

# United States Department of the Interior National Park Service National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking an "X" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900-a). Use a typewriter, word processor, or computer, to complete all items.

## 1. Name of Property

historic name Allegheny River Lock and Dam No. 6  
other names/site number N/A

## 2. Location

street & number 1258 River Road  
city or town Freeport S. BUFFALO, RETHEL TWP [N/A] not for publication  
state Pennsylvania code PA county Armstrong code 005 zip code 16229-2022 [N/A] vicinity

## 3. State/Federal Agency Certification

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

Signature of certifying official/Title \_\_\_\_\_ Date \_\_\_\_\_

State or Federal agency and bureau \_\_\_\_\_

In my opinion, the property  meets  does not meet the National Register criteria. ( See continuation sheet for additional comments.)

*Bruce Davis* Exec. Dir. 12/31/98  
Signature of certifying official/Title \_\_\_\_\_ Date \_\_\_\_\_

PA Historical and Museum Commission  
State or Federal agency and bureau \_\_\_\_\_

## 4. National Park Service Certification

I hereby certify that the property is	Signature of the Keeper	Date of Action
<input type="checkbox"/> entered in the National Register <input type="checkbox"/> See continuation sheet	_____	_____
<input type="checkbox"/> determined eligible for the National Register <input type="checkbox"/> See continuation sheet	_____	_____
<input type="checkbox"/> determined not eligible for the National Register	_____	_____
<input type="checkbox"/> removed from the National Register	_____	_____
<input type="checkbox"/> other, (explain) _____	_____	_____

**5. Classification**

**Ownership of Property**  
**Property**

(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

**Category of Property**

(Check only one box)

- building(s)
- district
- site
- structure
- object

**Number of Resources within**

(Do not include previously listed resources)

Contributing	Noncontributing	
3	2	buildings
0	0	sites
3	1	structures
0	0	objects
6	3	Total

**Name of related multiple property listing**

(Enter "N/A" if a property is not part of a multiple property listing)

Allegheny River Navigation System, 1739-1948

**Number of contributing resources**

**previously listed in the National Register**

0

**6. Function or Use**

**Historic Functions**

(Enter categories from instructions)

Transportation: water-related: lock and dam

**Current Functions**

(Enter categories from instructions)

Transportation: water-related: lock and dam

**7. Description**

**Architectural Classification**

(Enter categories from instructions)

Late Nineteenth and Early Twentieth Century Revival

**Materials**

(Enter categories from instructions)

foundation concrete

walls reinforced concrete

roof rubber membrane

other \_\_\_\_\_

**Narrative Description**

(Describe the historic and current condition of the property on one or more continuation sheets)

PLEASE SEE CONTINUATION SHEET: 7 - 1 ON DOCUMENT PAGE 5

### 8. Statement of Significance

**Applicable National Register Criteria**

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

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

**Areas of Significance**

(Enter categories from instructions)

- Transportation
- Maritime History
- Architecture
- Engineering

**Period of Significance**

1903-1938

**Criteria Considerations**

(Mark "x" in all the boxes that apply.)

**Property is:**

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

**Significant Dates**

1927-1928 (construction)

**Significant Person**

(Complete if Criterion B is marked above)

N/A

**Cultural Affiliation**

N/A

**Architect/Builder**

Dam - Dravo Corporation

Lock - Corps of Engineers

**Narrative Statement of Significance**

(Explain the significance of the property on one or more continuation sheets.)

PLEASE SEE CONTINUATION SHEET: 8-1

### 9. Major Bibliographical References

**Bibliography**

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

**Previous documentation on file (NPS):**

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the NR
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # \_\_\_\_\_
- recorded by Historic American Engineering Record # \_\_\_\_\_

**Primary location of additional data:**

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

U.S. Army Corps of Engineers, Pittsburgh District

Allegheny River Lock and Dam No. 6  
Name of Property

Armstrong County, PA  
County and State

### 10. Geographical Data

**Acreage of Property** approximately 49.6 acres

#### UTM References

(Place additional UTM references on a continuation sheet.) Leechburg, PA

1	1	7	6	1	9	7	7	6	4	5	0	8	4	0	7	3	1	7	6	2	0	2	5	5	4	5	0	8	0	8	2
Zone			Easting						Northing						Zone			Easting						Northing							
2	1	7	6	2	0	1	9	9	4	5	0	8	3	6	8	4	1	7	6	1	9	7	4	1	4	5	0	8	0	6	8

[ ] See continuation sheet

#### Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

#### Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

### 11. Form Prepared By

name/title Douglas Dinsmore, Ph.D., Principal Investigator  
organization Heberling Associates, Inc. date October 28, 1997  
street & number 415 Church Street telephone (814) 643-1795  
city or town Huntingdon state PA zip code 16652

### Additional Documentation

Submit the following items with the completed form.

