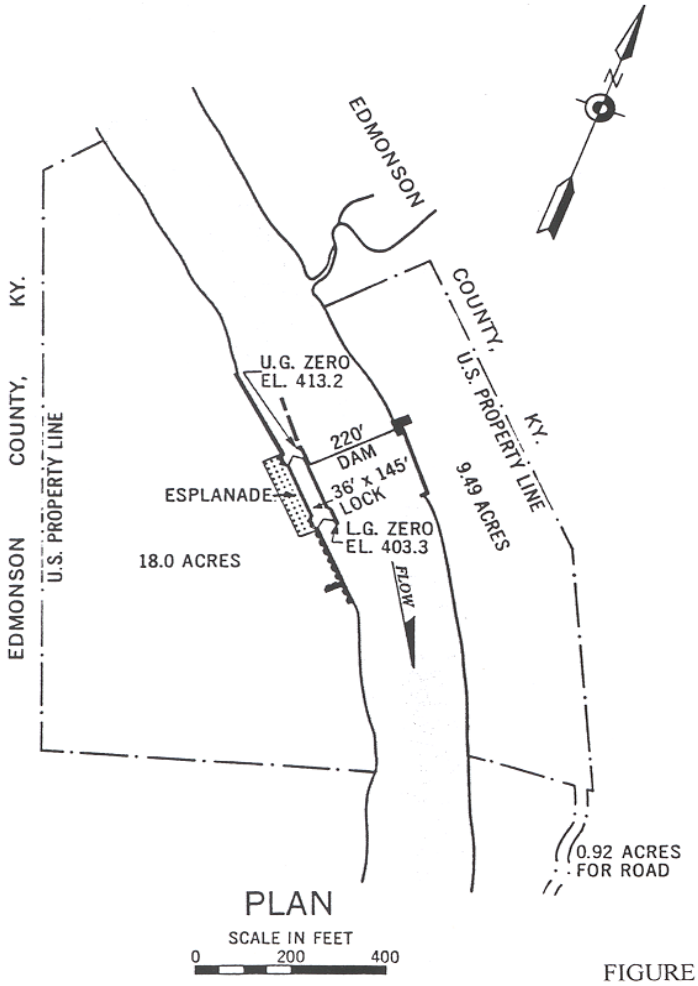


VICINITY MAP

SCALE IN MILES
0 10 20 30 40



PLAN

SCALE IN FEET
0 200 400

MILE 181.7
H.W. 458.1 (1937)
U.P. 421.2
L.P. 412.0
LIFT 9.2'

BUILT 1904-1905
PUT IN OPERATION JAN. 1, 1906
DEPTH ON UPPER MITER SILL 8.04'
DEPTH ON LOWER MITER SILL 8.83'
U.S. PROPERTY 28.41 ACRES FEE
DEACTIVATED 31 AUG. 1951

GREEN RIVER

LOCK & DAM NO. 6

LOUISVILLE, KY. DISTRICT
SCALES AS SHOWN
REVISED 30 SEPTEMBER 1980

FIGURE 5.

Barren River

Lock and Dam 1 **(Figure 6)**. The lock side of this facility is situated near the community of Green Castle at mile 15.0. The original lock and darn was constructed in 1841 and used until 1934 at which time a replacement lock was placed into service. The original lock chamber is still intact though it has been sealed as is no longer operable. This facility was closed to navigation following the breach in the dam at Woodbury in May 1965. The entirety of the floodplain formation occupied by the Government reservation appears to have been uniformly covered with a layer of fill dirt variably 6-8 ft deep resulting from the extensive construction associated with building the new lock chamber.

There is only one standing structures on this parcel. This is the 1930s era operations buildings a two-story steel reinforced, poured concrete structure adjacent to the lock. This building measures ca. 15 x 20 ft and has been extensively vandalized. AU other structures on this tract have been removed and shovel testing in these areas revealed only mottled earth and sporadic glass fragments and rusty wire nails. No in situ cultural materials were observed along the accessible portions of the exposed riverbank.

The Government owns no property on the abutment side of this facility. It is noted, however, that a substantial wall built of hewn stone stands directly across from the lock. These remains are likely associated with an early mill or other industrial structure. No field inspection was undertaken on this private property.

VII. CONCLUSIONS AND RECOMMENDATIONS

An inspection of the subject facilities revealed no evidence of either prehistoric or undisturbed historic era cultural remains. No further archaeological studies are recommended for these parcels of surplus government property. However, should cultural remains be encountered during the course of subsequent environmental remediation and other mandated activities, work in that area should cease and the Louisville District and Kentucky Heritage Council promptly notified.

ACKNOWLEDGMENT

This report was prepared by Mr. Donald B. Ball (Archaeologist, SOPA) of the Louisville District of the U. S. Army Corps of Engineers. The fieldwork described herein was conducted by the author.

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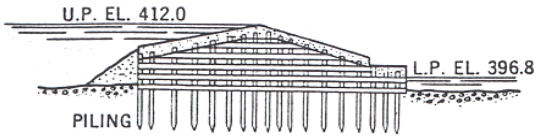
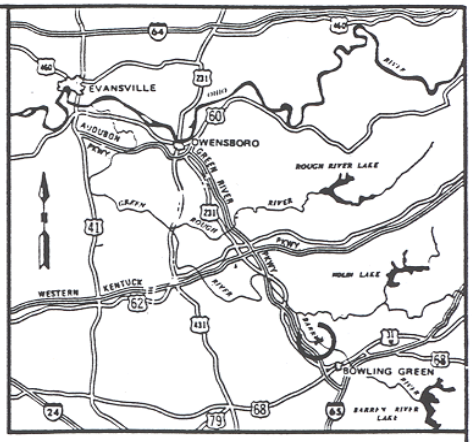
1991 Specifications for Archaeological Fieldwork and Assessment Reports. Frankfort.



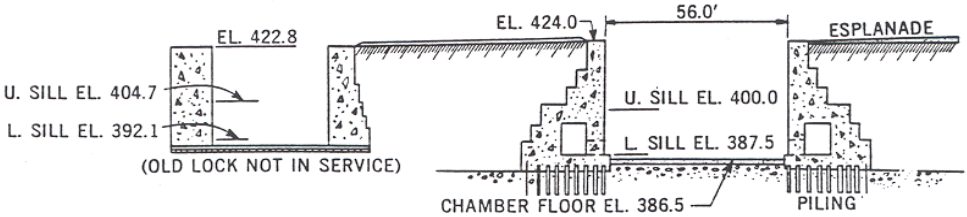
SECTION THRU DAM

SCALE IN FEET
0 30 60



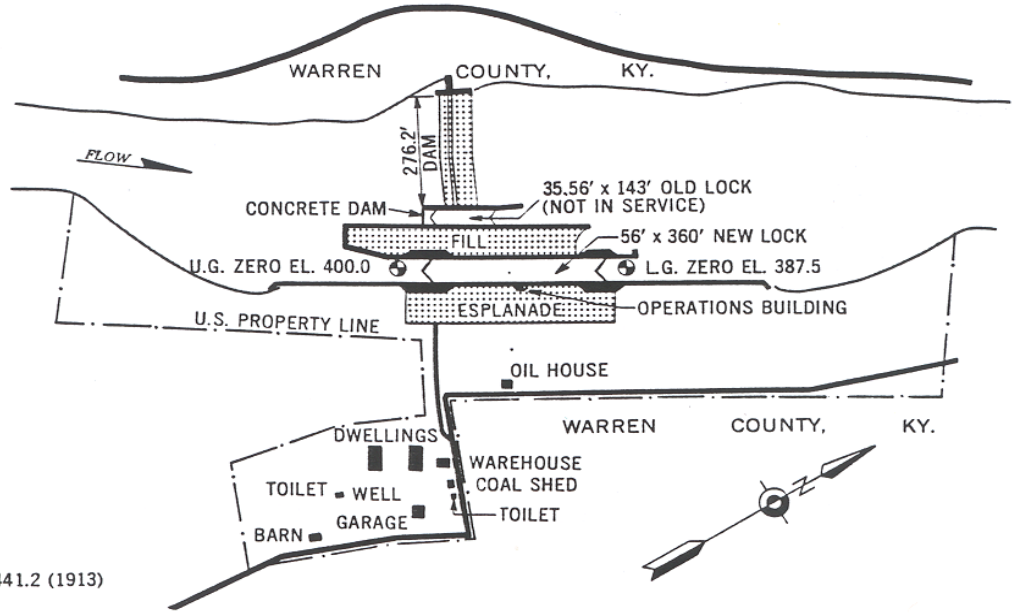
VICINITY MAP

SCALE IN MILES
0 10 20 30 40



SECTION THRU LOCK

SCALE IN FEET
0 30 60



MILE 15
MAX. H.W. 441.2 (1913)
U.P. 412.0
L.P. 396.8
LIFT 15.2

FIGURE 6.

PLAN

SCALE IN FEET
0 200 400

OLD LOCK AND DAM BUILT 1841
ACQUIRED BY U.S. GOV'T. FEB. 20, 1886
NEW LOCK BUILT 1933-1934
PUT IN OPERATION SEPT. 17, 1934
DEPTH ON UPPER MITER SILL 12.0'
DEPTH ON LOWER MITER SILL 9.3'
U.S. PROPERTY 20.1 ACRES (FEE)
8.0 ACRES (FLOWAGE EASEMENT)

NOTE: LOCK CLOSED TO NAVIGATION DUE TO LOSS OF POOL AT GREEN RIVER DAM NO. 4.

BARREN RIVER

LOCK & DAM NO. 1

LOUISVILLE, KY. DISTRICT
SCALES AS SHOWN
REVISED 30 SEPTEMBER 1978

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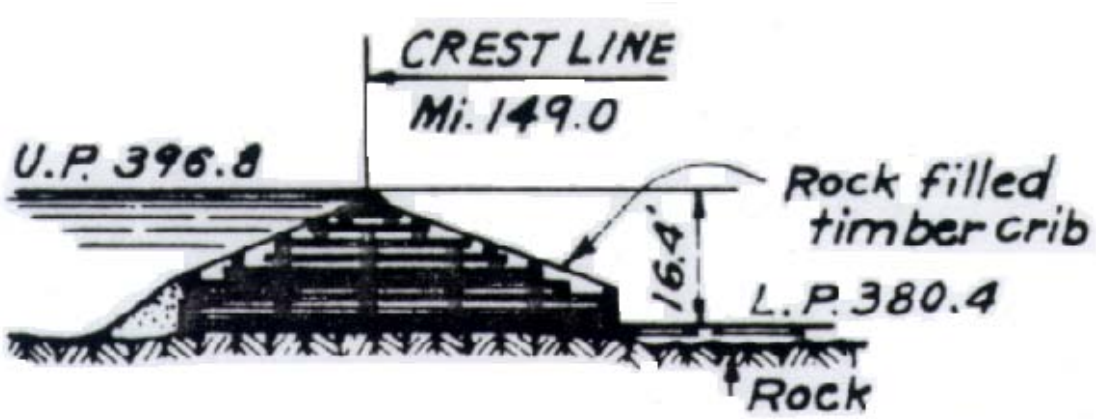
1983 Standards and Guidelines for Archeology and Historic Preservation. Federal Register Vol. 48, No. 190

SUMMARY OF HISTORY AND ARCHITECTURE OF GREEN RIVER LOCKS 3-6 AND BARREN RIVER LOCK 1, KENTUCKY



PROFILE OF TIMBER CRIB DAM AT GREEN RIVER LOCK NO. 4

U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ATTN: PM-P-E
P. O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059
TELEPHONE: (502) 582-5696
FAX: (502) 582-6734

JULY 2000

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6. AUTHOR(S) – Donald B. Ball			
7. PERFORMING ORGANIZATION NAME AND ADDRESS – U.S. Army Corps of Engineers, Louisville District, ATTN: PM-P-E, P.O. Box 59, Louisville, KY 40201-0059			8. PERFORMING ORGANIZATION REPORT NUMBER - None -
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			16. PRICE CODE N/A
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT - Unclassified	20. LIMITATION OF ABSTRACT

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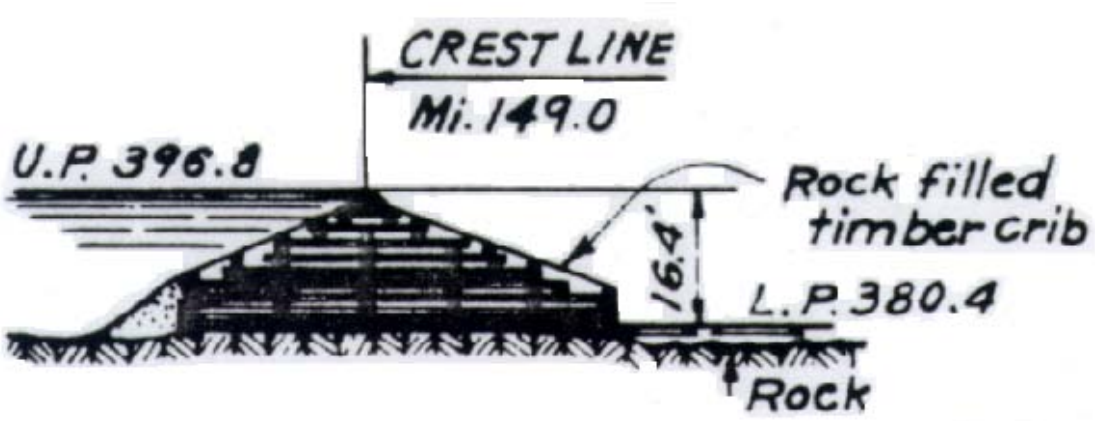
SUMMARY OF HISTORY AND ARCHITECTURE OF GREEN RIVER LOCKS 3-6 AND BARREN RIVER LOCK 1, KENTUCKY



PROFILE OF TIMBER CRIB DAM AT GREEN RIVER LOCK NO. 4

U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ATTN: PM-P-E
P. O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059
TELEPHONE: (502) 582-5696
FAX: (502) 582-6734

JULY 2000

SUMMARY OF HISTORY AND ARCHITECTURE OF GREEN RIVER LOCKS 3-6 AND BARREN RIVER LOCK 1, KENTUCKY

ABSTRACT

This study presents a synoptic history of the upper Green River navigation system and discussion of the remaining structures at these now derelict Government facilities in central Kentucky consisting of Lock and Dams No. 3-6 on the Green River and Lock and Dam No. 1 on the Barren River, a tributary. Only five standing structures currently remain and all are extensively deteriorated. Despite the deteriorated condition of these facilities, it is contended that they are eligible for listing in the National Register of Historic Places. Specific recommendations concerning future recordation efforts appear in this study.

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***ERRATA:**
The caption to Figure 30 (page 34) should read: "Downstream gate of Green River Lock and Dam No. 4." This figure should have appeared in Appendix B. We apologize for any inconvenience.

