

26-1 11
SUSQUEHANNA RIVER BASIN

CURWENSVILLE RESERVOIR

WEST BRANCH SUSQUEHANNA RIVER
PENNSYLVANIA

DESIGN MEMORANDUM NO. 13

MASTER PLAN



DEPARTMENT OF THE ARMY
Baltimore District, Corps of Engineers
Baltimore, Maryland 21203

DECEMBER 1968



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MARYLAND 21203

NABEN-R

16 December 1968

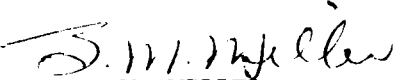
SUBJECT: Curwensville Reservoir, Pennsylvania - Design Memorandum
No. 13, Master Plan

Division Engineer, North Atlantic
ATTN: NADPL-R

1. Reference is made to paragraph 9, EM 1130-2-302, change 3, 1 April 1960.
2. In compliance with the provisions of the above reference, the subject Master Plan is forwarded for review and approval. Six copies are inclosed, 3 for NAD and 3 for OCE.

FOR THE DISTRICT ENGINEER:

Incl (sext)
as


G. M. MILLER
Chief, Engineering Division



CURWENSVILLE DAM AND RESERVOIR - Pool level at approximate elevation 1164, two feet above recreation lake level. Recreation area shown in left center.
Photo 6804090

12 April 1968

:	:	Revisions	:
:	:		Date Approved
Date	:	New Pages and Drawings	: by OCE
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SUSQUEHANNA RIVER BASIN
C U R W E N S V I L L E R E S E R V O I R

DESIGN MEMORANDUM NO. 13

MASTER PLAN

1968

C O N T E N T S

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thru

2H

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Real Estate maps

General Master Development Plan of the
Commonwealth of Pennsylvania

CURWENSVILLE RESERVOIR

DESIGN MEMORANDUM NO. 13

MASTER PLAN

1968

SUSQUEHANNA RIVER BASIN
CURWENSVILLE RESERVOIR
WEST BRANCH SUSQUEHANNA RIVER, PENNSYLVANIA

DESIGN MEMORANDUM NO. 13

MASTER PLAN

A. GENERAL INFORMATION

1. Project authorization. The Curwensville Dam and Reservoir Project was authorized by the Flood Control Act of 1954 (Public Law 780, 83rd Congress, 2nd session) in accordance with House Document No. 29, 84th Congress, 1st session.

2. Project purpose. Curwensville Reservoir is a unit in the comprehensive flood control plan for the West Branch Susquehanna River. This reservoir has the primary objective of reducing flood heights at Curwensville, Clearfield, Renovo, Lock Haven, and Williamsport, Pennsylvania, as well as at other localities on the West Branch Susquehanna River. The project will also reduce flood heights on the Susquehanna River downstream from Sunbury, Pennsylvania.

3. History. The Curwensville Reservoir project was designed and constructed under the direction of the Baltimore District, Corps of Engineers. Construction for the necessary relocation of railroads and highways was initiated in May 1962. The construction of the dam and appurtenant works was started in April 1963 and was operationally completed in November 1965.

4. Purpose of master plan. The purpose of this Master Plan is to present a guide for the administration of the project lands; to assure preservation of its scenic, biological, and recreational resources; and to assure coordination with interested Federal, State, and local agencies. This Master Plan supplements the Preliminary Master Plan, Design Memorandum No. 3, dated February 1960.

B. GENERAL CHARACTERISTICS OF THE PROJECT

5. Location. Curwensville Dam is located in Clearfield County, Pennsylvania, on the West Branch Susquehanna River, 0.6 mile upstream from the bridge on State Route 453, which is near the southern limits of the borough of Curwensville, and about 10 river miles above Clearfield and 185 river miles above the mouth of the West Branch at Sunbury, Pennsylvania. The location of this project is shown on plate 13-1.

6. Reservoir description. The reservoir is located in a narrow valley with steep slopes at the downstream portion becoming more gentle in the upstream reaches. The surrounding ridges and slopes are wooded, and the valley floor, above the limits of the recreation lake, is fairly well covered with light timber and brush. In the upper reaches of the reservoir the valley floor was used to a limited degree for farming. Clay mining has been and is an important industry in this area and considerable strip mining was carried on in the reservoir area immediately upstream from the dam and on the adjacent hillsides. Most of the pits and spoil piles in the reservoir area resulting from this strip mining have been leveled, filled and landscaped or are inundated by the recreation lake. All spoil piles within the recreation lake area were graded to elevation 1,150 so as not to present a boating hazard. A large abandoned excavation exists on parcels 223 and 224 (see plate 13-2b). No development is presently proposed for this area. Existing topography and vegetation adequately screen this area from the lake and recreation areas.

7. Engineering features.

a. The dam consists of a rolled earthfill embankment having a maximum height of 131 feet above the streambed and a top elevation of 1,257. It has a top width of 25 feet and is about 2,850 feet in length. The spillway is located on rock, 1,500 feet northerly of the left abutment of the dam. The spillway is 530 feet in length and has a crest elevation of 1,228. The outlet conduit is 15 feet in diameter and is controlled by three 5.5-foot by 12-foot gates.

b. At spillway crest the reservoir inundates about 3,020 acres, the recreation lake 790 acres, and the conservation lake 540 acres.

c. Pertinent dam and reservoir data are summarized in table 13-1.

8. Recreation lake. The design of the project, as constructed, included a permanent conservation and recreation lake at elevation 1,155, with a surface area of 540 acres. This lake was first impounded in November 1965. The lake level was maintained by a bypass system in the outlet works. Shortly after impoundment of the lake, local interests and the Department of Forests and Waters, Commonwealth of Pennsylvania, requested that a summer recreation lake with a greater surface area be provided. As a result of this request, the Chief of Engineers approved the establishment of a summer lake at elevation

TABLE 13-1
PERTINENT DATA

<u>Drainage areas</u>	<u>sq. mi.</u>	<u>Percent Controlled by Dam</u>
West Branch Susquehanna River:		
at Curwensville Dam	365	100
at Clearfield, Pa.	487	75
at Renovo, Pa.	2,975	12
at Williamsport, Pa.	5,682	6.4
<u>Elevations (feet above mean sea level)</u>		
Top of dam		1,257.0
Guide taking line for easements		1,233.0
Spillway crest (flood control pool)		1,228.0
Guide taking line for fee acquisition		1,190.0
Upper limit of clearing		1,164.0
Recreation lake		1,162.0
Conservation lake		1,155.0
<u>Dam</u>		
Type		Rolled earthfill
Length		2,850 feet
Height above streambed		131 feet
Width at top		25 feet
Width at base (maximum)		900 feet
<u>Spillway</u>		
Type		Excavated channel with concrete control sill in saddle
Length of crest		500 feet
Height above streambed		102 feet
<u>Outlet works</u>		
Type		Controlled conduit
Number of circular conduits		1
Diameter of conduit		15 feet
Number of service gates		3
Type of gates		Hydraulic slide
Size of gate		5.5 x 12 feet
<u>Reservoir</u>		
Surface area: Flood control pool		3,020 acres
Recreation lake		790 acres
Conservation lake		540 acres
Shoreline: Recreation lake		19 miles
Conservation lake		16 miles
Land acquired		
Fee		2,877 acres
Easements		820 acres
		<u>3,697</u> acres

1,162 to provide a surface area of 790 acres. This lake will be provided during the period 15 May through 15 September of each year and is maintained through regulation of the service gates. The conservation lake, elevation 1,155, will not be maintained until such time as water quality improves sufficiently to permit the development of a fishery.