#### Continuation Sheets

#### Maps

- A **USGS map** (7.5 or 15 minute series) indicating the property's location.
- A **Sketch map** for historic districts and properties having large acreage or numerous resources.

#### Photographs

Representative **black and white photographs** of the property.

#### Additional items

(Check with the SHPO or FPO for any additional items)

### Property Owner

(Complete this item at the request of SHPO or FPO.)

name \_\_\_\_\_  
street & number \_\_\_\_\_ telephone \_\_\_\_\_  
city or town \_\_\_\_\_ state \_\_\_\_\_ zip code \_\_\_\_\_

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of the form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

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**Allegheny River Lock and Dam No. 6**

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Allegheny River Lock and Dam No. 6 property includes six contributing resources. Lock and Dam No. 6 consists of four structures, three of which contribute: the lock, dam, and esplanade; a modern hydro-electric power plant does not contribute. Three buildings, the Operations Building and two locktenders' houses, contribute to the property. Three other buildings do not contribute: a large workshop, a public lavatory, and a storage shed.

A navigation facility, the U.S. Army Corps of Engineers constructed Lock and Dam No. 6 in 1927-1928 in the Allegheny River 36.3 miles upstream for its mouth. Built on the west side of the river in a constricted area, Lock and Dam No. 6 permitted slackwater navigation to the now-vacant Pittsburgh Plate Glass mills at Ford City. Across the river from the lock, a steep bluff rises 632 feet above the slackwater pool made by Dam No. 6. The lock and dam, with a railroad on each side of the river, lie within a picturesque, rural wooded area, with no other industrial elements visible from the facility.

### **Lock**

Land and river walls, sills, miter gates, and valve and gate machinery comprise the locks. The land and river walls are reinforced concrete set on bedrock. The upper and lower guard walls are concrete set on stone-filled timber cribs.

The lock, 56 by 360 feet, has a lift of 12.4 feet, from 757.0 to 769.4 feet. The sidewalls are steel-armored concrete, and mooring pins for securing watercraft are set along the walls. Large hydraulic pistons, connected to a rack, move a large gear attached to jointed arms to operate the gates. Similar large hydraulic pistons connected to jointed arms operate the valves. The operating levers are duplicated on both the land and river walls. Gate pockets and machinery pits on the river side of the river walls indicate the potential to add a second lock, if necessary.

Water enters and exits the lock through eight-by-eight foot culverts in both the land and river walls. The intakes for the culverts are upstream of the upper gates, and downstream of the lower ones. Openings in the lock walls fill and empty the lock from the culverts. Each culvert has two large horizontally-mounted butterfly valves to regulate the flow of water.

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The horizontally-framed steel miter gates close against a concrete miter sill. Anode plates diminish the effects of rust, and bubblers in the corners prevent the accumulation of debris and ice in the gate pockets.

### **Dam**

The approximately 20-foot high fixed-crest dam is 992 feet long. Although the locks rest on bedrock, the dam sits on timber piles, with a gentle slope of 1:4 to add mass to stabilize the dam. The dam has a short downstream apron. Stone-filled timber cribbing backed by additional stone increases the mass of the dam. Because the crest of the dam is the same height across its length, water runs over its entire length. There is no spillway. As a result, the dam itself is nearly invisible when viewed from upstream. Buoys and signs reduce danger to river traffic.

### **Esplanade**

The esplanade consists of concrete-paved fill between the former river bank and the lock's land wall. The esplanade is paved with large square of concrete, permitting replacement of sections and weather-related expansion. The esplanade contains the three penstocks for the turbines that power the hydraulic system that operates the valves and gates. The esplanade has been repaired extensively three times since its construction.