SUMMARY OF HISTORY AND ARCHITECTURE OF GREEN RIVER LOCKS 3-6 AND BARREN RIVER LOCK 1, KENTUCKY

I. INTRODUCTION

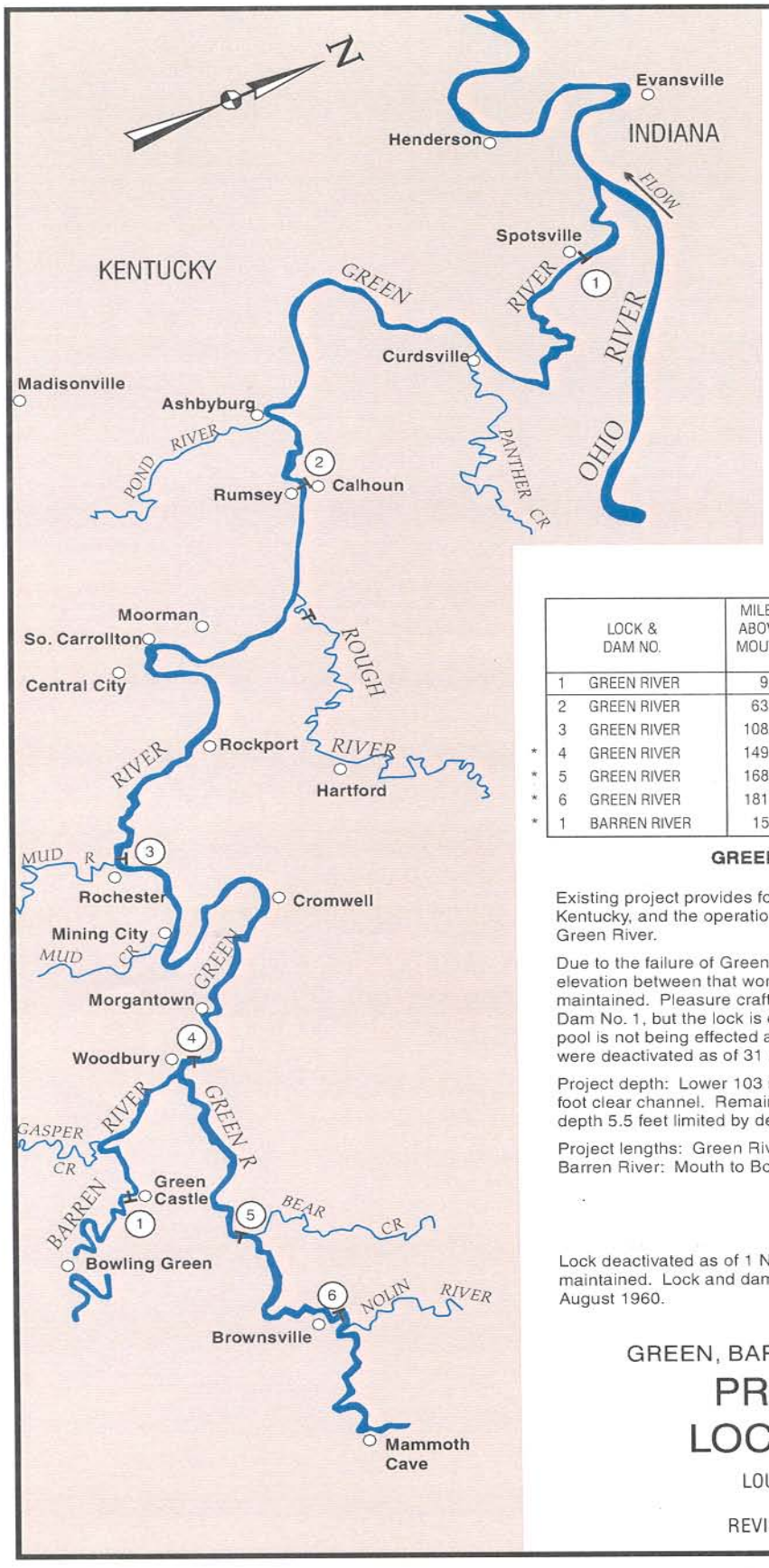
This study was undertaken in response to a request from the Kentucky State Historic Preservation Officer (SHPO) for information on the history and remaining structures at Green River Locks and Dams Nos. 3-6 and Barren River Lock and Dam No. 1 for the purpose of determining their eligibility for inclusion in the National Register of Historic Places prior to disposal of these properties by the U. S. Government. A total of eight locks and dams (**Table 1; Figure 1**) were at one time associated with the entirety of the Green River navigation system. At present, only Locks and Dams Nos. 1 and 2 are still operated.

These facilities have previously been examined for archaeological resources (Ball 1998). No prehistoric or early (pre-1950) historic sites were discovered and no further investigations of this nature are required.

TABLE 1. COMPONENTS OF GREEN RIVER NAVIGATION SYSTEM.

Lock and Dam	River Mile	Existing Lock Constructed	Existing Dam Constructed	Dam Type
Green River				
No. 1	9.1	1954-1956	1835-1840	Concrete capped timber crib
No. 2	63.1	1954-1956	1954-1956	Concrete
No. 3	108.5	1833-1836	1836	Timber crib
No. 4	149.0	1834-1839	1839	Timber crib
No. 5	168.1	1933-1934	1933-1934	Concrete
No. 6	181.7	1904-1905	1904-1905	Concrete capped wood pilings
Barren River				
No. 1	15.0	1933-1934	1841	Concrete capped timber crib
Rough River				
No. 1	7.0	1896	1896	Timber crib

Notes:
1. Green River Locks and Dams Nos. 1 and 2 still in operation.
2. Green River Lock and Dam No. 3 deactivated September 1981.
3. Green River Lock and Dam No. 4 closed 1965.
4. Green River Locks and Dams Nos. 5 and 6 deactivated August 31, 1951.
5. Barren River Lock and Dam No. 1 closed 1965 due to failure of Green River Lock and Dam No. 4. The original 1840's lock chamber remains extant though long rendered inoperable.
6. Rough River Lock and Dam No. 1 deactivated November 1, 1950; property deeded to City of Hartford, Kentucky, on August 3, 1960. Lock and dam have been demolished.



LEGEND

⊢ (53) Lock & Dam Number

STATUS

⊢ Completed

SCALE IN MILES
5 0 5

	LOCK & DAM NO.		MILES ABOVE MOUTH	LOCK WIDTH	LOCK LENGTH	TYPE OF DAM	POOL ELEVATION UPPER	POOL ELEVATION LOWER
	1	GREEN RIVER	9.1	84	600	FIXED	349.1	337.3
	2	GREEN RIVER	63.1	84	600	FIXED	363.4	349.1
	3	GREEN RIVER	108.5	35.8	137.5	FIXED	380.4	363.4
*	4	GREEN RIVER	149.0	35.8	138.0	FIXED	396.8	380.4
*	5	GREEN RIVER	168.1	56	360	FIXED	412.0	396.8
*	6	GREEN RIVER	181.7	36	145	FIXED	421.2	412.0
*	1	BARREN RIVER	15.0	56	360	FIXED	412.0	396.8

GREEN AND BARREN RIVERS

Existing project provides for slack water navigation to Bowling Green, Kentucky, and the operation and maintenance of two locks and dams on Green River.

Due to the failure of Green River Dam No. 4 in May 1965, normal pool elevation between that works and Barren River Dam No. 1 cannot be maintained. Pleasure craft may operate in the pool above Barren River Dam No. 1, but the lock is closed to navigation and maintenance of the pool is not being effected at this time. Locks No. 5 and 6 on Green River were deactivated as of 31 August 1951.

Project depth: Lower 103 miles Green River improved (1955) for nine foot clear channel. Remainder of Green River and Barren River project depth 5.5 feet limited by depth of water on existing miter sills.

Project lengths: Green River: Mouth to mouth of Barren River 150 miles. Barren River: Mouth to Bowling Green, Kentucky, 30.1 miles

ROUGH RIVER

Lock deactivated as of 1 November 1950 and project depth is no longer maintained. Lock and dam deeded to City of Hartford, Kentucky on 3 August 1960.

GREEN, BARREN & ROUGH RIVERS, KY.

PROJECT MAP
LOCKS AND DAM

LOUISVILLE, KY. DISTRICT
SCALE AS SHOWN
REVISED 30 SEPTEMBER 1995

II. GREEN RIVER NAVIGATION

Steam navigation on the Green River of central Kentucky began with the ascent of the river by the steamboat *McLean* and its arrival in Bowling Green in 1828[1]. In that same year, Kentucky established a Board of Internal Improvements which, in cooperation with the U. S. Army Corps of Engineers, initiated a series of topographic surveys oriented toward studying the feasibility of constructing a series of locks and dams along the Green and Barren rivers. In 1833, the state legislature authorized the recommended navigational improvements and construction work on Green River Locks and Dams Nos. 1 and 2 began shortly thereafter.

By 1835, the sites of Locks and Dams Nos. 1 and 2 on the Green River were under construction and the sites of Locks and Dams Nos. 3 and 4 on the Green River and Lock and Dam No. 1 on the Barren River had been selected. Despite construction setbacks caused by flooding during this period, by the early 1840s these efforts and the expenditure of $780,000 had resulted in the creation of a slack water navigational system affording a minimum depth of 6.0 feet (1.8 m) extending in excess of 175 miles (281.6 km) from the Ohio River upstream to Bowling Green, Kentucky (Johnson 1975:142). Notably, all of the dams associated with these locks were constructed of rock filled timber cribs with masonry abutments (ibid.).

During the Civil War, the Green and Barren river facilities were damaged and fell into disrepair. In 1868, the Kentucky legislature leased the navigation system to the newly formed Green and Barren River Navigation Company which undertook to repair the locks and dams (most notably Lock and Dam No. 3) and began charging tolls to those navigating on these rivers. Since company owned vessels paid no tolls, a *de facto* monopoly soon drove competing commercial shipping from these waters prompting a subsequent Federal investigation into company restraints on interstate commerce. Studies undertaken by the U.S. Army Corps of Engineers in 1879 reported to Congress that the tolls charged by the navigation company were excessive and by 1886 Congress approved a plan for the U. S. Government to purchase the navigational rights to the waterway for the sum of $135,000 in 1888. Soon thereafter, the dam at Lock No. 3, which had collapsed in 1887, was rebuilt and extensive snag removal was initiated. The system reopened in 1890 (Johnson 1975:143-144). From the mouth of the Green River to Lock and Dam No. 3, the Corps of Engineers maintained a 9½ ft (2.9 m) deep navigation channel; above Lock and Dam No. 3, this channel was reduced to but 5½ ft (1.7 m) (Anonymous 1965).

III. UPPER GREEN RIVER NAVIGATION FACILITIES

With the exception of some buildings at Lock and Dam No. 3, virtually all standing structures have been demolished at the upper Green River facilities (including Lock and

[1] The history of navigation on the Green River is discussed and documented in much greater detail in Crocker (1976); Greene (1898); Harralson (1981); and McClellan (1976). Navigation on the Green River has also been treated in a fictional account by Giles (1964).

Dam No. 1 on the Barren River). These facilities may be briefly described as follows.

Green River Lock and Dam No. 3 (see also Attachment A)

This facility is situated at river mile 108.5 in Ohio County, Kentucky (**Figures 2 and 3**). Originally constructed in the period 1833-1836, this property was acquired by the U. S. Government on February 4, 1895. Apart from the lock and dam, only three structures remain at this facility: (1) a single story brick house; (2) a sheet metal covered timber frame garage and work shed; and (3) a sheet metal covered timber frame office. All have been extensively vandalized and subjected to numerous flood episodes. The date of construction of the house is unknown but it may well have been standing at the time the facility was acquired by the Government. The two sheet metal covered buildings likely date to the mid-1930's.

The existing masonry lock was built in the period 1833-1836. The associated timber crib dam likely dates to the same time. Spanning 353 feet (107.6 meters) across the Green River, this timber crib dam is greatly deteriorated and was repaired prior to the facility's deactivation in September 1981 by dumping many tons of large limestone chucks along both faces. The dam is seldom visible except at times of extremely low water conditions.

Green River Lock and Dam No. 4 (see also Attachment B)

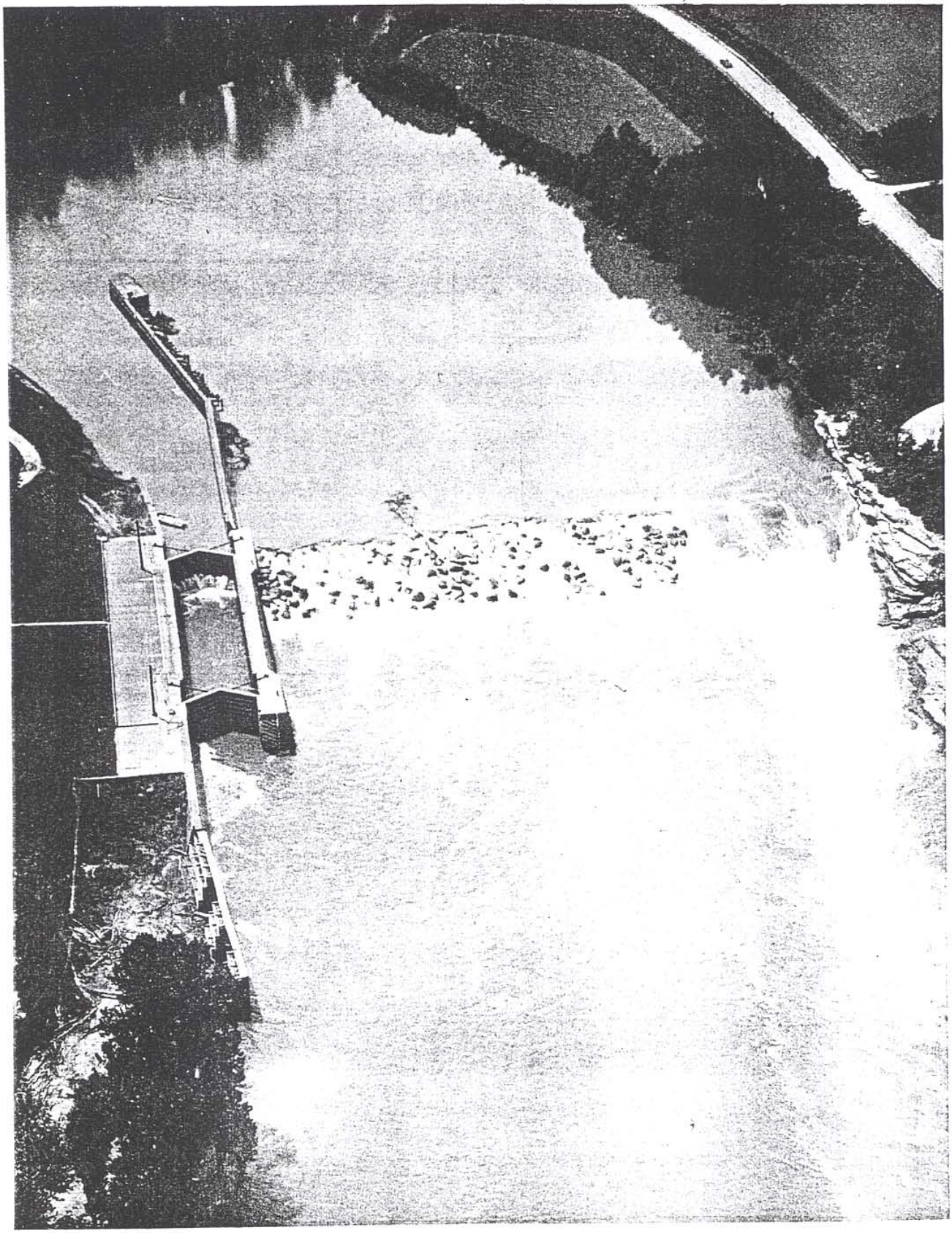
This facility is situated in the City of Woodbury at river mile 149.0 in Butler County, Kentucky (**Figures 4 and 5**). This facility was acquired by the U. S. Government on February 20, 1886. Although a number of structures associated with this facility are still standing (e.g., two houses, a pumphouse, a warehouse, and other support structures), all have been deeded to the City of Woodbury and none are presently owned by the Government. At this time, the U. S. Government owns only the lock and dam.

The lock at this property was constructed in the period 1834-1839. The now breached timber crib dam dates to the same period. The dam will be discussed below in greater detail.

Green River Lock and Dam No. 5 (see also Attachment C)

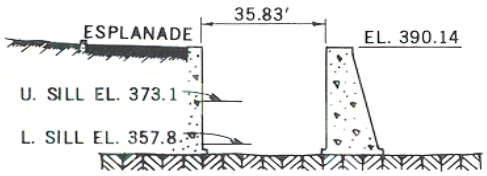
This facility is situated at river mile 168.1 in Butler County, Kentucky (**Figures 6 and 7**). The existing facility was constructed in the period 1933-1934 and replaced an older (and long demolished) lock about 0.2 mile downstream constructed ca. 1898-1899 and put in operation January 17, 1900. The only remaining remnant (the landward lock wall) of the earlier lock is located on U. S. Government property. All structures on this property have been demolished with the exception of a poured concrete control tower contemporary with the 1933-1934 lock. The exiting 1933-1934 lock (featuring a chamber of 56 x 360 feet) and dam (spanning 301 feet) are both of poured concrete construction. This facility was deactivated on August 31, 1951.