9. Reservoir ownership. Plates 13-2a thru 13-2d show: tracts acquired in fee and by flowage easement; the bounds and acreage of individual tracts, names of former owners, and outgrants made for relocated highways and the railroad. The guide taking line for fee acquisition was established at elevation 1,190, the level of the five year flood frequency. The guide taking line for flowage easements was the 1,233 foot contour, five feet above the spillway crest, elevation 1,228. Additional acreage was acquired for borrow, construction, and recreation areas.

10. Mineral rights. There are no outstanding mineral rights on lands acquired in fee except for the following listed parcels on which it was determined that all mineable minerals have been removed or the removal of which would not interfere with the operation of the project:

<u>Parcel no.</u>	<u>Acres</u>
125	49.18
200-3	0.08
201-2	0.40
205	98.41
348-1	0.25
348-2	0.04
359	5.40
410-1	1.42
410-2	2.64
411	3.34
504	3.42
507	18.80
605	0.29
632	1.06
717	1.43

On a number of tracts on which flowage easements were acquired, mineral rights were not subordinated or extinguished.

C. PROPOSED LAND USAGE

11. Priority. All reservoir lands, except those reserved for project operation and maintenance, are designated for priority one use as defined in EM 1130-2-302 and ER 405-2-835.

12. Recreation. Land and water areas leased to the Department of Forests and Waters, Commonwealth of Pennsylvania, for parks and recreational purposes are shown on plates 13-2a thru 13-2c.

13. Fish and wildlife management.

a. Wildlife. The Pennsylvania Game Commission, the U.S. Fish and Wildlife Service, and the Corps of Engineers cooperated in the development of a General Plan for wildlife management for the areas shown on plates 13-2d through 13-2f. A license for exclusive use of such areas necessary for the proper development of a wildlife management program will be granted the Pennsylvania Game Commission.

b. Fish management. The river, prior to establishment of the reservoir, did not support fish life because of the high acid content from mine drainage from upstream sources. Recent testing of the reservoir indicates that the water quality has improved to such a degree that it may now support fish. The Pennsylvania Fish Commission recently surveyed the stream from the dam downstream to Clearfield and found conditions favorable for the establishment of a fishery and made an initial stocking of chain pickerel. Investigation of the reservoir, including testing of the impoundment and the river upstream of the reservoir is continuing. When it is determined that the reservoir provides a suitable environment for fish life, the Pennsylvania Fish Commission will be requested to initiate a program of fish management in the reservoir.

14. Removal of minerals. Those portions of tracts 108 and 119 lying north of the relocated railroad and highway contain extensive deposits of refractory clay and coal. Inquiries concerning the availability of this clay have been made by a local refractory operator. These clay deposits can be removed without interfering with present and future project operations if adequate controls and requirements for backfilling of all excavations and appropriate landscaping are imposed.

15. Other. All lands not immediately required for Priority One use, or for fish and wildlife management are available for interim outleasing for agricultural purposes.

D. RECREATIONAL DEVELOPMENT

16. General. The Corps of Engineers provided basic facilities consisting of a boat dock and launching ramp and grading for parking and beach area and constructed the primary access road except for base

course and wearing surface. The cost for the Federal portion of this work was \$235,000 including engineering and design and supervision and administration. A lease for park and recreational purposes has been granted to the Department of Forests and Waters, Commonwealth of Pennsylvania. The Commonwealth will construct all required recreational facilities and will operate and maintain the area. The Commonwealth assumed responsibility for the recreation area in the spring of 1966. Picnic areas were constructed, temporary sanitary and boating facilities were provided. Attendance at the reservoir was reported as 101,000 in 1966 and 107,400 in 1967.

17. Commonwealth plan of development. The Department of Forests and Waters had programmed funds for capital improvement as follows:

1965-67 biennium	= \$344,000
1967-69 biennium	= \$258,000
1969-71 biennium	= \$200,000

The Legislature has not appropriated funds as programmed and construction has not proceeded as scheduled. The Department of Forests and Waters has funds on hand and plans to let a contract for the construction of a marina facility, sanitary facilities, water supply, and paving of access roads and parking areas during the winter of 1968 or the spring of 1969. A Master Plan for recreation development is shown on plate 13-3.

E. BEAUTIFICATION

18. Dam and administration area. Landscaping, including shrub and tree planting, has been accomplished in the area downstream of the dam, at the observation area, adjacent to the outlet channel and at the residence and shop area.