### **Operations Building**

The two-story flat rubber membrane roofed operations building (powerhouse) is approximately 25 by 65 feet. In a vernacular version of an early twentieth century revival style, the structure has a complex cornice. Originally, faux quoins graced the corners. The window and door apertures are set in full-height panels; the doors used for equipment repair set in a slightly projecting panel. A beam for hoisting equipment to the second floor projects from just underneath the cornice. The original windows have been replaced. The powerhouse was targeted circa 1988.

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The plain interior exemplifies the utilitarian nature of the powerhouse. Two large three-cylinder hydraulic pumps are each powered by a 26-inch water turbine. The turbines also provide power to a single-cylinder, horizontally-mounted water pump, used for cleaning. The air compressor that originally operated from these two turbines has been removed. Lock 6 retains its oil pressure relief valve, also called an automatic bypass. The third turbine, which operated the electric generator, has been removed, as have the capstans. Electric power is provided by the local power company. A modern diesel-powered generator provides back-up electricity. A two-cylinder back-up hydraulic pump, originally steam-powered, now operates on compressed air, generated from a modern, electric-powered air compressor. An overhead crane provides lift for the large mechanical components. The stair treads are open-grate metal with metal railings. Both machinery and walls have been painted a light blue-gray. An office is on the second story, with the air compressor and back-up diesel generator.

In the basement of the powerhouse, air storage tanks remain. The site of the coal bin, used to hold fuel for the steam boiler that originally heated the structure and provided backup power, has been converted to a storage area. Natural gas now heats the powerhouse, and the modern air compressor powers the backup hydraulic pump. Passageways lead to the tunnel in the land wall, and to the turbine wells.

### **Locktenders' Houses**

Two locktenders' houses remain extant at the site of Lock 6. Identical, both houses are two-story side-gabled, tan brick structures resting on concrete foundations. In a vernacular style, both houses feature small front and rear porches, paired windows, and external chimneys. Presently vacant, they have been described in a separate report, presently in draft form, *Thematic Study of Civil Works Residences* (Hardlines, Columbus OH, 1998).

### **Noncontributing Buildings**

Three noncontributing buildings stand at the site of Lock 6. One, built in 1982, is a one-story reinforced concrete 88 by 40 foot workshop and garage. It houses equipment and the lock's

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shop. The second, a small one-story concrete public restroom, circa 1982. The third is a small storage shed, also circa 1982.

### **Noncontributing Structure**

One noncontributing structure exists at the site of Lock and Dam No. 6. In 1988, a low-head hydroelectric plant was added to the east side of the dam. The dam's east abutment was removed, and the plant constructed. The plant remains in operation.

### **Landscape Features**

Minimal landscape features exist at Lock 6. A paved parking lot extends the length of the workshop. A paved driveway runs to the lock from the road. Some minor domestic landscaping remains associated with the houses.

### **Alterations**

Repairs have occurred to keep Lock and Dam No. 6 functional. Gates and valves have been repaired or replaced twice. The concrete walls and esplanade have been repaired four times. The heating system was switched from coal to its present gas in 1959. Other more minor repairs have occurred on an annual basis.

Changes have also occurred to improve safety, efficiency, and security. Hand railings were added in 1935. A safety fence was installed in 1970. The electric air compressor was installed in 1974.

Following erosion of the dam's abutment on the north side of the river, steel sheet piling was driven into the river bed and bank to form a cut-off wall in 1938. Additional derrick stone was placed in 1944.

The design and operation of Lock 6 remain much as it was constructed in 1927-1928. Some minor changes have occurred, including remodeling of the office inside the powerhouse,



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and pargeting of the exterior, which obscured some original stylistic details. The continuity of the original design, layout, and construction remains.

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### Statement of Significance

Allegheny River Lock and Dam No. 6 is significant under National Register Criteria A and C as examples of property types *lock, dam, esplanade, and operations buildings* within the Allegheny River Navigation System Multiple Property Listing. Constructed in 1927-1928, Lock 6 became part of an integral slackwater system built to permit commercial barges and towboat access to 72 miles of the Allegheny River.