LOCK & DAM NO. 3, GREEN RIVER R/H 5



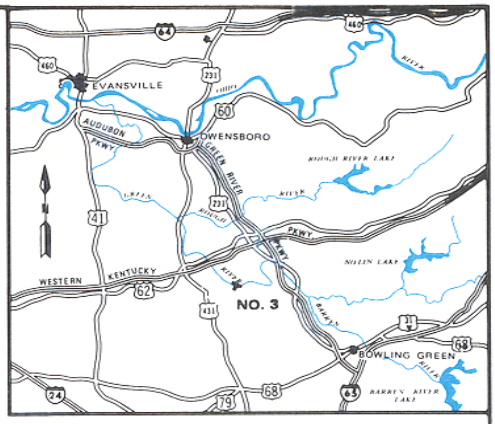
AERIAL VIEW OF PROJECT

GREEN RIVER R/H 5-2



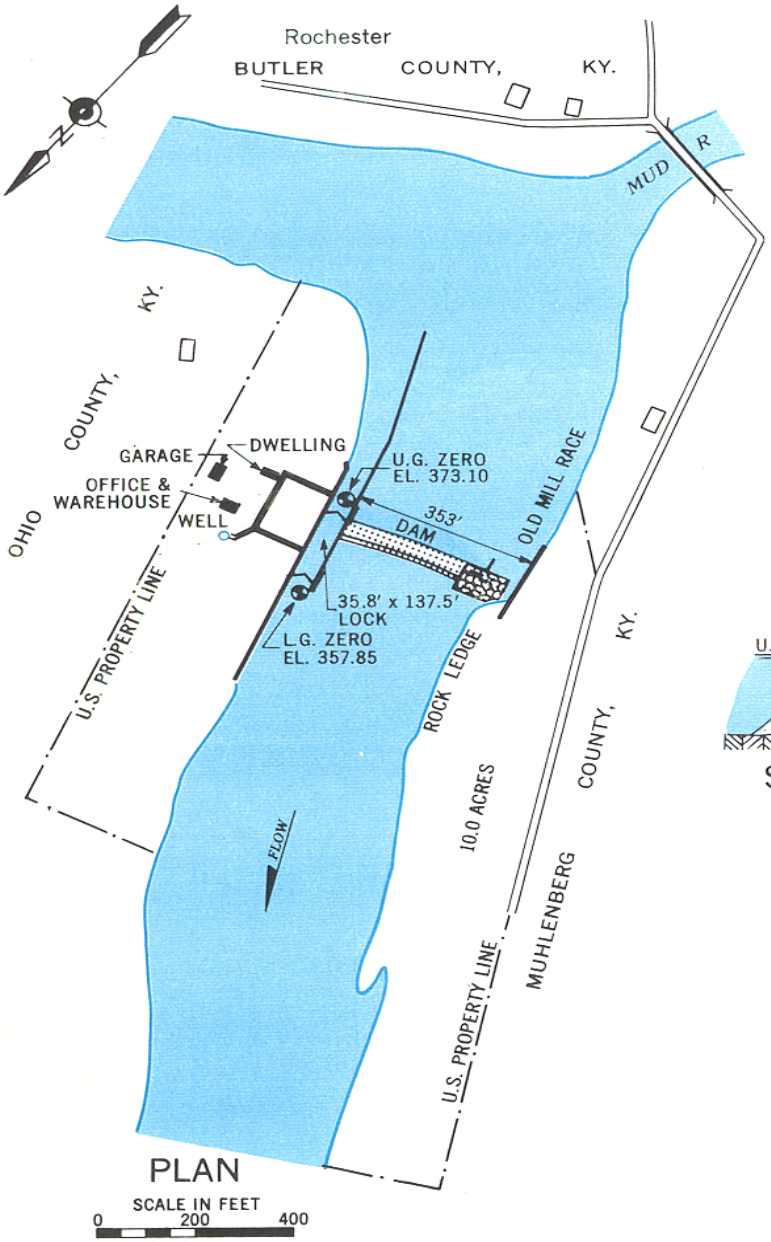
SECTION THRU LOCK

SCALE IN FEE.
0 30 60



VICINITY MAP

SCALE IN MILES
0 10 20 30 40

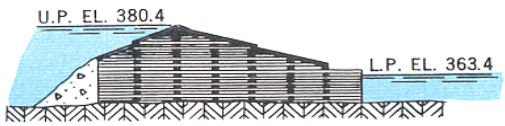


PLAN

SCALE IN FEET
0 200 400

MILE 108.5
H.W. 414.2 (1937)
U.P. 380.4
L.P. 363.4
LIFT 17.0'

BUILT 1833-1836
ACQUIRED BY U.S. GOV'T. FEB 4, 1895
DEPTH ON UPPER MITER SILL 7.3'
DEPTH ON LOWER MITER SILL 5.6'
U.S. PROPERTY 11.71 ACRES FEE,
5.01 ACRES PERMIT FOR FLOWAGE EASEMENT
LOCKING OPERATIONS WERE DISCONTINUED
IN SEPTEMBER 1981.



SECTION THRU DAM

SCALE IN FEET
0 30 60

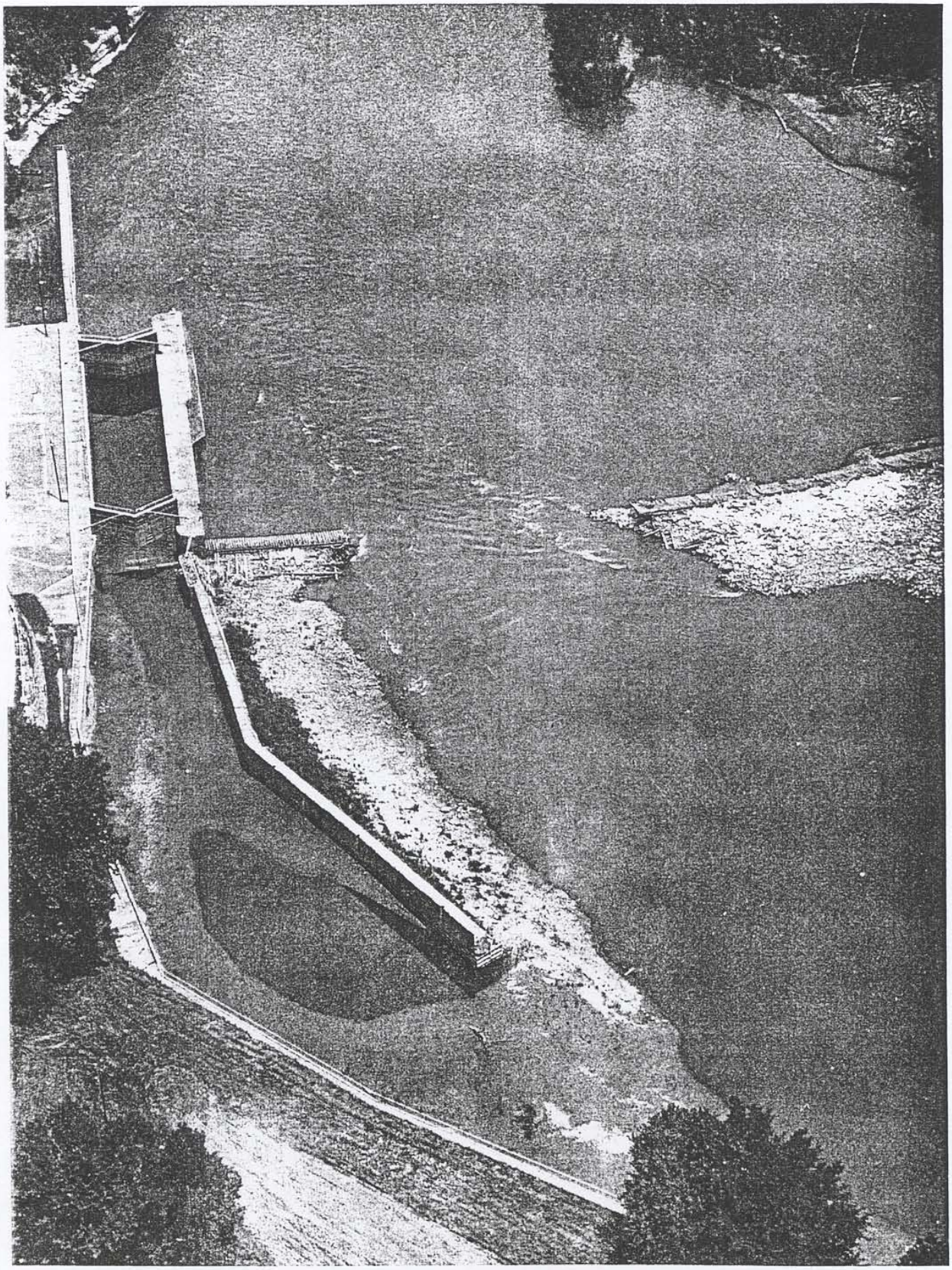
GREEN RIVER

LOCK & DAM NO. 3

LOUISVILLE, KY. DISTRICT

SCALES AS SHOWN

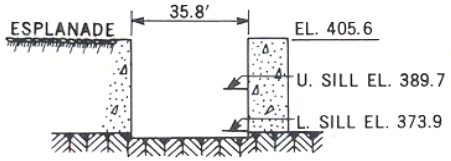
REVISED 30 SEPTEMBER 1995



2636

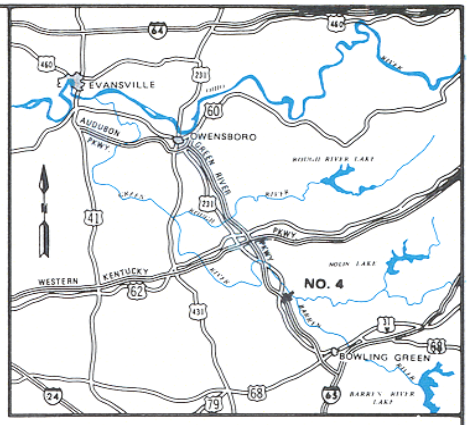
AERIAL VIEW OF PROJECT

GREEN RIVER R/H 6-2



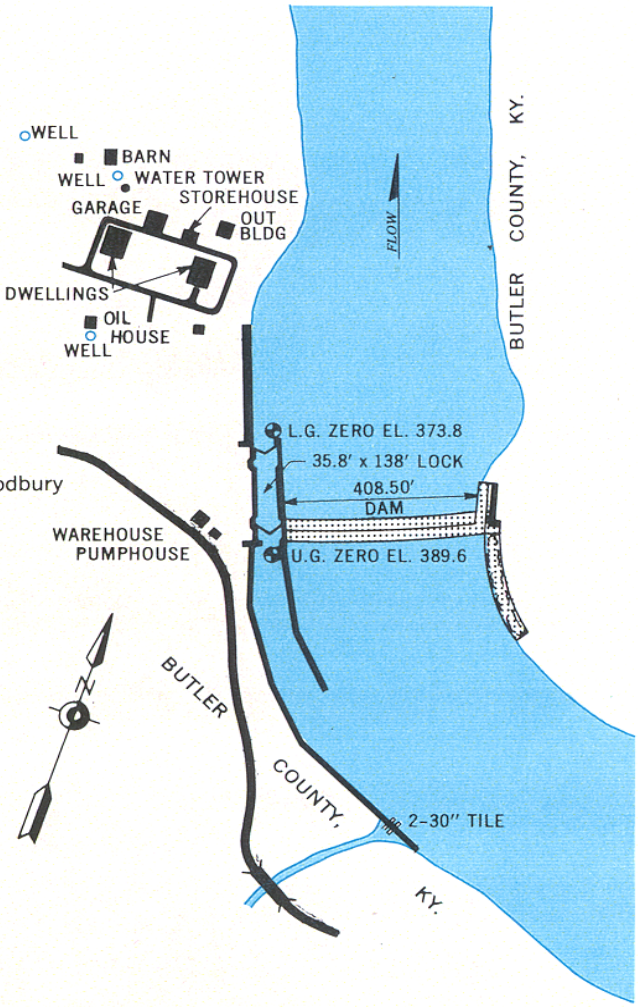
SECTION THRU LOCK

SCALE IN FEET
0 30 60



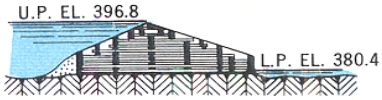
VICINITY MAP

SCALE IN MILES
0 10 20 30 40



PLAN

SCALE IN FEET
0 200 400



SECTION THRU DAM

SCALE IN FEET
0 30 60

MILE 149.0
H.W. 432.7 (1937)
U.P. 396.8
L.P. 380.4
LIFT 16.4'

BUILT 1834-1839
ACQUIRED BY U.S. GOV'T FEB 20, 1886
DEPTH ON UPPER MITER SILL 7.1'
DEPTH ON LOWER MITER SILL 6.5'
U.S. PROPERTY 0.01 ACRES (FEE)
6.27 ACRES (FLOWAGE EASEMENT)
6.62 ACRES (EASEMENT OTHER)
DAM WAS BREACHED 24 MAY 1965
LOCK CLOSED TO TRAFFIC
POOL NOT MAINTAINED
PROPERTY HAS BEEN DEEDED TO CITY
OF WOODBURY WITH ALL BUILDINGS.
(LOCK AND LOCKWALLS REMAIN U.S. PROPERTY)