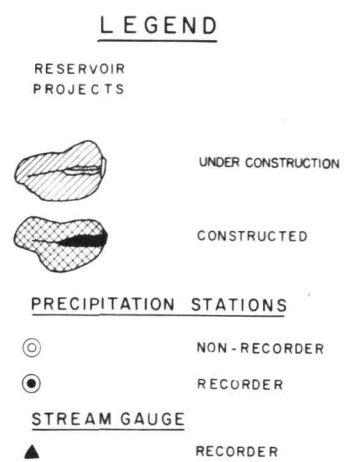
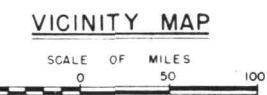
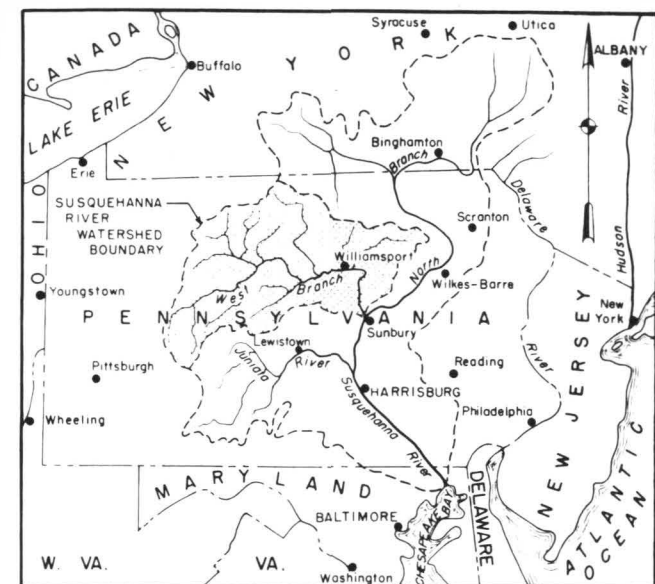
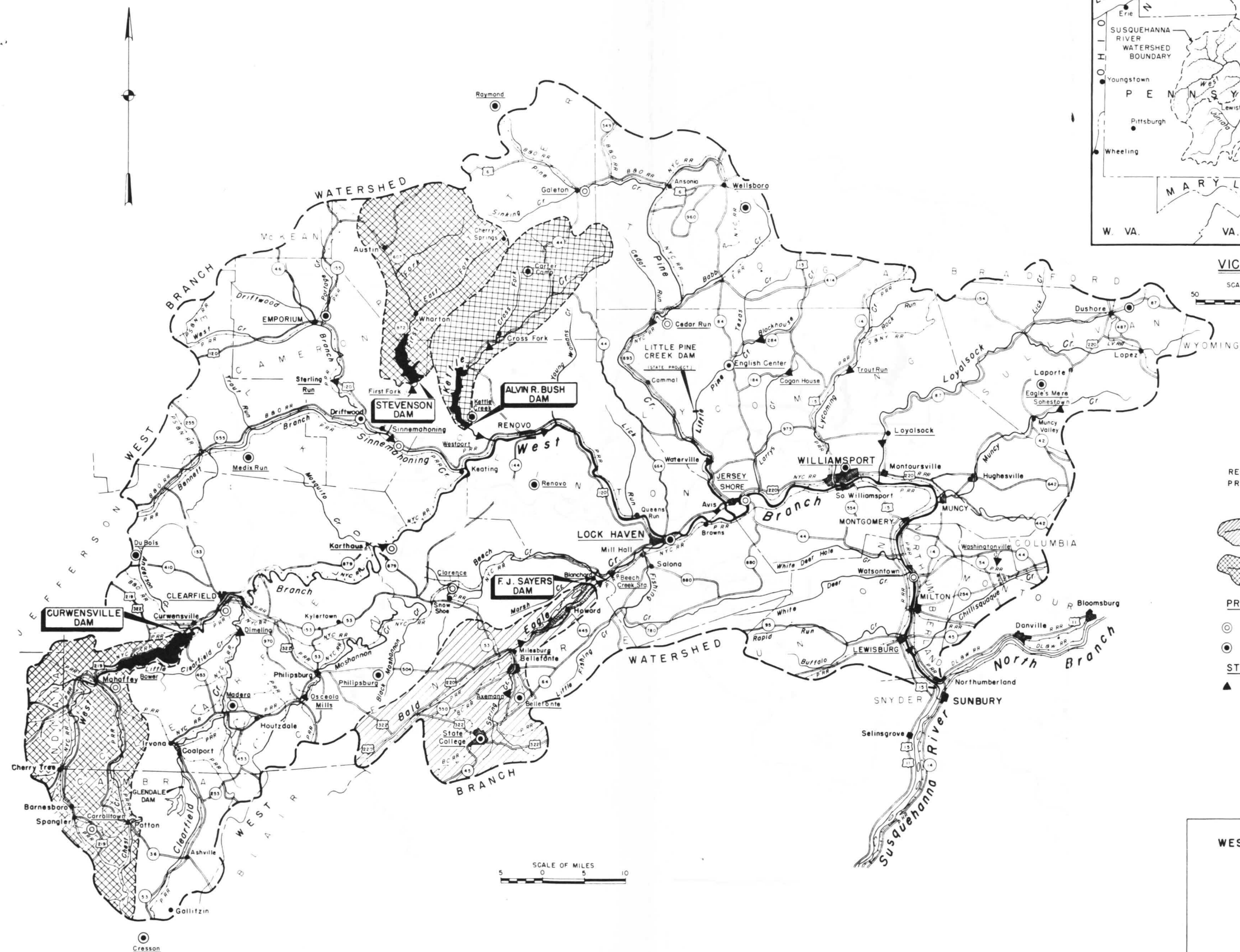
19. Recreation area. The Department of Forests and Waters will include landscaping within the recreation areas, necessary reforestation and timber management.

F. COORDINATION

20. Concurrence. This Master Plan has been reviewed by the Baltimore District Real Estate Division and this Division concurs in the proposed plan for the administration and management of project lands and waters outlined therein.