Proposed in 1898, construction on Lock 6 did not begin until 1927. Although the 1898 proposal of Major Charles F. Powell received support, and Congressional appropriations were delayed by efforts to raise low bridges in Pittsburgh, by work on Locks and Dams Nos. 4 and 5, and by post-World War I recessions. However, appropriations in 1926 permitted contracts to be let by 1927. By 1928, most of the facility was completed, and it opened on October 10, 1928. Additional construction, including work on the locktenders' houses, continued through 1929.

Like Lock and Dam No. 5, Lock and Dam No. 6 exhibited a hybrid construction. Like Lock 5, the lock and operations building were built by Corps-hired labor and the dam by a private contractor, Dravo Corporation.

The lock rests on bedrock, but the dam rests on stone-filled timber cribbing, anchored with timber piles to the gravel river bed. The relatively gentle slope of the dam added mass to hold it in place. In 1944 additional derrick stone was placed around the abutment and the river side of the lock wall.

Since construction, alterations have occurred. The heating system was switched from coal to its present gas in 1959. The electric air compressor was installed in 1974. The workshop was constructed in 1982, and the public restroom and storage shed about that date.

Lock and Dam No. 6 is significant under Criterion A, for its contribution to the long-term maritime history of the Allegheny River. The lock and dam are critical to the continuing river transportation, as outlined in the MPDF *Allegheny River Navigation System, 1739-1948*. An

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integral part of the Allegheny River Navigation System, Lock and Dam No. 6 permitted access to the mills of Pittsburgh Plate Glass in Ford City, south of Kittanning.

Allegheny River Lock and Dam No. 6 is also significant under Criterion C, as a representative example of lock and dam construction of the period 1927-1928. The lock and dam retains its original appearance, machinery, and function. Lock and Dam No. 6, with its two locktenders' houses remaining on site, retains a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

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**Major Bibliographic References**

National Register Multiple Property Documentation Form, *Allegheny River Navigation System, 1739-1948*

Survey conducted in June, 1997

Active Files of the U.S. Army Corps of Engineers, Pittsburgh District offices

National Archives, Philadelphia (letter-sized) E1323C and E1288, and  
College Park (oversized) Record Group 77

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**Verbal Boundary Description**

Beginning at a point at the eastern edge of pavement of River Road (T-857) approximately 345 feet south of the lock's entrance (near where the Government's property line intersects the road), the boundary follows the edge of pavement and beyond along the eastern edge of ballast of the Pittsburgh and Shawmut Railroad to the north line for approximately 1,290 feet. The boundary then turns to the east into river to a point approximately 75 feet upstream of the end of the guide wall, approximately 215 feet. It then runs across the river onto the opposite bank for approximately 1,615 feet, then turns to the south paralleling the river bank for approximately 1,125 feet.

The boundary then runs to the west, back across the river, for approximately 1,685 feet, back to the point of origin.

**Boundary Justification**

The historic property boundary for Lock and Dam No. 6 was drawn to include the primary extant historic components of the lock and dam complex. Although the hydroelectric plant is a modern modification to the dam, it is a noncontributing element of the property.