GREEN RIVER

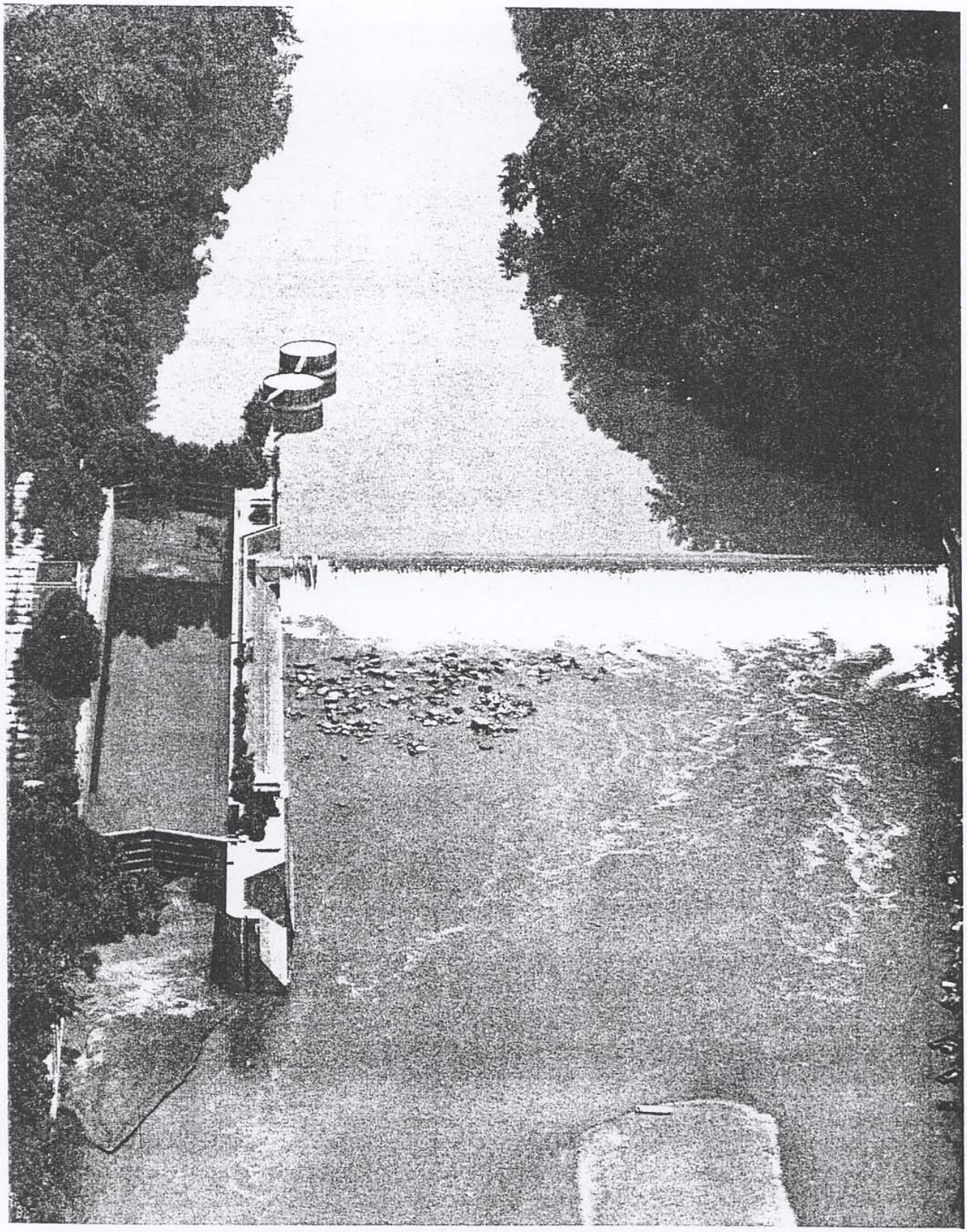
LOCK & DAM NO. 4

LOUISVILLE, KY. DISTRICT

SCALES AS SHOWN

REVISED 30 SEPTEMBER 1995

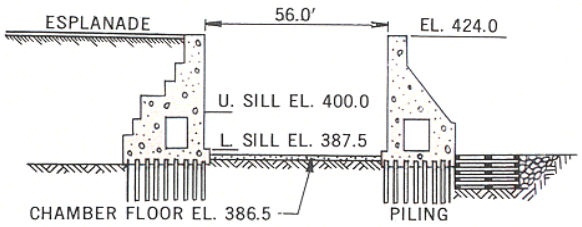
LOCK & DAM NO. 5 , GREEN RIVER R/H 7



AERIAL VIEW OF PROJECT

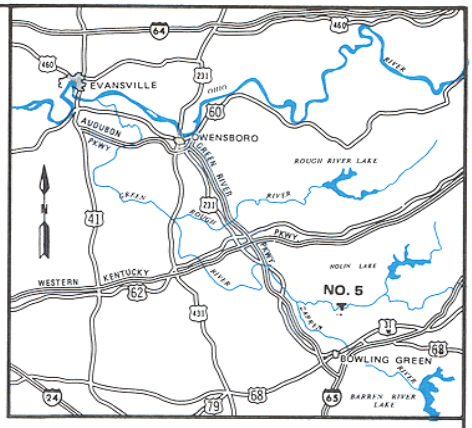
2635

GREEN RIVER R/H 7-2



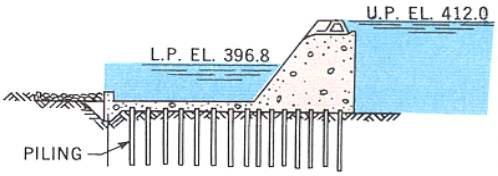
SECTION THRU LOCK

SCALE IN FEET
0 30 60



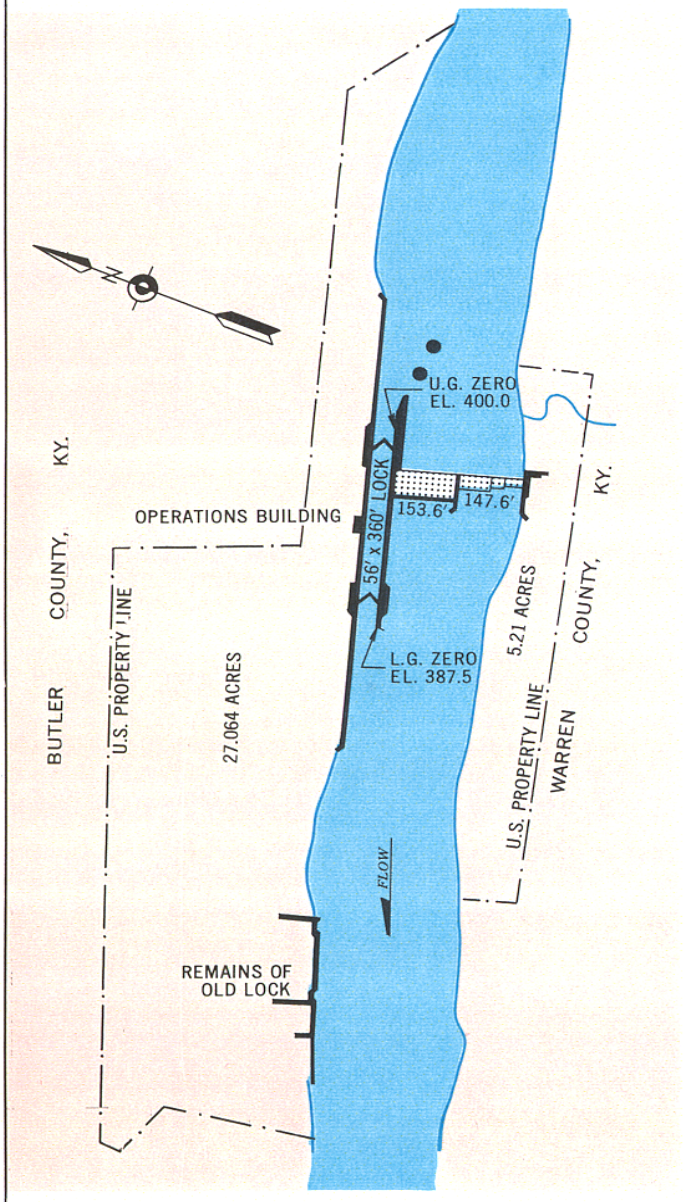
VICINITY MAP

SCALE IN MILES
0 10 20 30 40



SECTION THRU DAM

SCALE IN FEET
0 30 60



PLAN

SCALE IN FEET
0 200 400

MILE 168.1
H.W. 447.7 (1937)
U.P. 412.0
L.P. 396.8
LIFT 15.2'

OLD LOCK PUT IN OPERATION JAN. 17, 1900
NEW LOCK AND DAM BUILT 1933-1934
OLD LOCK AND DAM REMOVED 1934
NEW LOCK PUT IN OPERATION DEC. 22, 1934
DEPTH ON UPPER MITER SILL 12.0'
DEPTH ON LOWER MITER SILL 9.3'
U.S. PROPERTY 32.27 ACRES (FEE)
12.94 ACRES (FLOWAGE EASEMENT)
DEACTIVATED 31 AUG. 1951

NOTE:
32.27 ACRES INCLUDES 1.898 ACRES
IN ROAD AREA NOT SHOWN ON THIS MAP.

GREEN RIVER

LOCK & DAM NO. 5

LOUISVILLE, KY. DISTRICT

SCALES AS SHOWN

REVISED 30 SEPTEMBER 1980

Green River Lock and Dam No. 6 (see also Attachment D)

Situated at river mile 181.7 in Edmonson County, Kentucky (**Figures 8 and 9**), this facility was constructed in the period 1904-1905. All structures on this property have been demolished. The lock (featuring a chamber of 36 x 145 feet) and dam (spanning 220 feet) are both of poured concrete construction. This facility was deactivated on August 31, 1951.

Barren River Lock and Dam No. 1 (see also Attachment E)

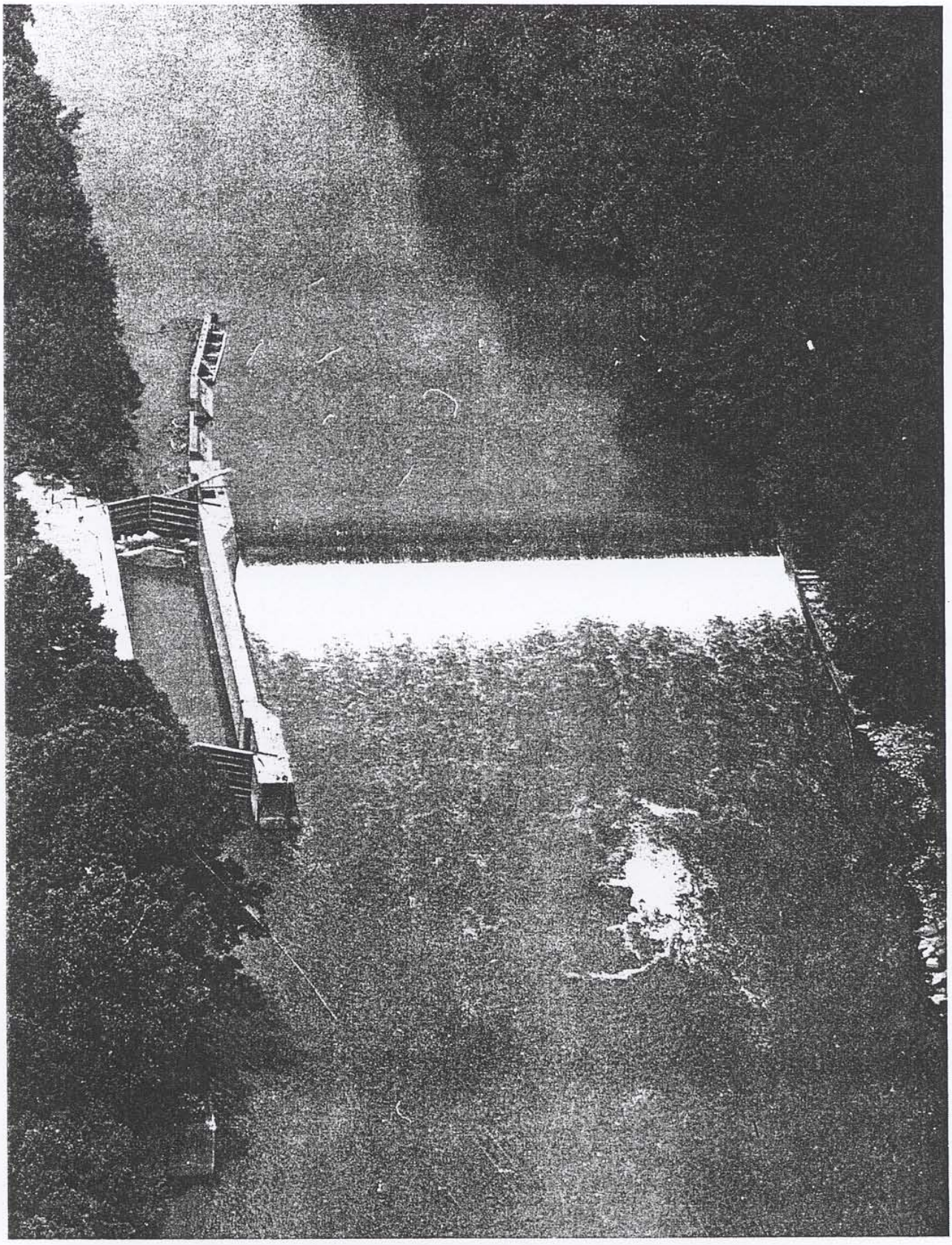
Situated at river mile 15.0 on the Barren River in Warren County, Kentucky (**Figures 10 and 11**), this facility was constructed in 1841. With the exception of a poured concrete control tower standing immediately adjacent to the lock chamber, all structures at this facility have been demolished. The lock (featuring a chamber of 56 x 360 feet) is of poured concrete construction and was built in the period 1933-1934. It was placed into service on September 17, 1934. At the time the new lock was constructed, the original 1841 masonry lock (with a chamber of 35.56 x 143 feet) was sealed at the upstream end and is yet intact. The dam (spanning just over 276 feet) is of timber crib construction though it was capped with concrete at the time the new lock was built. The dam abuts on the opposing bank to a point near the substantial masonry remnants of a 19th mill. These ruins are situated on private property and are not owned by the U. S. Government. This lock was closed in May of 1965 as a consequence of the failure of the dam at Green River Lock No. 3.

IV. TIMBER CRIB DAMS

The practice of constructing dams as a means of harnessing stream flow certainly dates to antiquity in many regions of the world. Though such structures are typically associated with the impoundment of water for the operation of grist and other types of mills (e.g., lumber and textile), they are also constructed for other purposes such as navigation, flood control, irrigation, and the creation of reservoirs. But a sampling of the diverse literature on mills and various impoundment devices includes the following sources: Cobb (1978); Council (1983; 1984); Coy et al. (1991): Espenshade and Gardner (1989); Garber (1970); Jackson (1990); Jeane (1981): Leffel (1881); Macauley (1983); McBride et al. (1988); McCoy (1980); Miller (1992); Newman (1984); Pusey (1931); Reed et al. (1994); Smith and Castille (1986); Starbuck (1990a; 1990b); Suggs (1990); Wegmann (1927); Zimiles and Zimiles (1973).

The methods and materials employed in the building of dams have varied widely dependent upon the availability of both labor and materials suitable for the purpose at hand (see **Figures 12**). Of present interest are the timber crib dams associated with the navigational facilities constructed on the upper Green River.

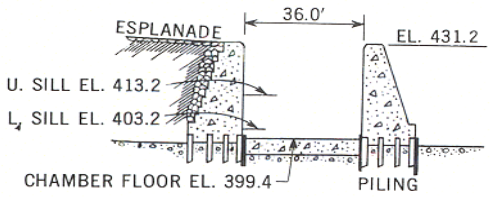
LOCK & DAM NO. 6, GREEN RIVER R/H 8



2634

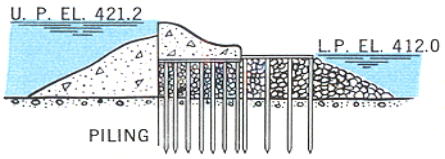
AERIAL VIEW OF PROJECT

GREEN RIVER R/H 8-2



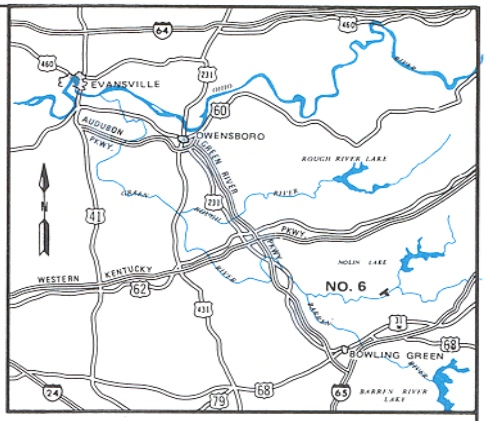
SECTION THRU LOCK

SCALE IN FEET
0 30 60



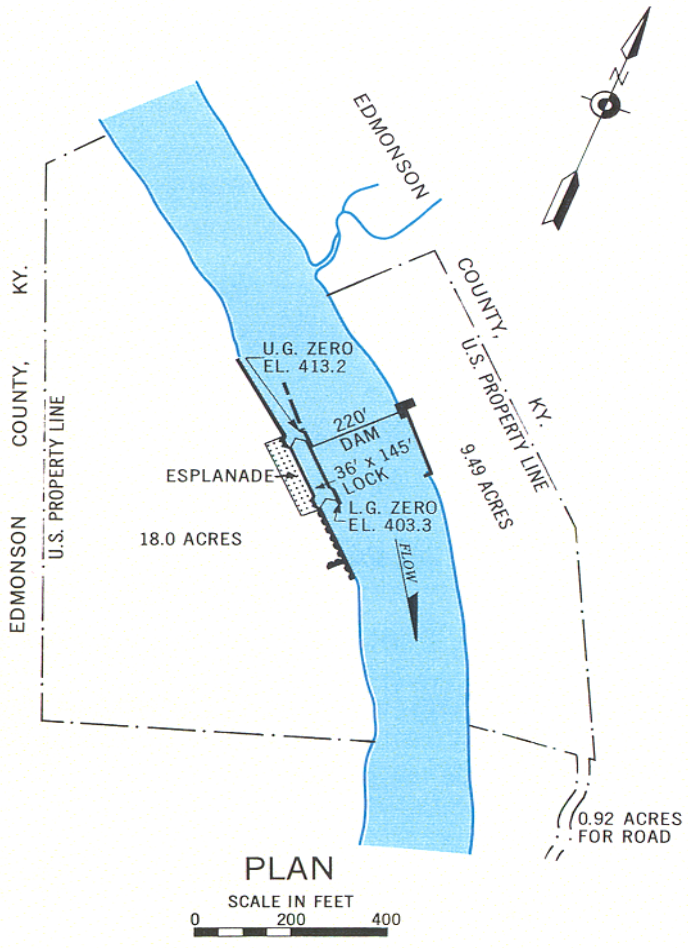
SECTION THRU DAM

SCALE IN FEET
0 30 60



VICINITY MAP

SCALE IN MILES
0 10 20 30 40



PLAN

SCALE IN FEET
0 200 400

MILE 181.7
H.W. 458.1 (1937)
U.P. 421.2
L.P. 412.0
LIFT 9.2'