MALCOLM F. STEELE
Chief, Real Estate Division

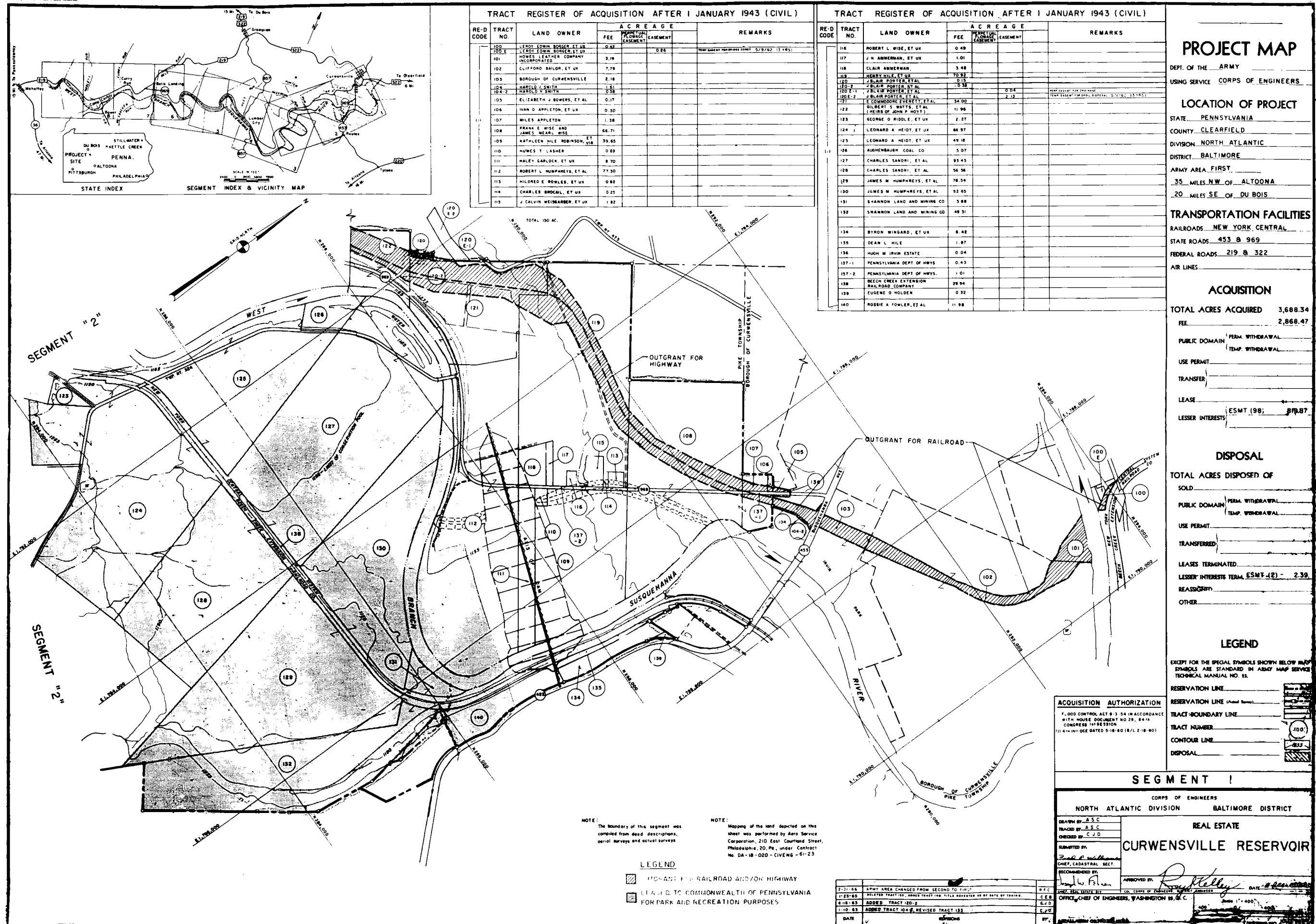


WEST BRANCH SUSQUEHANNA RIVER AND TRIBUTARIES

LOCATION MAP

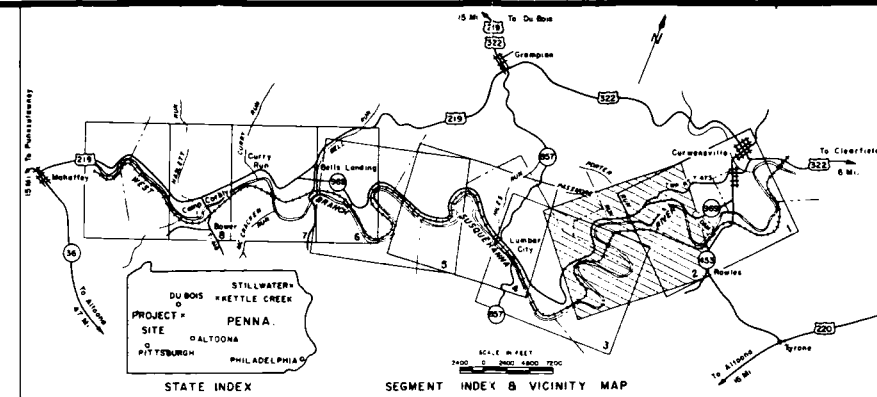
SCALES: AS SHOWN

CORPS OF ENGINEERS BALTIMORE DISTRICT



TRACT REGISTER OF ACQUISITION AFTER 1 JANUARY 1943 (CIVIL)

RE-D CODE	TRACT NO.	LAND OWNER	A C R E A G E			REMARKS
			FEE	PERPETUAL FLOWAGE EASEMENT	EASEMENT	
	223	BLISS WEBER OBRIEN, ET AL	59 43			
	224	CARRIE McHAUL	22 31			
	225	CARRIE McHAUL	45 32			
	226	BEECH CREEK EXTENSION RAILROAD COMPANY	10 69			
	227	BEECH CREEK EXTENSION RAILROAD COMPANY	11 82			



20 MILES SE OF DU BOIS

AIR LINES_____

1. 2002-11-15

OTHER _____

DISPOSAL

NOTE:
Mapping of the land depicted on this
sheet was performed by Aero Service
Corporation, 210 East Courtland Street,
Philadelphia, 20, Pa., under Contract
No DA-18-020-CIVENG-61-23

ACQUISITION AUTHORIZATION
FLOOD CONTROL ACT 9-3-54 IN ACCORDANCE
WITH HOUSE DOCUMENT NO 29, 84TH
CONGRESS 1ST SESSION
(1) 47-1ND OCE DATED 5-18-60 (S/L 2-18-60)

SEGMENT 2

CORPS OF ENGINEERS

REAL ESTATE

CURWENSVILLE RESERVOIR

DRAWN BY ASC
 TRACED BY ASC
 CHECKED BY CJD
 SUBMITTED BY:
Paul R. Williams
 CHIEF, CADASTRAL SECT

RECOMMENDED BY:

Joseph W Fisher

OFFICE, CHIEF OF ENGINE

9

INSTALLATION OR PROJECT NO.

W. J. Kelly DATE 11 Dec. 1962

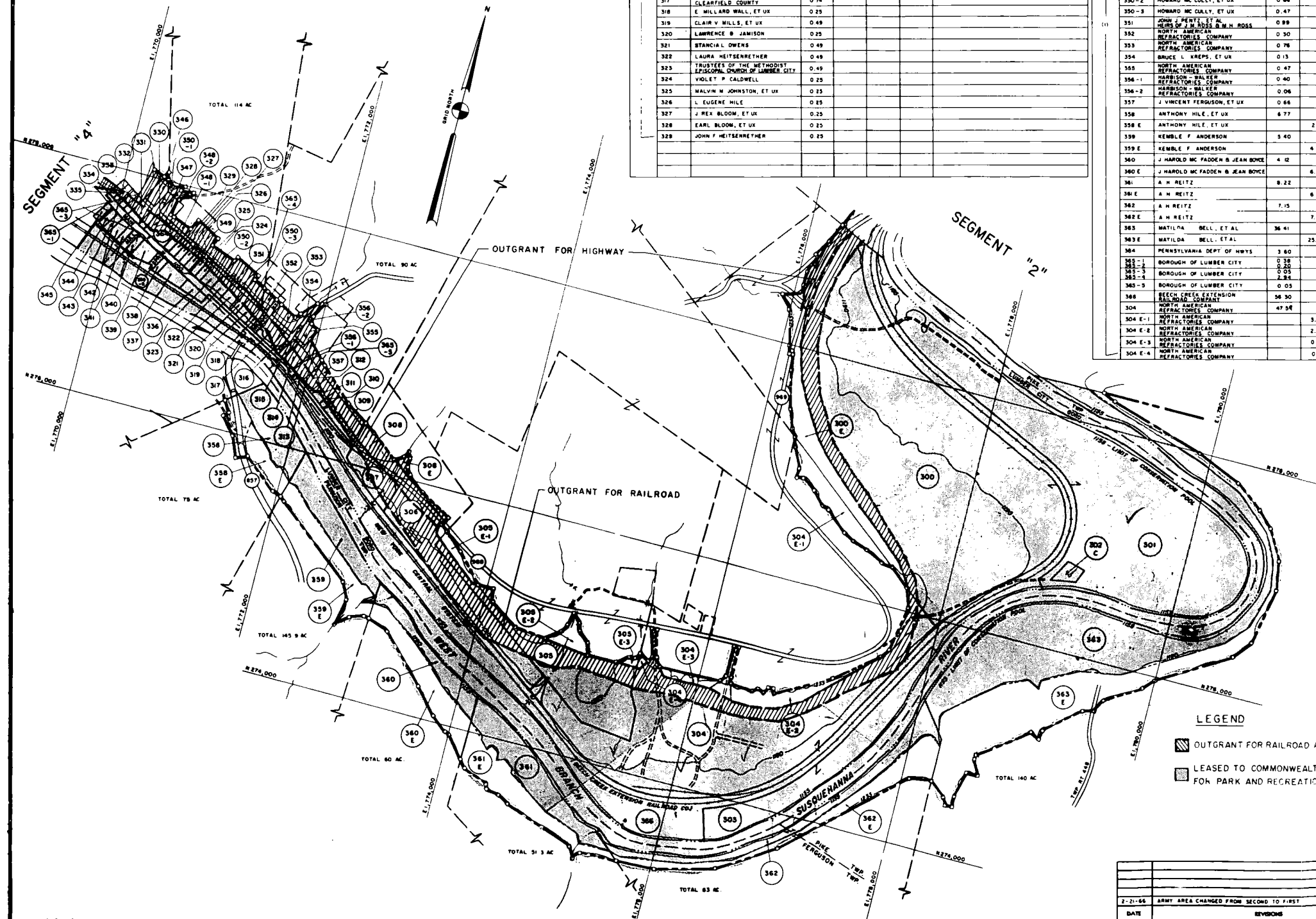
Scale 1" = 600'