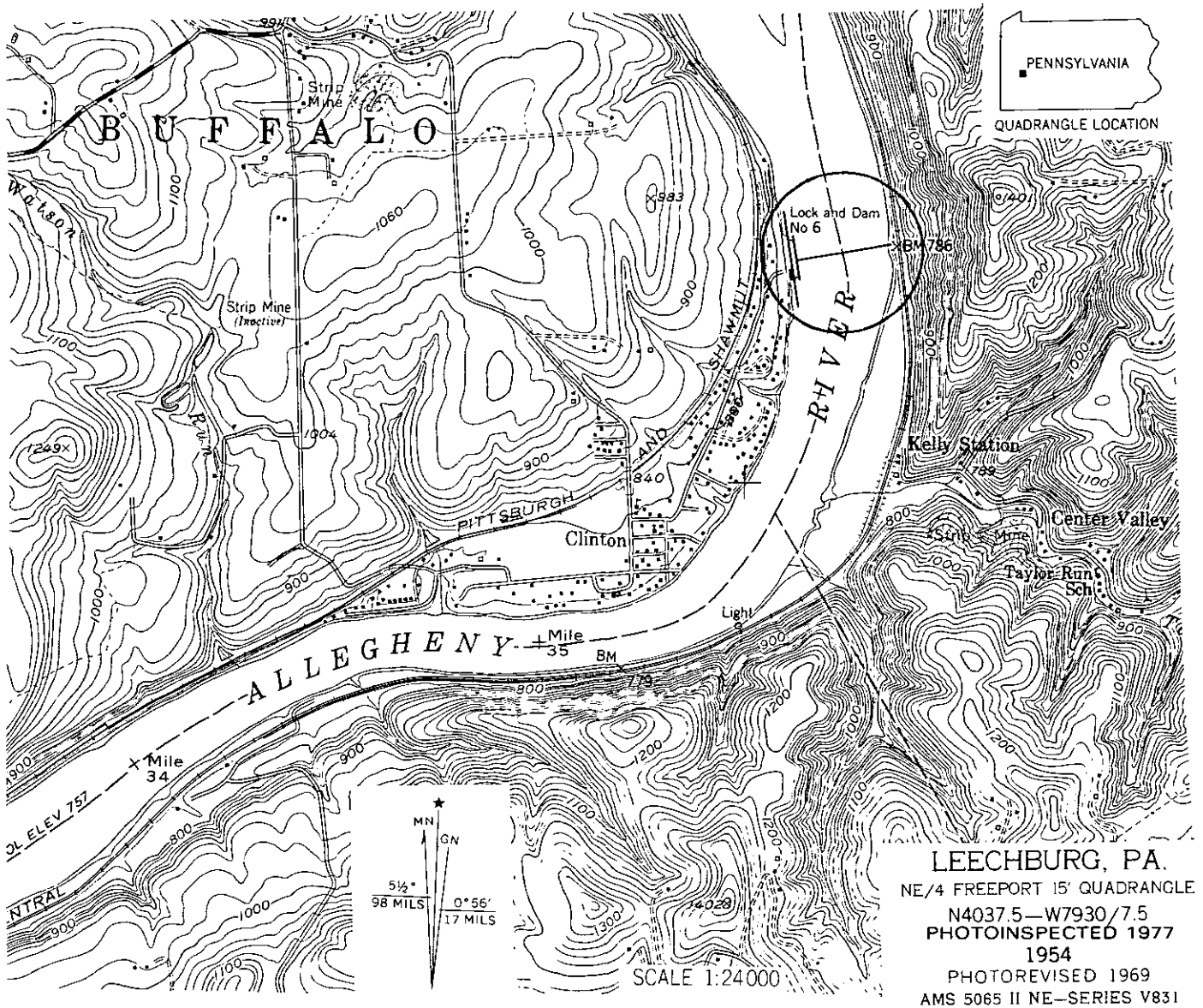
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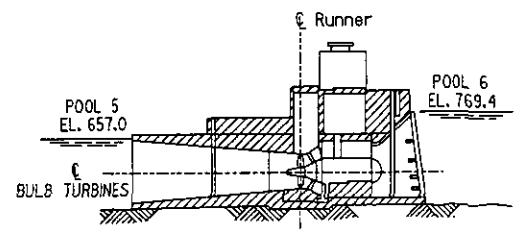
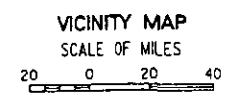
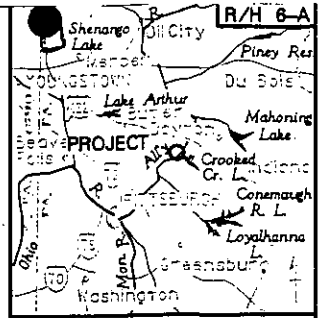
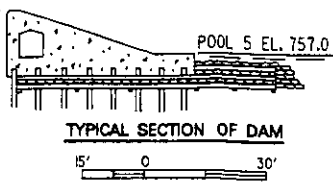
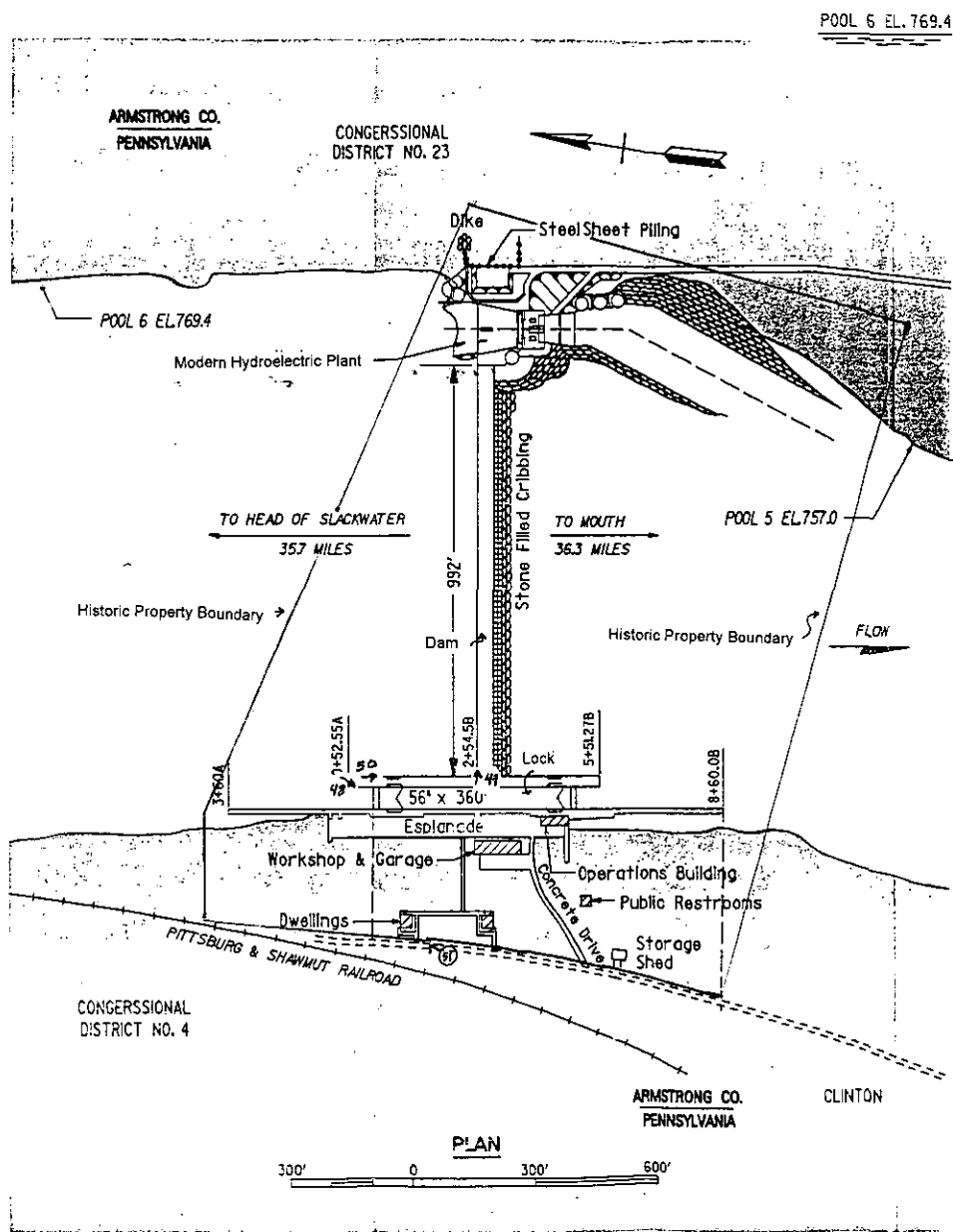
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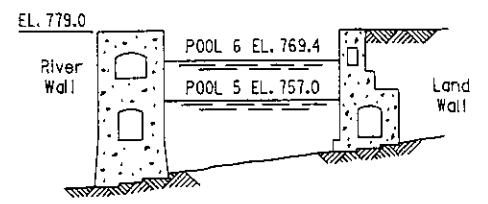
**Allegheny River Lock and Dam No. 6**

**USGS MAP OF LOCK AND DAM NO. 6**





**POWERHOUSE SECTION**  
50' 0 50' 100'



**SECTION THROUGH LOCK**  
20' 0 20' 40'

**ALLEGHENY RIVER**  
**LOCK & DAM 6**  
**PLAN AND SECTIONS**  
PITTSBURGH DISTRICT, PITTSBURGH, PA.