

reconnaissance report

Pennsylvania

And

Ohio Canal

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

RECONNAISSANCE STUDY

PENNSYLVANIA AND OHIO CANAL

By

**Frank Barnes, Regional Historian
and
Andrew G. Feil, Park Planner**

August 1962

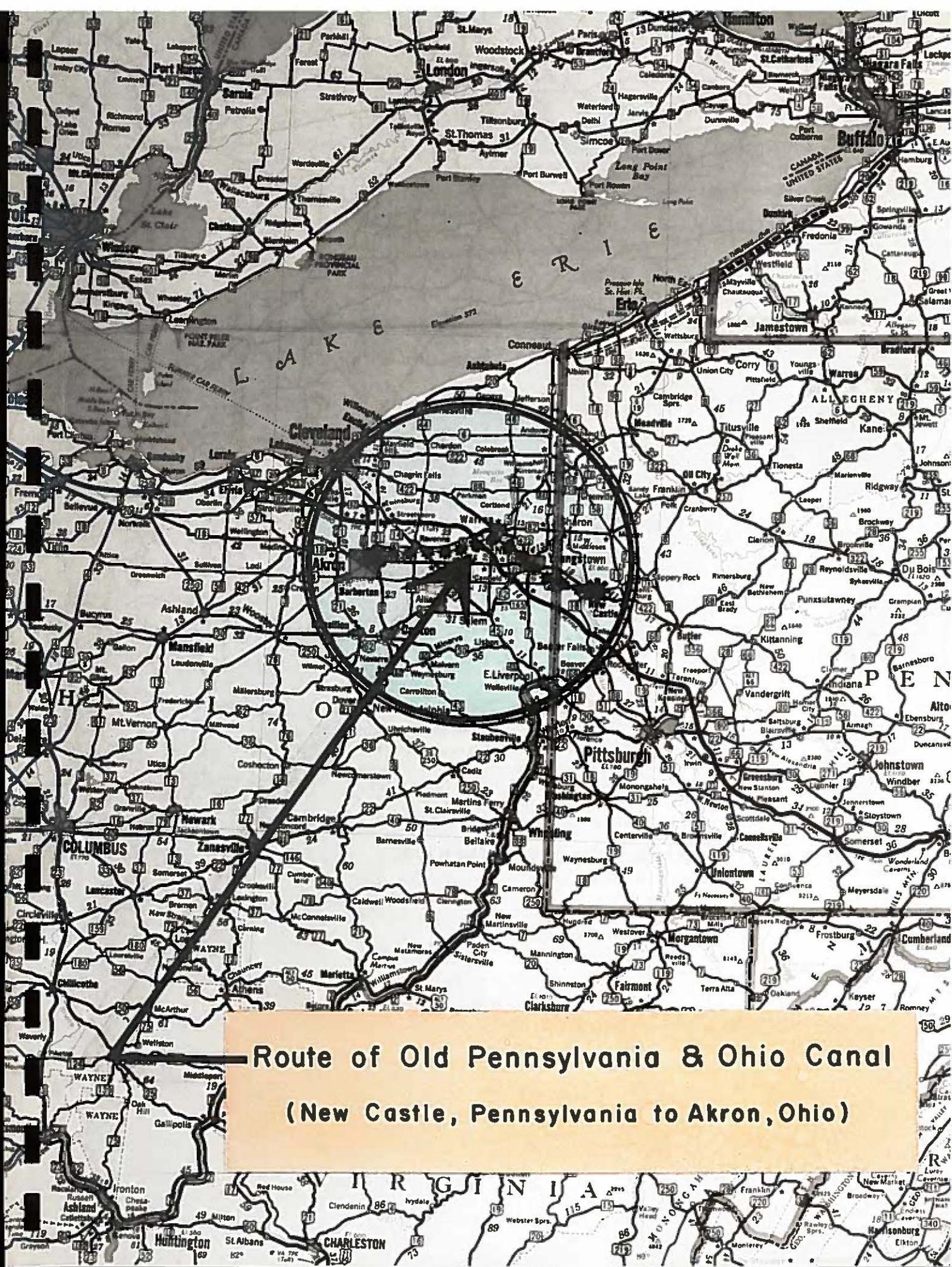
Ohio

1962(?)

INTRODUCTION

Pursuant to Director Conrad L. Wirth's memorandum of May 29, Regional Historian Frank Barnes and Park Planner Andrew G. Feil conducted a field study of the Pennsylvania and Ohio Canal (Akron, Ohio to New Castle, Pennsylvania) during the week of August 6. Prior to this field study, an historical study of the canal was prepared for their use by Park Historian Earl J. Heydinger of Hopewell Village National Historic Site. This study, based in large part on original sources secured from Ohio and Pennsylvania depositories, proved to be invaluable as background for the field study.

During the course of the field investigation, Messrs. Barnes and Feil made most helpful contact with Mr. Ted Dettling (of Dettling Brothers, Florists) of Akron, Ohio, local enthusiast for the Pennsylvania and Ohio Canal and close student thereof, who most helpfully spent a generous lunch hour tracing out the route of the canal between Akron and Kent, and gave additional time to discussion of the canal in general. Other than Mr. Dettling, valuable contacts were made with the Ravenna Historical Society, at the City Hall and Library in Newton Falls, the State Highway Engineers Office in Ravenna, and the Portage County Engineer Office in Ravenna; also, with knowledgeable local people as come upon along the canal route--especially three interested teenagers who, one hot summer afternoon, "knew where the canal was," and took us there to prove it.