A horizontal scale bar with markings at 400, 0, 400, and 800.

Sheet 2 of 2 DRAWING NO. NAD 298

PLATE 13-2B

PLATE 13-2B



TRACT REGISTER OF ACQUISITION AFTER 1 JANUARY 1943 (CIVIL)						
RE-D CODE	TRACT NO.	LAND OWNER	A C R E A G E			REMARKS
			FEE	PERPETUAL LEASE EASEMENT	EASEMENT	
330		LUMBER CITY BOROUGH FIRE COMPANY	0.99			
331		THEODORE MULLINEN, ET AL	0.32			
332		LEAN LEMON HILE	0.25			
333		VERNON R CALDWELL, ET UX	0.25			
334		J LESTER CALDWELL, ET UX	0.25			
335		ERNEST C HEPFEN, ET UX	0.25			
336		PAUL BARRETT, ET UX	0.46			
337		MARTHA PETERMAN	0.70			
338		SPENCER BROTHERS COAL COMPANY	0.18			
339		MALVIN W JOHNSTON JR., ET UX	0.66			
340		EUGENE L. HIPPS	0.25			
341		MARY ELIZABETH TUBBS	0.25			
342		JESSE ELLINGER	0.37			
343		EUGENE L. HIPPS	0.25			
344		HARVEY PAUL HEITSCHRETH JR ET UX	0.25			
345		GEORGE LEONARD, ET UX	0.25			
346		RALPH SOLIDAY, ET UX	0.63			
347		JOSEPH L. SHEEDER, ET UX	0.35			
348-1		SCHOOL DIRECTORS OF LUMBER CITY BOROUGH SCHOOL DISTRICT	0.25			
348-2		SCHOOL DIRECTORS OF LUMBER CITY BOROUGH SCHOOL DISTRICT	0.04			
349		JOHN F HEITSCHRETH	0.99			
350-1		HOWARD MCCULLY, ET UX	0.40			
350-2		HOWARD MCCULLY, ET UX	0.66			
350-3		HOWARD MCCULLY, ET UX	0.47			
351		JOHN J. PERZ, ET AL HEIRS OF J. H. ROSS & M. H. ROSS	0.89			
352		NORTH AMERICAN REFRACATORIES COMPANY	0.50			
353		NORTH AMERICAN REFRACATORIES COMPANY	0.76			
354		BRUCE L. KREPS, ET UX	0.13			
355		NORTH AMERICAN REFRACATORIES COMPANY	0.47			
356-1		HARRISON - WALKER REFRACATORIES COMPANY	0.40			
356-2		HARRISON - WALKER REFRACATORIES COMPANY	0.06			
357		J VINCENT FERGUSON, ET UX	0.66			
358		ANTHONY HILE, ET UX	6.77			
358 E		ANTHONY HILE, ET UX		2.24		
359		KEMBLE F ANDERSON	5.40			
359 E		KEMBLE F ANDERSON		4.96		
360		J HAROLD MC FADDEN & JEAN BOYCE	4.42			
360 E		J HAROLD MC FADDEN & JEAN BOYCE		6.06		
361		A M REITZ	8.22			
361 E		A M REITZ		6.60		
362		A M REITZ	7.15			
362 E		A M REITZ		7.07		
363		MATILDA BELL, ET AL	36.41			
363 E		MATILDA BELL, ET AL		25.76		
364		PENNSYLVANIA DEPT OF HWYS	3.60			
365-1		BOROUGH OF LUMBER CITY	0.38			
365-3		BOROUGH OF LUMBER CITY	0.50			
365-4		BOROUGH OF LUMBER CITY	0.05			
365-5		BOROUGH OF LUMBER CITY	0.05			
366		BEECH CREEK EXTENSION RAILROAD COMPANY	26.30			
304		NORTH AMERICAN REFRACATORIES COMPANY	47.94			
304 E-1		NORTH AMERICAN REFRACATORIES COMPANY		3.86		
304 E-2		NORTH AMERICAN REFRACATORIES COMPANY		2.81		
304 E-3		NORTH AMERICAN REFRACATORIES COMPANY		0.77		
304 E-4		NORTH AMERICAN REFRACATORIES COMPANY		0.15		

RESERVATION LINE	
RESERVATION LINE (Actual Survey)	
TRACT BOUNDARY LINE	
TRACT NUMBER	
CONTOUR LINE	
DISPOSAL	

NOTE : Mapping of the land depicted on this sheet was performed by Aero Service Corporation, 210 East Courtland Street, Philadelphia, 20, Pa. under Contract No. DA-18-020-CIVENG 61-23

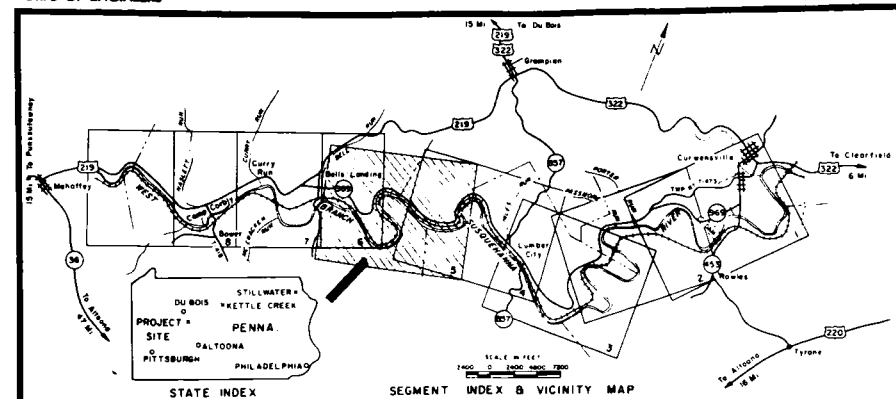
ACQUISITION AUTHORIZATION

FLOOD CONTROL ACT 9-3-54 IN ACCORDANCE
WITH HOUSE DOCUMENT NO 29, 84TH
CONGRESS 1ST SESSION

1) 4TH IND QCE DATED 5-18-60 (B/L 2-18-60)

OFFICE, CHIEF OF ENGINEERS, WASHINGTON 25, D. C.