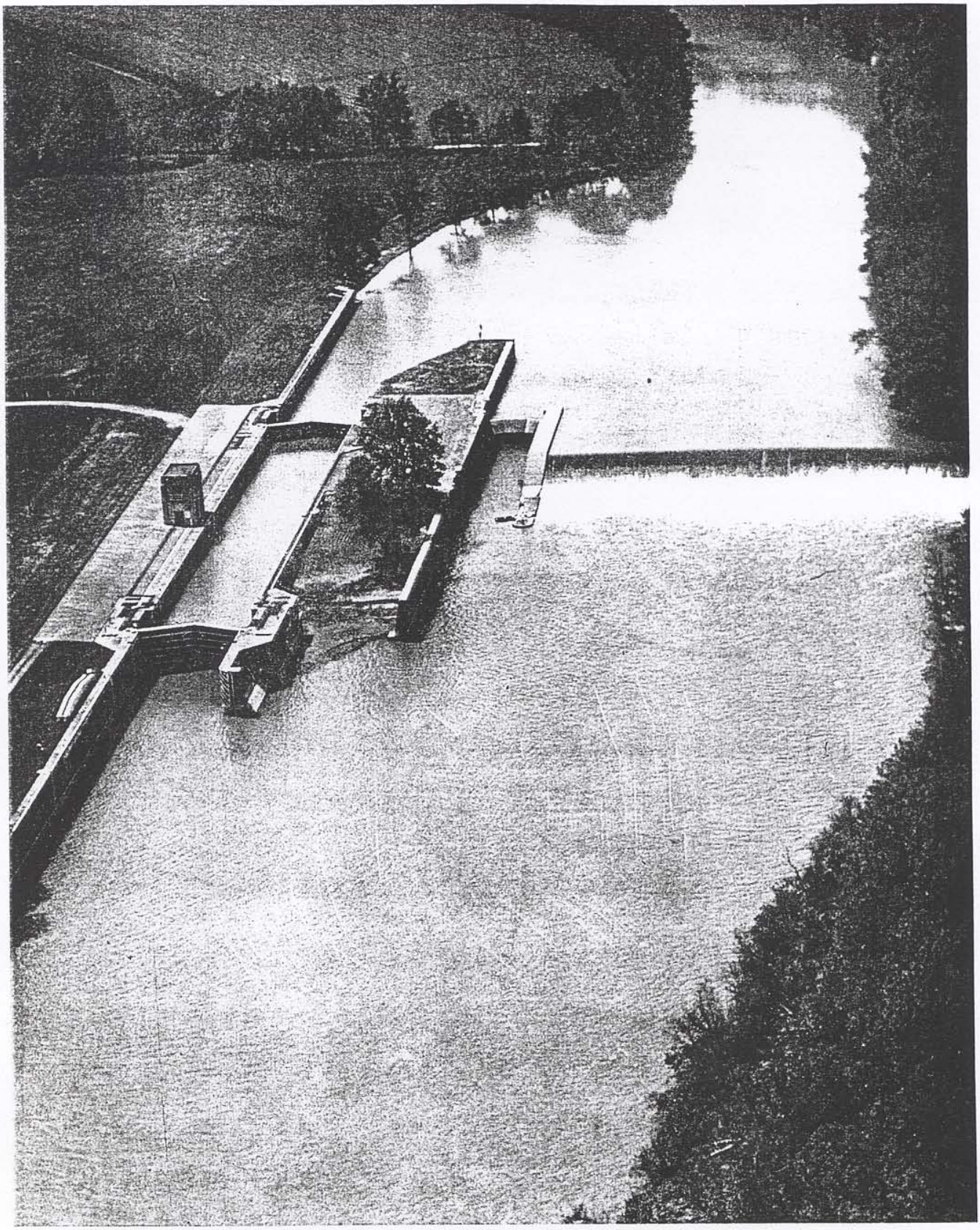
BUILT 1904-1905
PUT IN OPERATION JAN. 1, 1906
DEPTH ON UPPER MITER SILL 8.04'
DEPTH ON LOWER MITER SILL 8.83'
U.S. PROPERTY 28.41 ACRES FEE
DEACTIVATED 31 AUG. 1951

GREEN RIVER

LOCK & DAM NO. 6

LOUISVILLE, KY. DISTRICT
SCALES AS SHOWN
REVISED 30 SEPTEMBER 1980

LOCK & DAM NO. 1, BARREN RIVER R/H 9



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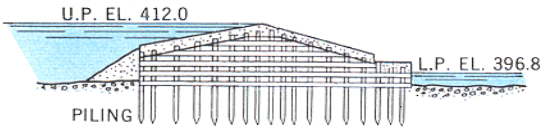
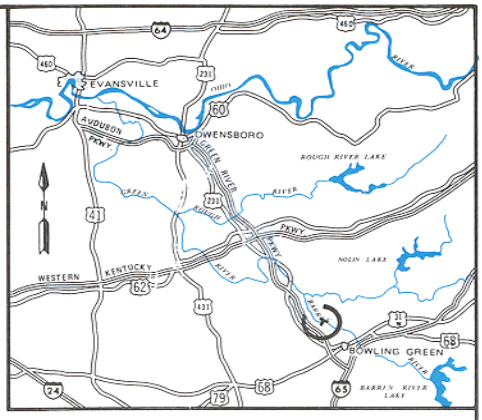
AERIAL VIEW OF PROJECT

BARREN RIVER R/H 9-2



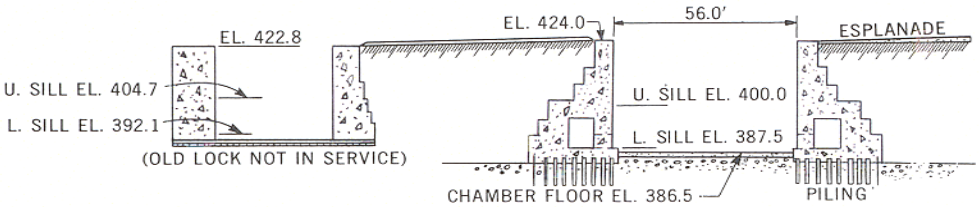
SECTION THRU DAM

SCALE IN FEET
0 30 60



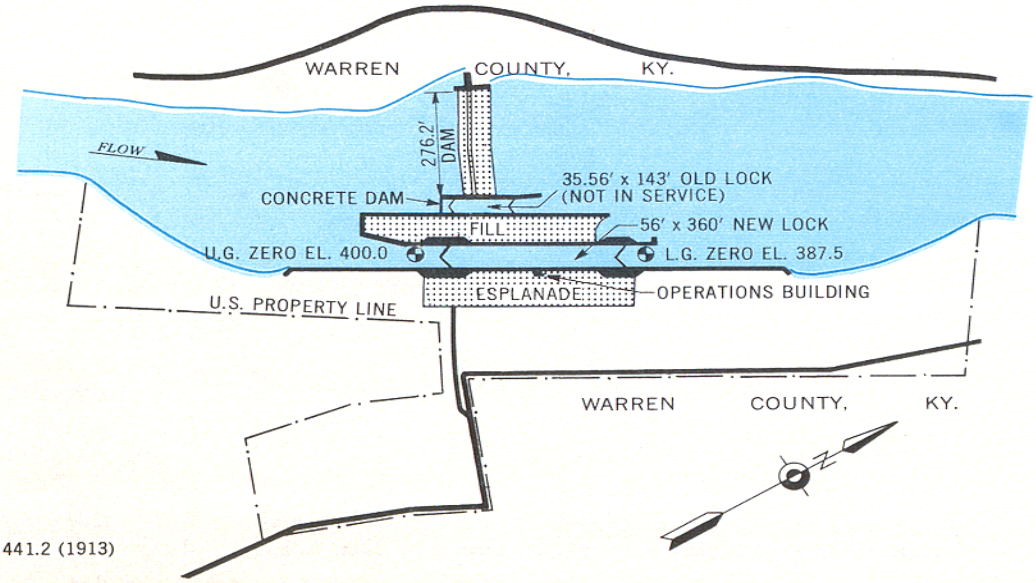
VICINITY MAP

SCALE IN MILES
0 10 20 30 40



SECTION THRU LOCK

SCALE IN FEET
0 30 60



MILE 15
MAX. H.W. 441.2 (1913)
U.P. 412.0
L.P. 396.8
LIFT 15.2

PLAN

SCALE IN FEET
0 200 400

OLD LOCK AND DAM BUILT 1841
ACQUIRED BY U.S. GOV'T. FEB. 20, 1886
NEW LOCK BUILT 1933-1934
PUT IN OPERATION SEPT. 17, 1934
DEPTH ON UPPER MITER SILL 12.0'
DEPTH ON LOWER MITER SILL 9.3'
U.S. PROPERTY 20.1 ACRES (FEE)
8.0 ACRES (FLOWAGE EASEMENT)

NOTE: LOCK CLOSED TO NAVIGATION DUE TO LOSS OF POOL AT GREEN RIVER DAM NO. 4.

BARREN RIVER

LOCK & DAM NO. 1

LOUISVILLE, KY. DISTRICT
SCALES AS SHOWN
REVISED 30 SEPTEMBER 1978

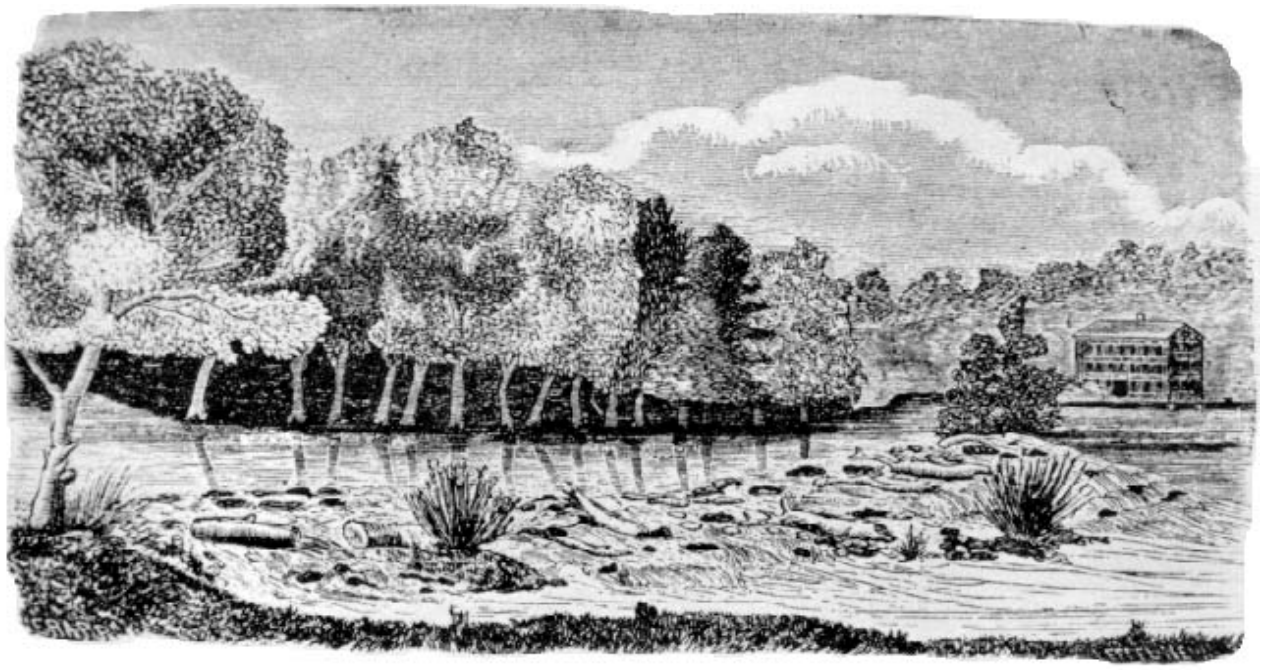


FIGURE 12. BRUSH, STONE, AND GRAVEL DAM
(reproduced from Leffel 1881:45).

Along the Green River system, the dams associated with the various locks are representative of several diverse construction methods (cf. Table 1). Among those built of timber, the dams at Green River Lock No. 1 and Barren River Lock No. 1 were capped with concrete. The dam at Rough River Lock No. 1 has been demolished. Though the dam at Green River Lock No. 3 is yet intact, it was repaired by the placement of many tons of large blocks of limestone (some the size of small automobiles) and is rarely visible except during periods of exceptionally low water conditions. Accordingly, the remnants at Lock No. 4 in the community of Woodbury in Butler County, Kentucky, are the only such remains both readily accessible for examination and affording the opportunity to view its method of construction.

Timber crib dams were constructed in several divergent forms. Likely one of the more commonplace varieties was the ramp type (Figure 13). The construction of ramp type timber crib dams is discussed in greater detail in Leffel (1881) and Macauley (1983:31-33). Another form, apparently used for purely temporary purposes, was configured like a straight walled log structure (Figures 14 and 15). One of the more interesting examples of this type (see Figure 8) was used in effect as a slash dam to facilitate moving a flotilla of Union gunboats during the Civil War (Smith and Castille 1986).

A third type – and applicable to several of the facilities discussed herein – was of more substantial construction and in profile resembled an inverted, broad based “V”. This latter form was best suited for larger scale industrial and navigational applications. Notable examples of this type of timber crib dam include one spanning in excess of 500 ft (152

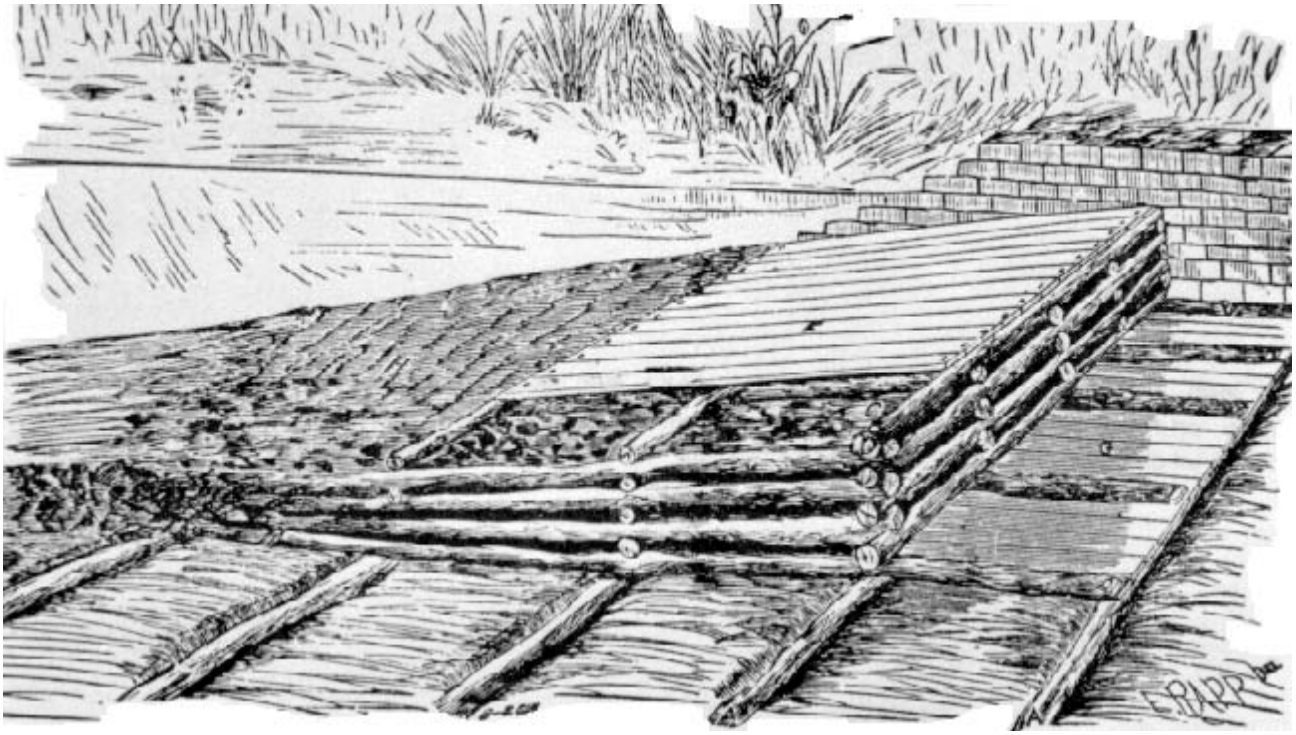


FIGURE 13. RAMP TYPE TIMBER CRIB DAM (reproduced from Leffel 1881:12).