INSTALLATION OR PROJECT NO. _____ SHEET 3 OF 8 DRAWING NO. NAD 27



TRACT REGISTER OF ACQUISITION AFTER 1 JANUARY 1943 (CIVIL)

RE-D CODE	TRACT NO	LAND OWNER	ACREAGE			REMARKS
			FEE	PERMANENT FLOOD ELEVATION	EASEMENT	
	500	LLOYD W. MC CRACKEN	26.17			
	501	LLOYD W. MC CRACKEN	5.94			
	502	LLOYD W. MC CRACKEN	6.11			
	503	V. I. SHUSS A/K/A VERN	1.38			
	503-2	V. I. SHUSS A/K/A VERN	3.44			
	504	V. I. SHUSS A/K/A VERN	3.42			
	505	ALTA MCCLURE, ET AL	7.35			
	505-2	ALTA MCCLURE, ET AL	0.81			
	506	ALTA MCCLURE, ET AL	27.32			
	507	ALTA MCCLURE, ET AL	18.80			
	508	MILDRED A. WHITEMAN, ET AL	1.66			
	509	CHARLES WESLEY GEARHART	1.45			
	510	CHARLES WESLEY GEARHART	23.35			
	511	CHARLES WESLEY GEARHART	10.04			
	511-E	CHARLES WESLEY GEARHART			5.85	
	512	VEDA E. GARDNER	0.13			
	513-E	JAMES I. YOUNG, ET AL	0.67			
	514-E	CLAIR B. STRAW	34.19			
	515	GILBERT S. WATTS, ET AL	12.74			
	515-E-1	GILBERT S. WATTS, ET AL			15.06	
	515-E-2	GILBERT S. WATTS, ET AL			26.11	
	516	WENDELL P. WATTS	2.74			
	516-E	WENDELL P. WATTS			26.77	
	517-1	H. S. ALE	0.36			
	517-2	H. S. ALE	0.07			
	518	BEECH CREEK EXTENSION RAILROAD COMPANY	57.57			

PROJECT MAP

DEPT. OF THE ARMY
USING SERVICE CORPS OF ENGINEERS

LOCATION OF PROJECT

STATE PENNSYLVANIA
COUNTY CLEARFIELD
DIVISION NORTH ATLANTIC
DISTRICT BALTIMORE
ARMY AREA FIRST
35 MILES N.W. OF ALTOONA
20 MILES SE. OF DU BOIS

TRANSPORTATION FACILITIES

RAILROADS NEW YORK CENTRAL
STATE ROADS 453 & 969
FEDERAL ROADS 219 & 322
AIR LINES

ACQUISITION

TOTAL ACRES ACQUIRED

FEE
PUBLIC DOMAIN PERM. WITHDRAWAL
USE PERMIT TEMP. WITHDRAWAL
TRANSFER
LEASE
LESSER INTERESTS
SEE SHEET NO. 1

DISPOSAL

TOTAL ACRES DISPOSED OF

SOLD
PUBLIC DOMAIN PERM. WITHDRAWAL
USE PERMIT TEMP. WITHDRAWAL
TRANSFERRED
LEASES TERMINATED
LESSER INTERESTS TERM.
REASSIGNED
OTHER
SEE SHEET NO. 1

LEGEND

EXCEPT FOR THE SPECIAL SYMBOLS SHOWN BELOW MAP SYMBOLS ARE STANDARD IN ARMY MAP SERVICE TECHNICAL MANUAL NO. 81.

RESERVATION LINE

RESERVATION LINE (Actual Survey)

TRACT BOUNDARY LINE

TRACT NUMBER

CONTOUR LINE

DISPOSAL

ACQUISITION AUTHORIZATION
FLOOD CONTROL ACT 9-3-54 IN ACCORDANCE
WITH HOUSE DOCUMENT NO. 29, 84th
CONGRESS 1ST SESSION
(11-17-1915 DEC DATED 5-18-50 18-2-18-60)

SEGMENT 5

CORPS OF ENGINEERS

NORTH ATLANTIC DIVISION BALTIMORE DISTRICT

REAL ESTATE

CURWENSVILLE RESERVOIR

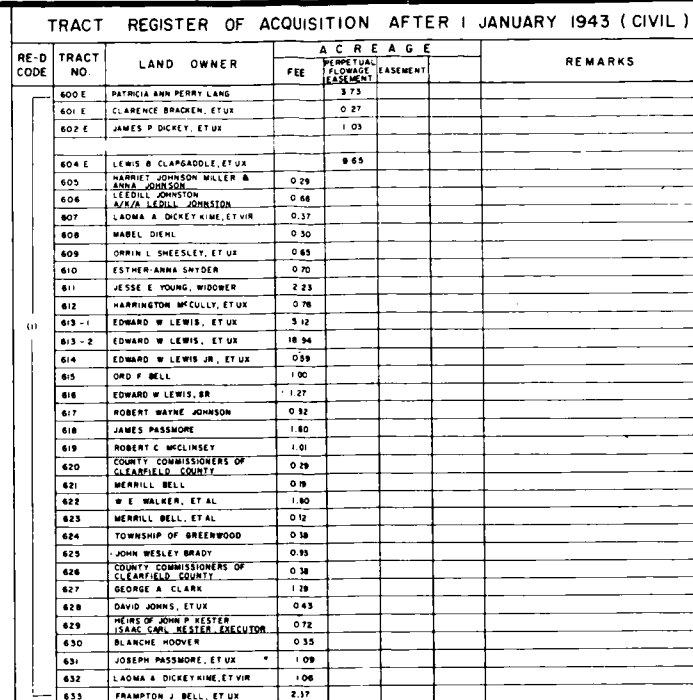
DRAWN BY: A.S.C.
TRACED BY: A.S.C.
CHECKED BY: C.J.D.
SUBMITTED BY:
CHIEF, CADASTRAL SECT.
RECOMMENDED BY:
DATE: 11 Dec 1962

OFFICE, CHIEF OF ENGINEERS, WASHINGTON 25, D.C.

INSTALLATION OR PROJECT NO.

Scale 1" = 400'

SHEET 5 OF 8 DRAWING NO. RAD 298



TRACT REGISTER OF ACQUISITION AFTER 1 JANUARY 1943 (CIVIL)					
RE-D CODE	TRACT NO.	LAND OWNER	ACREAGE		REMARKS
			FEE	PERPETUAL LEASEMENT	
	634	MERRILL BELL, ET UX	11.66		
	635	LEWIS ROSS EST	0.43		
	636 E	GOLDIE WITHERITE		0.77	
	637 E	HAROLD WRIGHT, ET UX		0.15	
	638	WALTER H. ROWLES & IDA B. FASBOTTER	5.43		
	638 E	WALTER H. ROWLES & IDA B. FASBOTTER		3.37	
	639	JETERSON THOMAS & MABLE DICKY A/K/A MRL. B. DICKY	6.27		
	640	HARRY G. DERRICK, ET UX	21.19		
	641	EDWARD W. LEWIS	3.53		
	642	CORA E. MITCHELL	6.40		
	642 E-1	CORA E. MITCHELL		7.07	
	642 E-2	CORA E. MITCHELL		2.08	
	643	CORA E. MITCHELL	80.46		
	644 E	HEIRS AT LAW OF DAVID H. JOHNSON		21.82	
	645 E	MIRL B. DICKY, ET UX		1.52	
	646 E	TWP OF GREENWOOD		0.72	
	647 E	MIRL B. DICKY, ET UX		2.4	
	648 E	PERN E. PATTERSON, ET VIR		0.98	
	649 E	PERN E. PATTERSON, ET VIR		0.17	
	650 E	ADRIAN ZORGER, ET UX		0.53	
	651 E	HARRIET L. MANAFFEY		5.68	
	652 E-1	HEIRS AT LAW OF DAVID H. JOHNSON		1.88	
	652 E-2	HEIRS AT LAW OF DAVID H. JOHNSON		7.72	
	653 E	HEIRS AT LAW OF DAVID H. JOHNSON		52.75	
	654 E	BEATRICE KNAPMAN MOLEN		0.42	
	655 E	BEATRICE KNAPMAN MOLEN		4.17	
	656 E	JAMES RICH		4.90	
	657 E	WILLIAM E. YOUNG, ET AL		2.12	
	658 E	HARRIET L. MANAFFEY		0.14	
	659 E	HOWARD T. BELL, ET UX		7.76	
	660 E	JOSEPH PASSMORE, ET UX		6.96	
	661	BEECH CREEK EXTENSION RAILROAD COMPANY	20.65		
	661 E	BEECH CREEK EXTENSION RAILROAD COMPANY		0.46	
	662 E	BEECH CREEK EXT. R.R. COMPANY BEECH CREEK RAILROAD COMPANY		30.23	

DEPT. OF THE ARMY
USING SERVICE CORPS OF ENGINEERS

STATE PENNSYLVANIA
COUNTY CLEARFIELD
DIVISION NORTH ATLANTIC
DISTRICT BALTIMORE
ARMY AREA FIRST
35 MILES NW OF ALTOONA
20 MILES SE OF DU BOIS

RAILROADS	NEW YORK CENTRAL
STATE ROADS	453 & 969
FEDERAL ROADS	219 & 322
AIR LINES	

TOTAL ACRES ACQUIRED

FEE _____

PUBLIC DOMAIN { PERM. WITHDRAWAL _____
TEMP. WITHDRAWAL _____

USE PERMIT _____

TRANSFER { _____

LEASE _____

LESSOR INTERESTS { _____

SEE SHEET

TOTAL ACRES DISPOSED OF

SOLD _____

PUBLIC DOMAIN $\left\{ \begin{array}{l} \text{PERM. WITHDRAWAL} \\ \text{TEMP. WITHDRAWAL} \end{array} \right.$ _____

USE PERMIT _____

TRANSFERRED $\left\{ \begin{array}{l} \text{_____} \\ \text{_____} \end{array} \right.$

LEASES TERMINATED _____

LESSER INTERESTS TERM. _____

REASSIGNED _____

OTHER _____

SEE SHEET _____

EXCEPT FOR THE SPECIAL SYMBOLS SHOWN BELOW MAP
SYMBOLS ARE STANDARD IN ARMY MAP SERVICE
TECHNICAL MANUAL NO. 83.

RESERVATION LINE _____

RESERVATION LINE (Actual Survey) _____

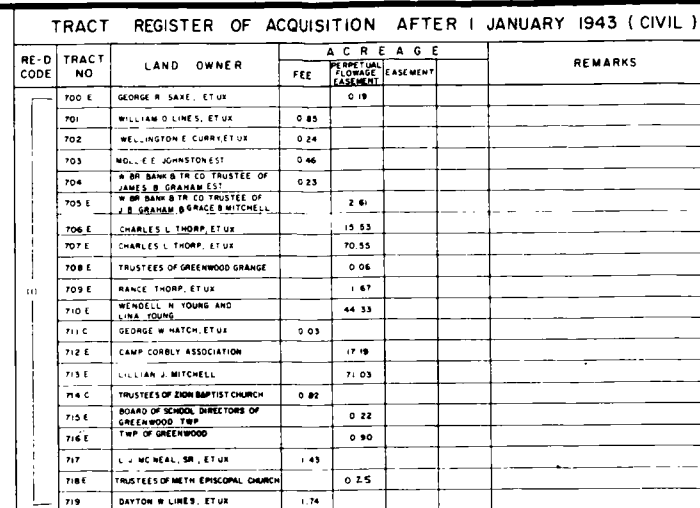
TRACT BOUNDARY LINE _____

TRACT NUMBER _____

CONTOUR LINE _____

DEPOSAL _____

CORPS OF ENGINEERS
 NORTH ATLANTIC DIVISION BALTIMORE DISTRICT
 DRAWN BY: A S C
 TRACED BY: A S C
 CHECKED BY: C J D
 SUBMITTED BY:
Paul F. Williams
 CHIEF, CADASTRAL SECTION
 RECOMMENDED BY:
Joseph W. Fisher
 COL. CORPS OF ENGINEERS, DISTRICT ENGINEER
 OFFICE, CHIEF OF ENGINEERS, WASHINGTON 25, D. C.
 DATE: 11 DEC. 1962
 400 0 400
 SHEET 6 OF 8 DRAWING NO. N.A.S. 100



TRACT REGISTER OF ACQUISITION AFTER 1 JANUARY 1943 (CIVIL)						
RE-D CODE	TRACT NO	LAND OWNER	A C R E A G E			REMARKS
			FEE	PERPETUAL FLOWAGE EASEMENT	EASEMENT	
	720	ELIZA C JOHNSTON	0.32			
	721 E	JAMES M REDDEN		0.44		
	722 E	WILSON WOODROW BELL		0.01		
	723 E	ALLEN J JOHNSTON, ET UX		0.23		
	724 E	WELLINGTON E CURRY, ET UX		0.21		
	725 E	ELKIN H JOHNSTON		1.03		
	726 E-1	WILLIAM H JOHNSTON, ET UX		2.63		
	726 E-2	WILLIAM H JOHNSTON, ET UX		1.41		
	727 E	ALLEN C BORGREN A/X/A BORGREN		18.89		
	728 E	ALLEN C BORGREN A/X/A BORGREN		33.50		
	729 E	ADRIAN ZORGER		1.04		
	730 E	ADRIAN ZORGER		1.06		
	731 E	BEECH CREEK RAILROAD COMPANY		10.91		