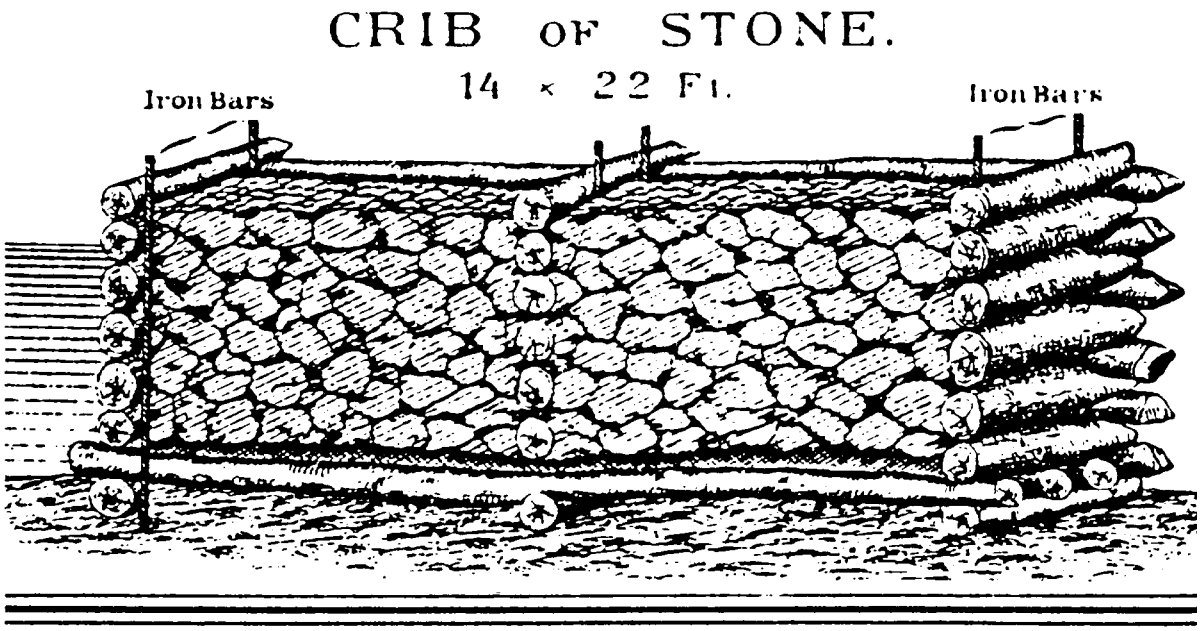


FIGURE 14. DRAWING OF CIVIL WAR ERA CRIB DAM SECTION SUBMITTED WITH COLONEL BAILEY'S REPORT (reproduced from U.S. War Department 1891-1895: Plate 53-3).

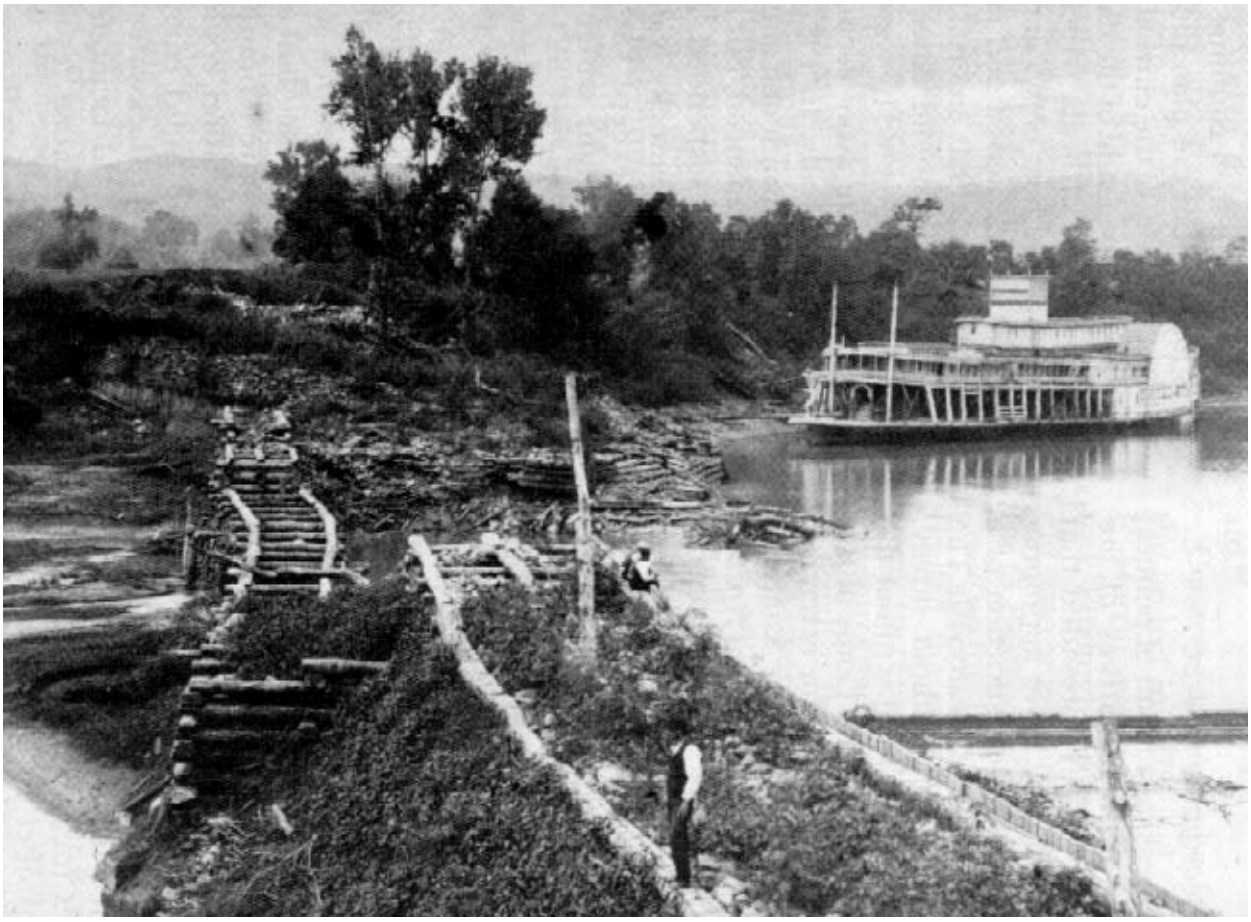


FIGURE 15. TIMBER CRIBS USED TO REPAIR BREACH IN LOCK AND DAM NO. 1 ON THE KENTUCKY RIVER IN 1883 (reproduced from Johnson 1975:150).

m) across the Salt river near Phoenix, Arizona, built in the 1890s (Jackson 1988:246-247), the Canyon Ferry Dam built across the Missouri River in Montana in 1898 which spanned 485 ft (148 m) and stood 29 ft (8.8 m) high (Wegmann 1927:293), and the Sewell's Fall Dam constructed between 1892-1894 across the Merrimack River in Concord, New Hampshire, which spanned 497 ft (151.5 m) and stood 22 ft (6.7 m) high (Starbuck 1990b). Indeed, a timber crib dam was utilized in 1889 to impound the water which powered one of the first hydroelectric plants in the nation constructed on the Wilamette River at Oregon City, Oregon (Condit 1969:165). Despite the relative importance of their applications, with rare exception such dams are effectively unknown in the regional archaeological and molinological literature. In the summer of 1998, the well preserved NE-SW oriented foundational remnants of a rock filled timber crib dam were observed in the community of East Laport in Jackson County, (western) North Carolina, at or near stream mile 45.85 on the Tuckasegee River. Spanning the river bed for a distance of ca. 70 feet (21.3 meters), this likely ramp type example is immediately adjacent to and readily visible from Highway 107 (cf. USGS 7.5' "Sylva East, N.C." quadrangle, 1946, photorevised 1990). A presently closed (and likely non- contemporary) single story frame commercial structure situated on the right (eastern) bank of the river

and elevated on its riverward side by an earth filled stone retaining wall suggests that the dam was originally associated with a milling operation.

For present purposes, it is fortunate that one of the rare early descriptions of these structures is an account of the construction of a timber crib dam associated with the Stedman mill complex along the reaches of Elkhorn Creek near Frankfort, Kentucky. Upon acquiring this facility in 1833, the Stedman brothers were confronted with replacing a dam destroyed by flooding three years before. To this end, the brothers hired Presly Neal, described as:

> …a Kind of Rough Carpenter. So we imployed him as a Kind of boss in Building the dam. He said he had put up sevral Dams. He told us of the Best hands in The neighborhood that we could get at Fifty Cnts per day & Found. We made arrangement with Him to Be down the next Monday to commence Getting timbers For the dam.
>
> The Next Morning all hands went to the woods. We hired Two hands to Cut down trees & two to Saw them of & help load the waggon. …The Streight oak timber Stood Thick then. We Soon had to imploy another waggon, as one Could Not keep up as fast as we Cut the logs. We worked the week out & Satturday after Sundown Started home...
>
> The nex week we Continued Cutting & Hauling logs. We increased the Number of Hands this week in digging out the Foundation For the dam. The old dam Being out so long, Thare was a Bank of Gravvel on this Side Six ft. Deep that had to Be Removed Before we Could Commence Building the dam. This & Removing the old dam was a task near half as much work as Building a new dam. The Third week we had Thirty men imployed. All the neighbors began to Believe we ware in Earnest. Piles of logs acumilated. The old dam was Removed. Evrything went along S[m]oothly & Fortune Seemed to Smile on our undertaking.
>
> The 4th week we Commenced putting in the Mill dam. We put in Round logs notched into the ties & as we Raised the dam it had to Be filled up with Stone. We hired two Carts from Frankfort, one From old Man Goin-Sanford, his son, as driver. He was Then quite young & a first Rate hand. The other Belong to old Harry Mordica the plasturer. We now Exceeding anxious to finish Before the cold weather Set in or a Rise in The Creek. It Frequent Rained near Evry week ondly Enough to Stop us from work a few hours At a time. By the middle of October we had the dam Seven Feet high & all Filled in & Secured so That it woold Be Safe till the next Summer (original spelling and grammar retained; Hockensmith 1998:85-86).

It is reported that the Stedman brothers had to rebuild the dam several times in the following years due to floods. In 1857, it is known that it cost $4,000 to completely replace the dam (ibid.:86).

V. DAM AT GREEN RIVER LOCK NO. 4

The timber crib dam at Lock and Dam No. 4 was constructed in 1839 adjacent to a masonry lock chamber as an integral component of this navigational facility. While it is known that repairs were undertaken along the entire Green River navigation system as it existed at the time of acquisition by the U. S. Government in the 1880's, it is not reported if the dam at Lock No. 4 was rebuilt or simply repaired as needed. In all likelihood, this component of the facility was simply repaired. Though a concrete abutment had been installed along the right bank terminus (likely in the 1930's), the dam had not been substantially altered since it was built and had long received minimal maintenance. Indeed, some of the last lock workers assigned to this facility reported that leaks were routinely sealed by the expedient method of packing bales of hay into the cracks in the dam. The failure (breach) of this 126 year old structure on May 24, 1965, in concert with declining river traffic on the upper Green River, resulted in the permanent closure of this portion of the waterway (including Barren River Lock No. 1) to commercial traffic (Anonymous 1965; Johnson 1975:243).

An examination of a scaled profile drawing of the dam prepared by the U. S. Army Corps of Engineers (**Figure 16**) and visual inspection of the remnants of this facility served to provide a number of insights into the configuration and construction of this type of once commonplace impoundment device. Spanning 408 ft (124.4 m), the dam rose to a height of 16.4 ft (5.0 m) above the bed of the river. As viewed along its upstream-downstream profile, the interlocking cribs forming the basal portion of the dam measured approximately 49 ft (14.9 m) and rose to a height of about 6.6 ft (2.0 m). Resting atop and centered upon this foundation was a generally pyramid shaped crown extending upward another 9.8 ft (3.0 m).

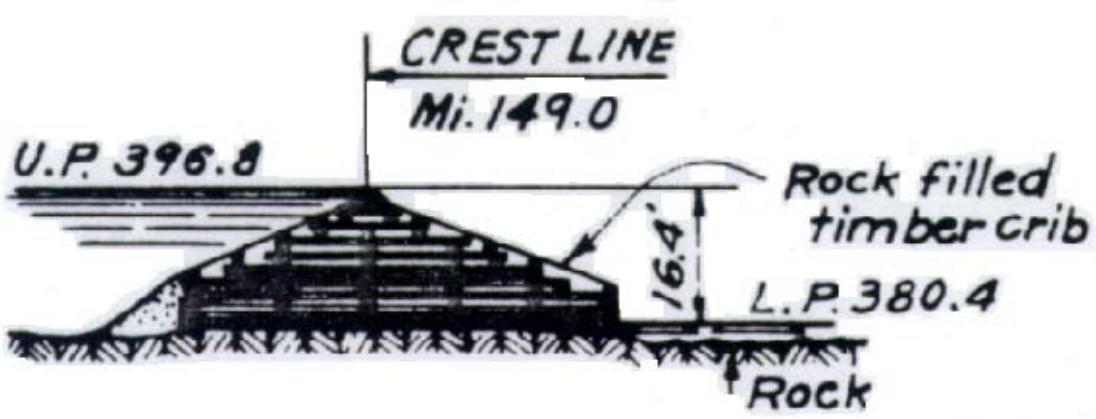


FIGURE 16. PROFILE OF GREEN RIVER DAM NO. 4.

In simple terms, the basic construction of the dam is best described as a series of small, interlocking log cabins. Accessible beams yet in a reasonable state of preservation were of two sizes. The smaller beams measured 8 x 8 in (20 x 20 cm) while the larger beams measured 9 x 15 in (23 x 38 cm). Though it was not possible to determine the length of these elements, the visible portion of one beam near the existing waterline was

at least 30 ft (9.1 m) in length. The type(s) of wood used for these beams is not known. Two individual pens were sufficiently accessible to measure. As facing across the river, the interior dimensions of the smaller pen measured 8.75 x 6.5 ft (2.67 x 1.98 m). The larger pen measured 8.5 x 8.33 ft (2.59 x 2.54 m).

The sloping sides of the dam (see **Figures 17-18; see also Figure 4)** were originally covered with a plank apron, a feature typical of such construction. Though the existing profile (**Figure 19**) of the dam is too deteriorated to show construction details, the rounded appearance of the remaining crib remnants generally conforms to the engineering profile's pyramidal configuration. In marked contrast to classic log structure construction methods, no evidence was observed of any form of corner notching. Rather, all beams appeared to have square cut ends and were held together with at least two sizes of large spikes (retaining pins). The smaller – and more commonplace – spikes measured 30 in (67.5 cm) in length and 0.75 in (3.4 cm) in diameter (**Figure 20**). The longer spikes measured 36 in (91 cm) in length and exhibited a square cross section measuring 0.75 in (1.9 cm) on the side.

The cross section of the resultant dam (**Figure 21**) created a structure occupying some 563.5 ft^2 (52.37 m^2). This figure times the span of the dam (408 ft/124.36 m) reveals that this structure contained approximately 229,900 ft^3 (6,500 m^3) of rock fill. An inspection of the portion of the dam adjacent to the lock indicates that two types of rock were used. The interior fill appeared to be now much weathered sandstone capped by a thinner veneer of limestone. This suggests that the interior fill was placed at the time of initial construction while the limestone may have been added at the time various repairs were undertaken in the 1880s.

Aside from damage caused by floods, as exemplified by the dam at Lock No. 4 age and decay were the greatest destructive forces leading to the failure of timber crib dams. Within the context of the Green River navigational system, this venerable structure remained in use for many years after it had already become an outdated relic of an earlier age. In addition to being threatened by the ongoing effects of deterioration, there is an increasing effort on the part of environmental interests to demolish old dams for the purpose of restoring stream flow to facilitate the unrestricted movement of fish (cf. Watson 2000). Beyond its engineering significance, in a larger sense the remnants of this now abandoned and deteriorated dam are symbolic of the era in which America consumed almost unbelievable quantities of wood for a vast variety of purposes including household and farmstead implements (Clarke and Kohn 1976; Sloane 1965), log structures (Glassie 1968), barns (Ensminger 1992), rail fences (Zelinski 1959), covered bridges (American Society of Civil Engineers 1976), charcoal (Rolando 1992), and many other applications.

FIGURE 17. VIEW LOOKING UPSTREAM - GREEN RIVER DAM NO. 4 AS IT APPEARED ON JUNE 1, 1965, AFTER FAILING ON MAY 24, 1965. NOTE INTACT APRON ON DOWNSTREAM SIDE.

FIGURE 18. VIEW LOOKING DOWNSTREAM OF FAILED GREEN RIVER DAM NO 4 AS IT APPEARED ON JUNE 1, 1965. NOTE THAT FOUNDATION OF LOCK GUIDE WALL TO LEFT IS ALSO CONSTRUCTED OF TIMBER CRIBS FILLED WITH ROCK.

FIGURE 19. DOWNSTREAM SIDE OF DAM ADJACENT TO LOCK SHOWING DETERIORATED CONDITION IN LATE 1999. NOTE BEAMS, PEN CONFIGURATION, AND ROCK FILL.