DEPT. OF THE ARMY
USING SERVICE CORPS OF ENGINEERS

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COUNTY CLEARFIELD
DIVISION NORTH ATLANTIC
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35 MILES NW OF ALTOONA
20 MILES SE OF DU BOIS

RAILROADS NEW YORK CENTRAL
STATE ROADS 453 B 969
FEDERAL ROADS 219 B 322
AIR LINES _____

TOTAL ACRES ACQUIRED

FEE _____

PUBLIC DOMAIN _____ PERM. WITHDRAWAL _____
TEMP. WITHDRAWAL _____

USE PERMIT _____

TRANSFER _____

LEASE _____

LESSER INTERESTS _____

SEE SHEET NO. 1

TOTAL ACRES DISPOSED OF

SOLD _____

PUBLIC DOMAIN _____ PERM. WITHDRAWAL _____

_____ TEMP. WITHDRAWAL _____

USE PERMIT _____

TRANSFERRED _____

LEASES TERMINATED _____

LESSOR INTERESTS TERM. _____

REASSIGNED _____

OTHER _____

SEE SHEET NO. _____

EXCEPT FOR THE SPECIAL SYMBOLS SHOWN BELOW MAP SYMBOLS ARE STANDARD IN ARMY MAP SERVICE TECHNICAL MANUAL NO. 83.

RESERVATION LINE _____


RESERVATION LINE (Actual Survey) _____

TRACT BOUNDARY LINE _____

TRACT NUMBER _____

CONTOUR LINE _____

DISPOSAL _____



CORPS OF ENGINEERS
NORTH ATLANTIC DIVISION BALTIMORE DISTRICT

CURWENSVILLE RESERVOIR.

DRAWN BY: ASC
TRACED BY: ASC
CHECKED BY: CJD
SUBMITTED BY:
Paul P. Williams
CHIEF, CADASTRAL SECT
RECOMMENDED BY:

Joseph W. Fisher APPROVED BY: *R. Keller* DATE: 11 DEC. 1968

CONF. REAL ESTATE DIV. COL. CORPS OF ENGINEERS, DISTRICT ENGINEER OFFICE, CLUSE OF ENGINEERS, WASHINGTON, D.C.

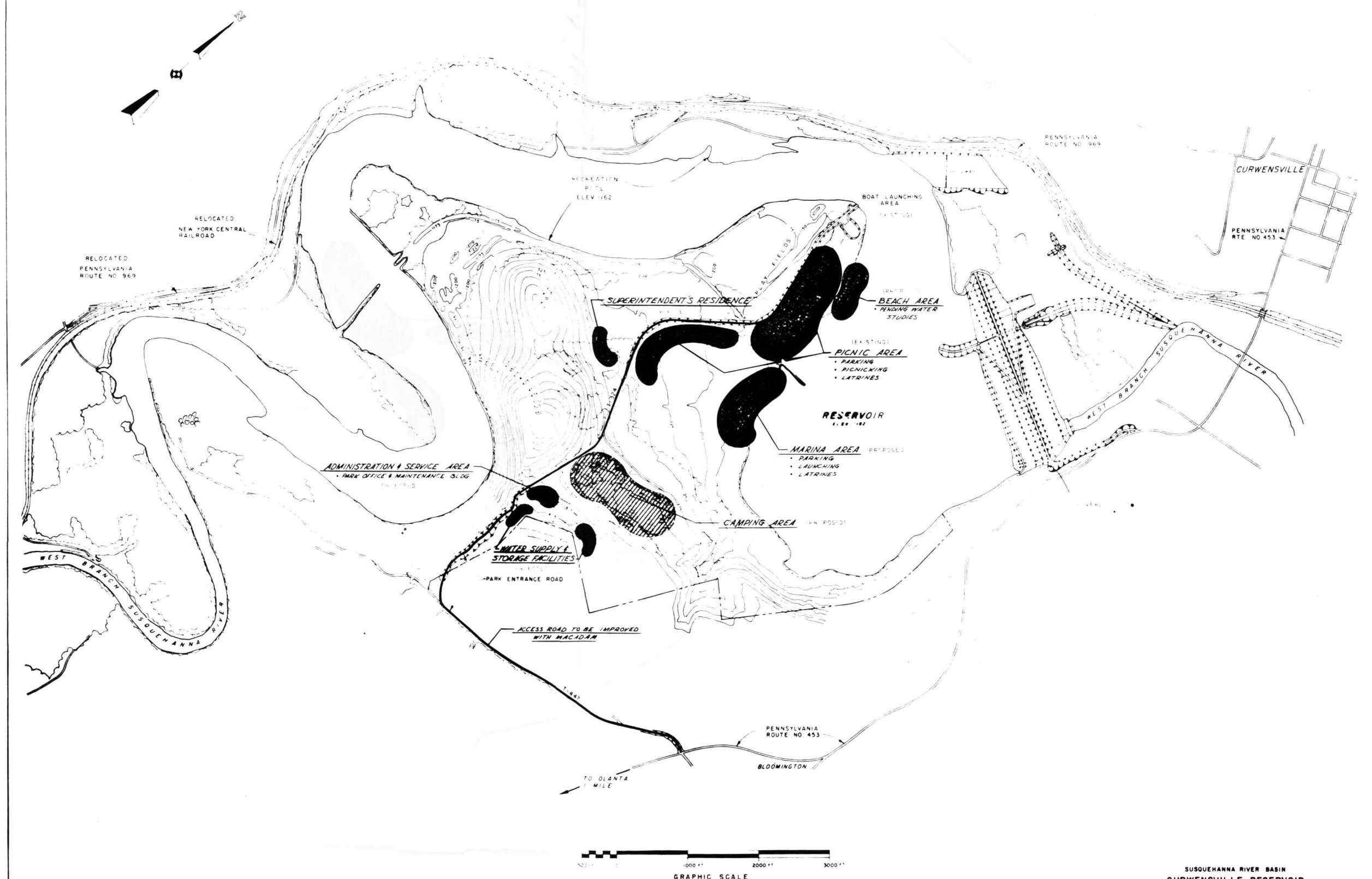
Scale 1" = 400'

[illegible]

INSTALLATION OR PROJECT NO. _____ SHEET 7 OF 8 DRAWING NO. NAD 298

PLATE 13-2G

PLATE 13-2G



SUSQUEHANNA RIVER BASIN
 CURWENSVILLE RESERVOIR
 GENERAL MASTER DEVELOPMENT PLAN
 AS PROPOSED BY
 THE BUREAU OF STATE PARKS
 COMMONWEALTH OF PENNSYLVANIA
 13 SEPT. 1965