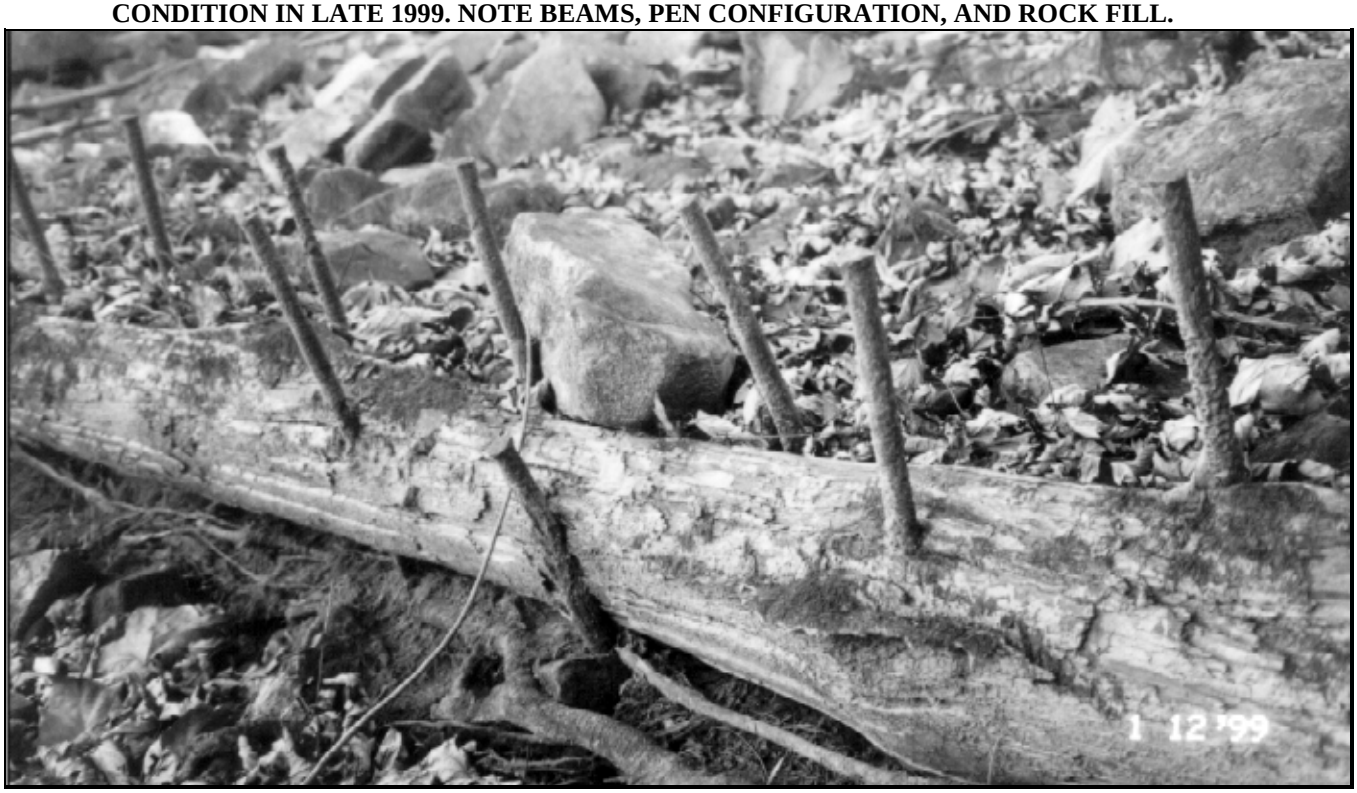


FIGURE 20. PEN ELEMENT NEAR LOCK SHOWING NUMEROUS 30 INCH (76 cm) RETAINING SPIKES. NOTE IRREGULAR CONFIGURATION OF ROCKS USED AS INTERIOR FILL.

FIGURE 21. TIERED BEAMS SHOWING STEPPED, PYRAMIDAL PROFILE OF DAM AS VIEWED FROM DOWNSTREAM SIDE ADJACENT TO LOCK WALL.

VI. CONCLUDING REMARKS

There is little doubt that the extant remnants of the upper Green River navigational system have historic value as: (1) a vestige of early efforts by the Commonwealth of Kentucky to encourage commerce within the central portion of the state; (2) their association with the subsequent "golden age" of steam boat traffic on the inland waterways of the United States; and (3) their role in reflecting the development and sequence of inland navigational facility construction methods from ca. 1840 until the mid-1930's. Accordingly, it is maintained that all of these facilities are eligible for listing in the National Register of Historic Places. It is noted that Green River Lock & Dam No. 5 has been determined not eligible for listing in the National Register of Historic Places as stated in a letter dated August 22, 1986, signed by Mr. David L. Morgan (Kentucky State Historic Preservation Officer) (**Attachment F**).

Despite these values, the continued preservation of these facilities is likely not a realistic or necessarily desirable action. Although discussions are still in progress between the Corps of Engineers and local authorities concerning disposal of the land associated with these navigational aids, the most viable uses for the properties are as county parks. Serious and appropriate concerns have been expressed by some local government officials concerning ultimate county liability for accidents occurring at these facilities after the time of transfer to local ownership. To this end, some local authorities have expressed an interest in acquiring the land only if the locks and dams are demolished prior to title transfer.

Future efforts directed toward mitigating the impacts of such transfer should reasonably take into account the condition of these remains and previous studies of the Green River system. At this time:

(1) these facilities have effectively been abandoned for variably 20 to 50 years and are in an advanced state of deterioration;
(2) the majority of the structures associated with these facilities have been demolished or already transferred out of Government ownership;
(3) one of the better preserved structures associated with this system (a former lock master's dwelling at Lock No. 4 in Woodbury, Kentucky) has already been converted into a local museum emphasizing navigation on the Green River;
(4) none of the five remaining structures (one dwelling; one office; one garage; and two poured concrete control towers) are sufficiently preserved or reasonably adaptable to public usage to warrant preservation; all have been extensively vandalized and all are located in isolated areas and extremely vulnerable to flooding;
(5) four histories regarding navigation on the Green and Barren rivers are currently available (specifically Crocker 1976; Greene 1898; Harralson 1981; and McClellan 1976);
(6) the relative architectural and industrial archaeological values of the timber crib dam at Lock No. 4 have been documented herein and are the subject of a forthcoming article in a professional journal (Ball: in press); and
(7) the series of photographs appearing in the Attachments herein serve to present an archival quality record of these facilities in their present condition.

For these reasons, it may be contended that the most productive approach to meaningful "mitigation" for the impact of these facilities leaving the ownership of the Government is through preserving a record of their history in the form of duplicating the rather extensive Green River system photographic archives and available engineering drawings relating to these properties on file with the Corps of Engineers. Copies of these materials should be placed on file with the: Kentucky Heritage Council; Kentucky Historical Society; Filson Club; University of Louisville Photographic Archives; Western Kentucky University Library Special Collections; the local museum at Woodbury, Kentucky; and other appropriate regional repositories. Additionally, some materials salvaged from these facilities might be placed with the museum in Woodbury as educational items for the benefit of the public.

ACKNOWLEDGMENTS

This report was prepared by Donald B. Ball (Archaeologist, RPA) based upon fieldwork conducted in December 1999. The author gratefully acknowledges Messrs. Charles D. Hockensmith (Kentucky Heritage Council, Frankfort, Kentucky) and Grant Day (Cultural Resource Analysts, Inc., Lexington, Kentucky) for the comparative information on dam construction they generously made available. Messrs. Charles E. Parrish and Gary Serke (Corps of Engineers, Louisville) made available historical photographs and other resources pertaining to the Green River navigation system. The photographs appearing in Attachments A-E were taken by Mr. Norman Atkins of the Louisville District staff.

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ATTACHMENT A:

PHOTOGRAPHS OF GREEN RIVER LOCK & DAM NO. 3

ERRATA:
The caption to Figure 30 should have read:
"Downstream gate of Green River Lock and Dam No. 4."
This figure should have appeared in Appendix B.
We apologize for any inconvenience.

FIGURE 22. BRICK HOUSE, LEFT OBLIQUE, VIEW TO SOUTH

FIGURE 23. BRICK HOUSE, RIGHT OBLIQUE, VIEW TO NORTH

FIGURE 24. GARAGE/WORKSHED, RIGHT OBLIQUE, VIEW TO NORTHEAST.

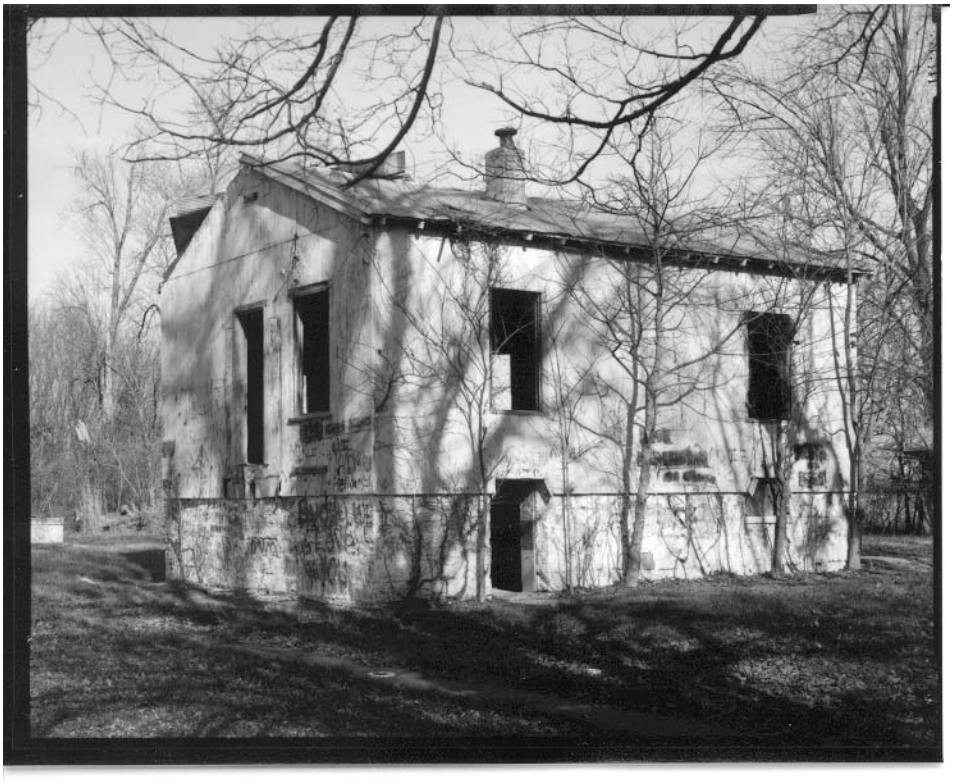

FIGURE 25. OPERATIONS BUILDING, RIGHT OBLIQUE, TO NORTHEAST.

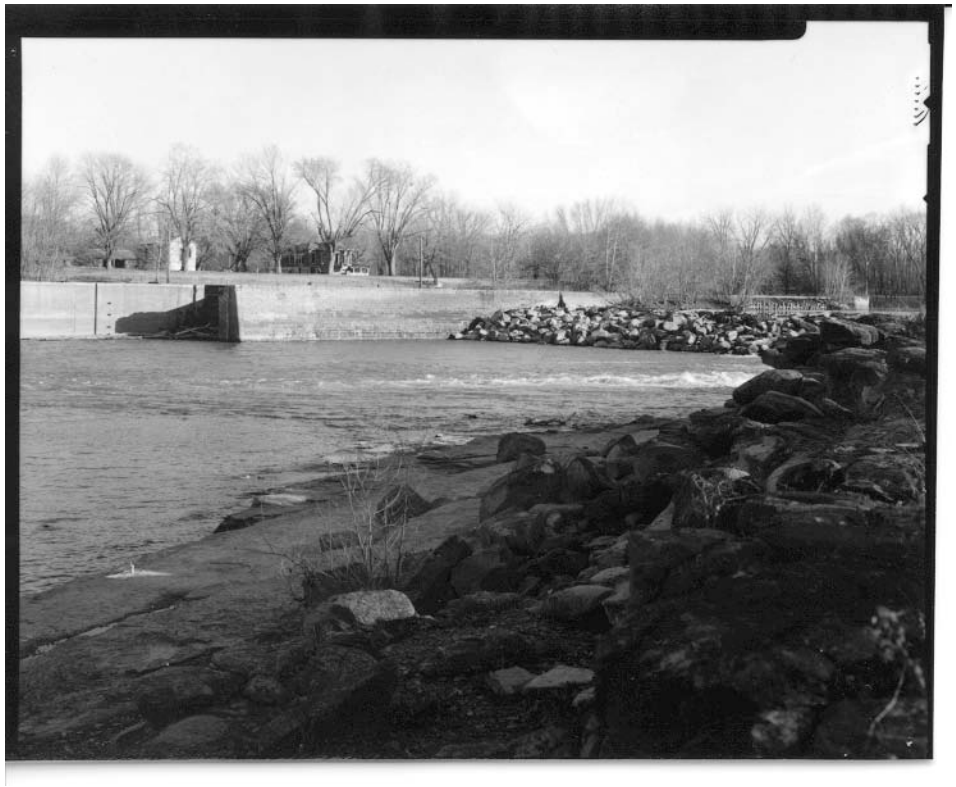

FIGURE 26. GENERAL VIEW OF LOCK COMPLEX FROM ACROSS RIVER.

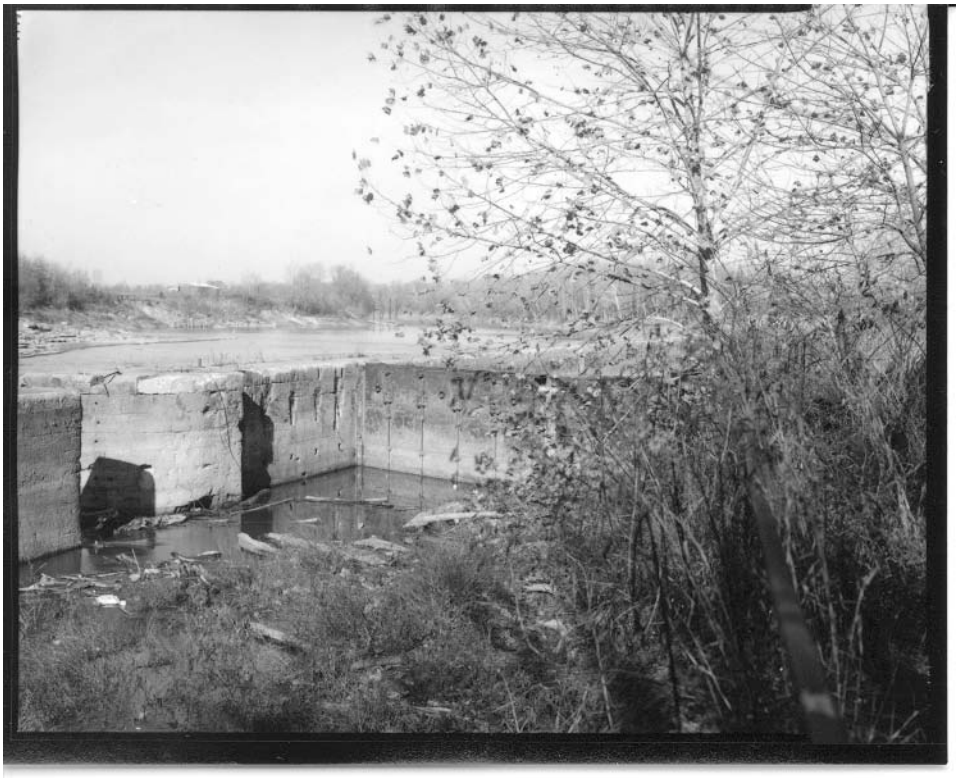

FIGURE 27. UPSTREAM ENTRANCE TO LOCK CHAMBER. VIEW TO NORTHEAST.

FIGURE 28. INTERIOR OF LOCK CHAMBER FACING DOWNSTREAM.

FIGURE 29. INTERIOR OF LOCK CHAMBER FACING UPSTREAM.

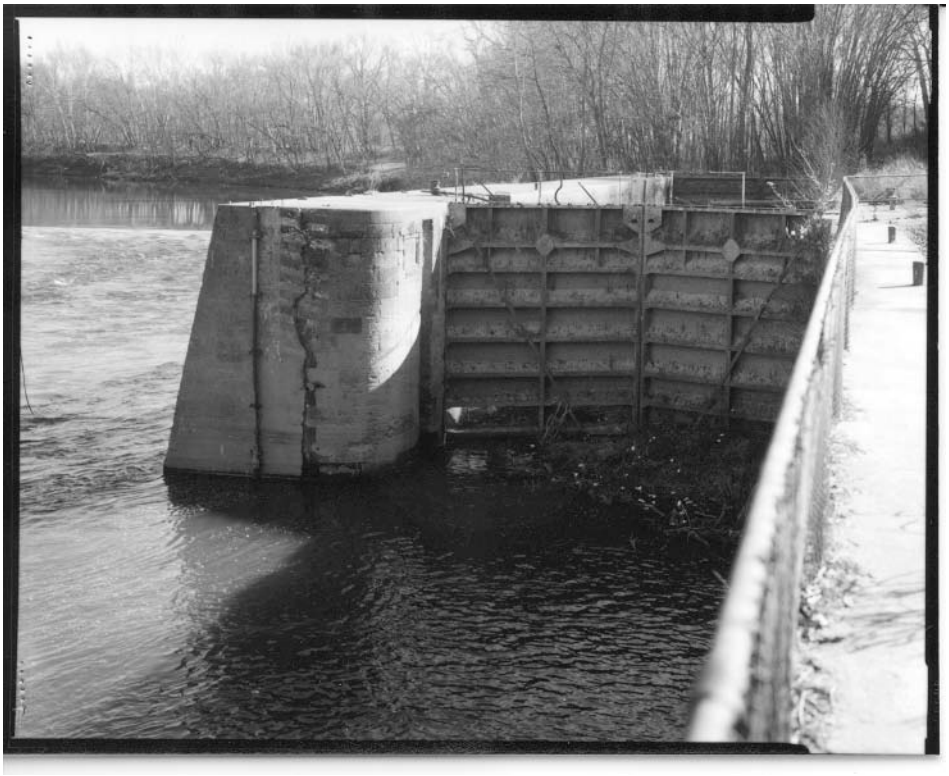

FIGURE 30. UPSTREAM LOCK GATES.

FIGURE 31. DOWNSTREAM LOCK GATES.

ATTACHMENT B:

PHOTOGRAPHS OF GREEN RIVER LOCK & DAM NO. 4.

ERRATA:
The caption to Figure 30 in Attachment A should have read:
"Downstream gate of Green River Lock and Dam No. 4."
This figure should have appeared in Appendix B.
We apologize for any inconvenience.

FIGURE 32. TREE CLOGGED NAVIGATION CHANNEL FACING UPSTREAM.

FIGURE 33. ABUTMENT SIDE OF DETERIORATED 1839 TIMBER CRIB DAM.

FIGURE 34. LOCK GATES AND OPERATING MECHANISM AT DOWNSTREAM END OF LOCK CHAMBER.

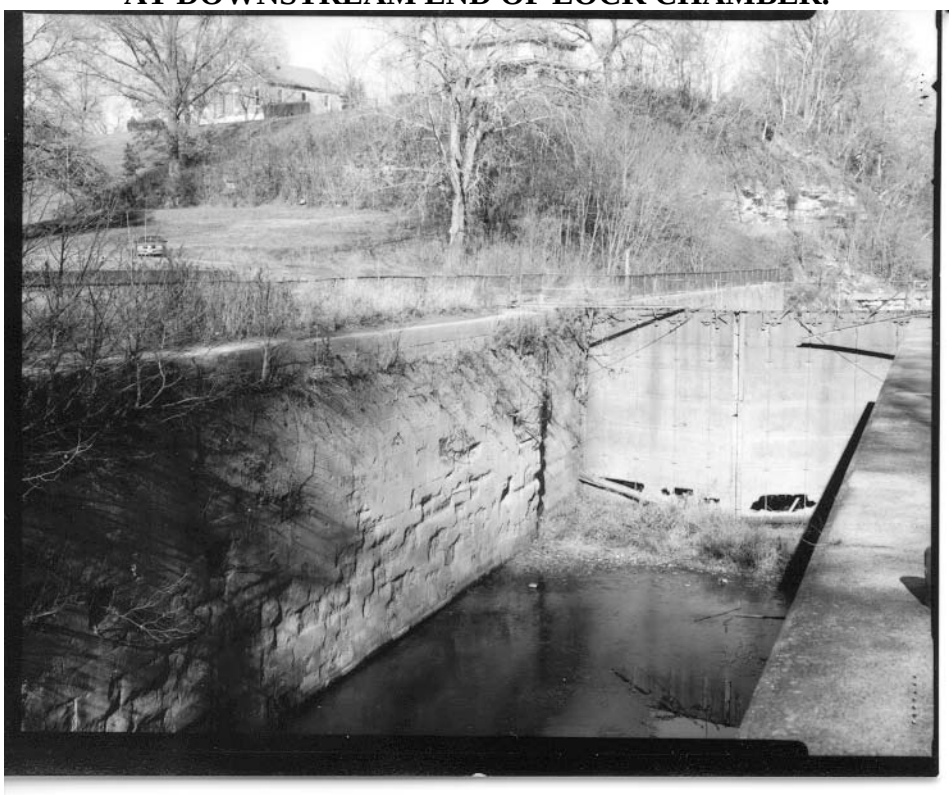

FIGURE 35. INTERIOR OF MASONRY LOCK CHAMBER FACING DOWNSTREAM.

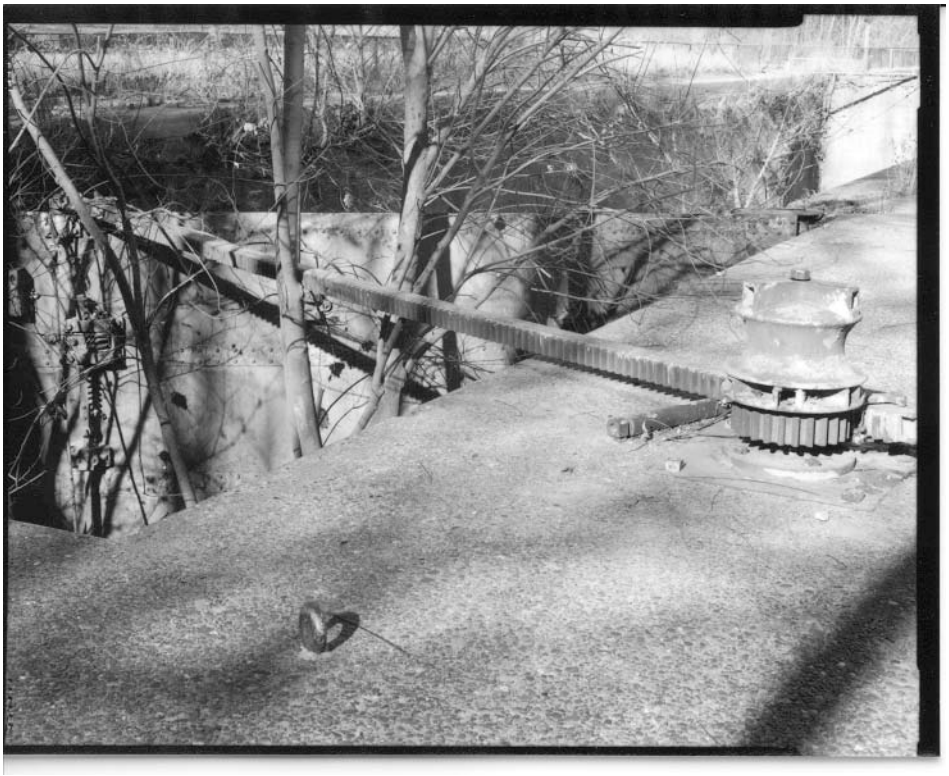

FIGURE 36. UPSTREAM GATES AND OPERATING MECHANISM.

ATTACHMENT C:

PHOTOGRAPHS OF GREEN RIVER LOCK & DAM NO. 5.

FIGURE 37. CONCRETE CONTROL TOWER AND INTERIOR OF LOCK CHAMBER.

FIGURE 38. VIEW OF SILT AND TREE CLOGGED LOWER GATES.

FIGURE 39. SILT DEPOSITS IN UPSTREAM END OF LOCK CHAMBER.

FIGURE 40. VIEW OF ABUTMENT SIDE OF DAM IN WARREN COUNTY, KENTUCKY.

FIGURE 41. DETAIL OF DOWNSTREAM LOCK GATES.

FIGURE 42. VIEW OF LOCK CHAMBER LOOKING UPSTREAM.

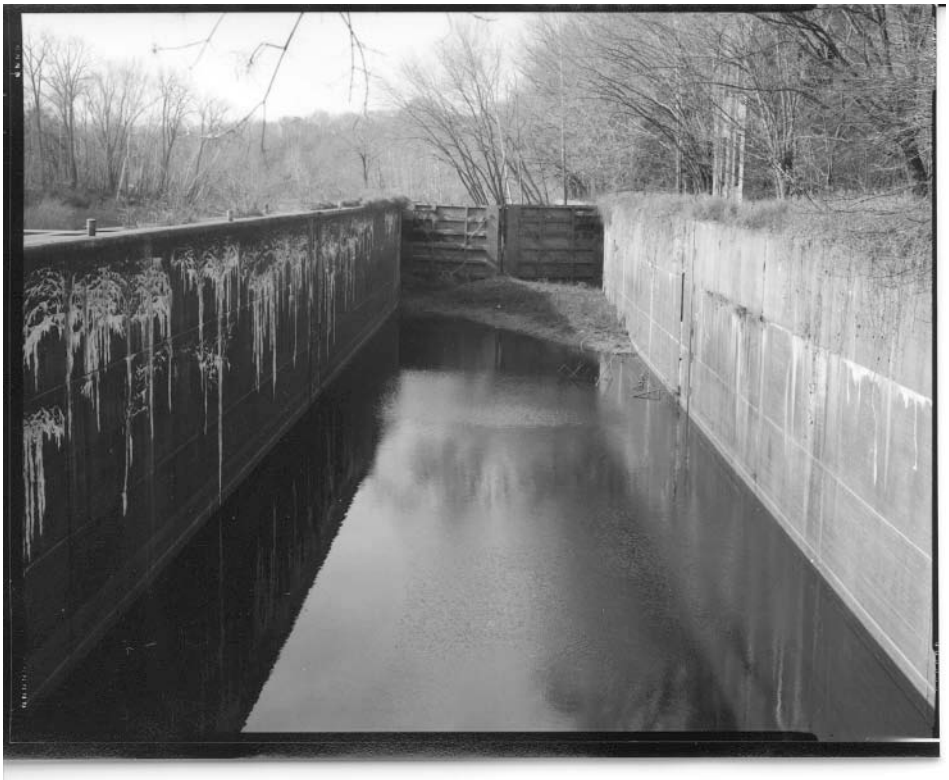

FIGURE 43. INTERIOR OF LOCK CHAMBER LOOKING DOWNSTREAM.

ATTACHMENT D:

PHOTOGRAPHS OF GREEN RIVER LOCK & DAM NO. 6.

FIGURE 44. ABUTMENT SIDE OF DAM. VIEW TO NORTH.

FIGURE 45. INTERIOR OF LOCK CHAMBER LOOKING UPSTREAM. NOTE COLLAPSED LOWER GATES.

ATTACHMENT E:

PHOTOGRAPHS OF BARREN RIVER LOCK & DAM NO. 1.

FIGURE 46. CONCRETE CONTROL TOWER, LEFT REAR OBLIQUE, VIEW TO SOUTHEAST.

FIGURE 47. INTERIOR OF 1933-34 CONCRETE LOCK CHAMBER LOOKING DOWNSTREAM.

FIGURE 48. DOWNSTREAM GATES ON 1933-34 CONCRETE LOCK CHAMBER.

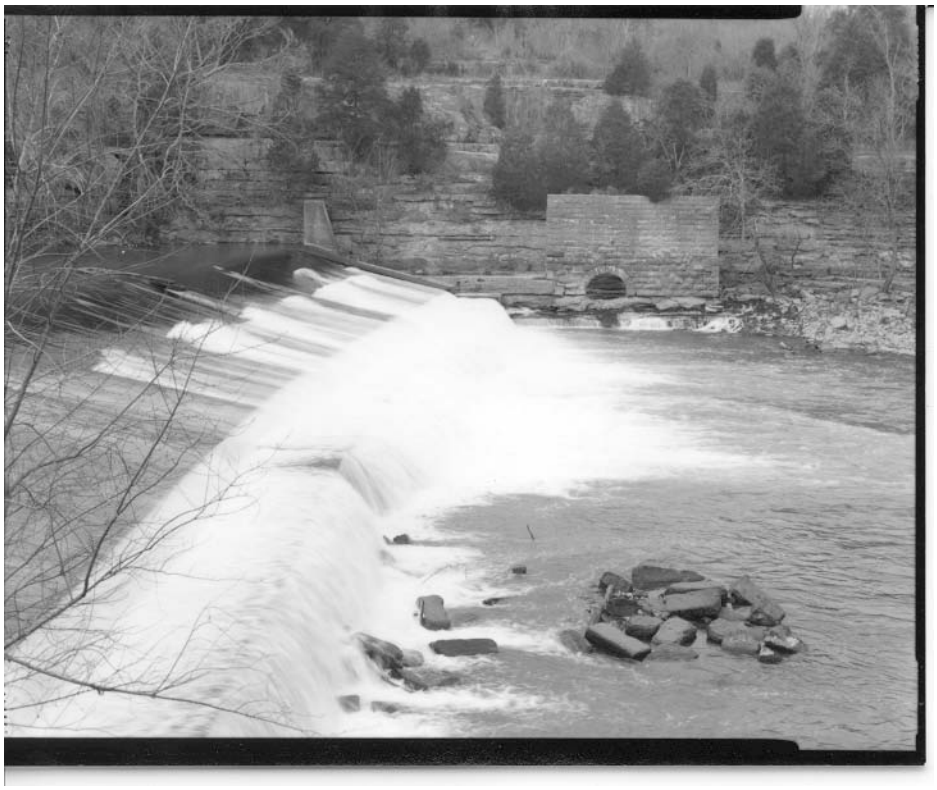

FIGURE 49. ABUTMENT SIDE OF DAM LOOKING TOWARD FOUNDATION REMNANTS OF 19th CENTURY MILL.

FIGURE 50. INTERIOR OF 1841 MASONRY LOCK CHAMBER AS VIEWED TO UPSTREAM.

ATTACHMENT F:

LETTER DATED AUGUST 22, 1986, FROM MR. DAVID L. MORGAN, KENTUCKY STATE HISTORIC PRESERVATION OFFICER

KENTUCKY HERITAGE COUNCIL
The State Historic Preservation Office

August 22, 1986

Mr. Neal Jenkins
Chief, Planning Division
Louisville District, Corps of Engineers
Department of the Army
P. O. Box 59
Louisville KY 40201-0059

Dear Mr. Jenkins:

The Kentucky Heritage Council received notice from the Kentucky State Clearinghouse on August 12, 1986 that the federal government was disposing of several tracts of property controlled by the U. S. Army Corps of Engineers. The tracts in question are:

- Portion of tracts 103, 105 and 132 and all of tracts 104-2 and 106, Barren River Lake Project, Allen and Barren Counties, Kentucky 4-D-KY-573.
- Portion of tracts A, H, I and all of tracts B, C, D and E, Green River Lock and Dam No. 5, Butler County, Kentucky, 4-D-KY-572.
- Portion of tracts A & B, Green River Lock and Dam No. 3, Muhlenberg and Ohio Counties, Kentucky, 4-D-KY-555-A.

Previously, I determined that Green River Lock and Dam No. 5 was not eligible for listing in the National Register of Historic Places. On the other hand, I concurred with the Corps in a letter dated June 17, 1986 that Green River Lock and Dam No. 3 is eligible for listing in the National Register and enclosed "Concensus Determination of Eligibility" form for this property. It is not clear from the notices whether the Locks and Dams are included in the surplus tracts since no maps or tract descriptions were provided by the General Services Administration.

Would you please advise me as to the nature of cultural resource investigations undertaken at the referenced tracts? Specifically, would you inform me whether each tract was subjected to an intensive archaeological survey and whether standing structures were assessed to determine if any properties eligible for listing in the National Register of Historic Places are present? I would appreciate copies of any survey reports prepared for these projects. Thank you for your assistance.

(continued)

12th Floor, Capital Plaza Tower Frankfort, Kentucky 40601 Telephone (502) 564-7005

Should you have any questions, feel free to contact Charles Hockensmith at (502) 564-6661.

Sincerely,

David L. Morgan

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

DLM/rm