**Route of Old Pennsylvania & Ohio Canal
(New Castle, Pennsylvania to Akron, Ohio)**

HISTORY AND SIGNIFICANCE

One of the most interesting constructions of the "canal era" in United States history, the Pennsylvania and Ohio Canal (locally known as the "Cross-Cut") was privately built during the period 1836-40 as a short cut from western Pennsylvania to Lake Erie. Eighty-three miles long (nearly a hundred, including feeders), the canal ran from a point just south of New Castle, Pennsylvania (where it connected with an extension of the Pennsylvania Canal) up the valley of the Mahoning River past Youngstown and Niles to Warren, then west to Newton Falls and along the West Branch of the Mahoning to Campbellsport, crossing the watershed past Ravenna to the Cuyahoga River, then down the latter to a link up with the north-south Ohio and Erie Canal at Akron. Its construction required 57 (wooden) locks, 65 bridges, nine dams and two aqueducts.¹

Designed to recapture Pennsylvania-Lakes trade earlier lost to the Erie Canal, the canal was a quite successful enterprise during the first dozen years of its existence. Its water supply was ample for the passage initially of 45- to 55-ton boats; later on, for 60-ton boats. By the end of its first year nearly 1,200 passengers had been carried over the Pennsylvania and Ohio route. That number had increased to nearly 8,500 by 1844. Presumably, however, the comparative advantages of a longer transportation season and shorter route, Philadelphia to Cleveland, could not finally outweigh (vis-a-vis the Erie

¹See 1828 Engineer Survey Map in Appendix; Second Annual Report of the Pennsylvania and Ohio Canal Company, December 31, 1838, pp. 6-7.

Canal) the constructional disadvantages of the Pennsylvania Canal on which the Pennsylvania and Ohio Canal was dependent.²

Railroad competition became a factor starting in 1850. Still, at least in coal shipments, the Pennsylvania and Ohio Canal put up a good fight, doubling its coal tonnage from 55,000 to 114,000 tons between 1850 and 1854. When the Cleveland and Mahoning Railroad secured control of the canal in 1854 and deliberately raised the canal toll rate, the end of the canal story was in sight however, though the "Cross-Cut" lingered on until 1872.³

Apart from its possible effect on the Erie Canal, the Pennsylvania and Ohio Canal was an important early influence on the industrial development of the Mahoning Valley, New Castle to Warren, giving special impetus to Youngstown where natural deposits of coal, iron ore and limestone in the vicinity had already brought a blast furnace as early as 1803. Soon after the canal's opening, David Tod's "Brier Hill" mine and other mines in the Youngstown vicinity were producing 100 tons of coal daily for Cleveland and the Lakes market. By 1846 there were

²For example, the unique--but awkward--railroad portage over the Alleghenies; also, the excessive number of locks. Extended study of comparative statistics of the two canals could not, of course, be made for the purposes of this report. However, even in its peak years, the 'forties, the Pennsylvania Canal brought in tolls less than half those realized on the Erie (see Report, Frank Barnes and W. T. Ammerman, "South Fork Dam, Conemaugh Gap, Johnstown, Pennsylvania," April 1953, National Park Service Files.

³Account based on report entitled "The Pennsylvania and Ohio Canal" prepared for this survey by Earl J. Heydinger, Park Historian, Hopewell Village National Historic Site, National Park Service, copy on file in Northeast Regional Office. Report is based on canal reports and official state documents, etc.

three blast furnaces in Mahoning County. Niles by that year had a blast furnace, rolling mill and nail factory on the canal and a forge nearby.⁴

Akron, meanwhile, literally brought to life by the north-south Ohio and Erie Canal a few years earlier, had been given renewed impetus to growth as the junction point for the east-west "Cross-Cut" canal with that earlier north-south canal. Even when tolls from canals state-wide declined in the years 1841-45, Akron tolls from the Pennsylvania and Ohio offset the loss--showing the importance of this traffic. Still, Akron owed much more to the Ohio and Erie; the Pennsylvania and Ohio was literally no more than a "feeder" to its growth.⁵

Coal (and iron) shipments along the Pennsylvania and Ohio Canal were undoubtedly a factor in Cleveland's growth, in turn, as well as in the growth of Lakes shipping, after Youngstown's Daniel Tod personally convinced steamboat owners of the value of coal as fuel.⁶ However, it was the Ohio and Erie Canal (Cleveland to Akron and south)--and before that, the Erie Canal--which really put Cleveland on the map. And, later, it was Lake Superior iron ore combined with coal now shipped by rail that made Cleveland the major industrial center it has become.

⁴Ibid., p. 6; articles on "Youngstown" in current editions, Encyclopaedia Britannica and Encyclopedia Americana.

⁵Heydinger Report, op. cit., p. 4; American Guide Series, The Ohio Guide (New York, 1940), pp. 169-70.

⁶Annual Report of the Pennsylvania and Ohio Canal Company, 1853; Eugene H. Roseboom, "Daniel Tod," in Dumas Malone, ed., Dictionary of American Biography (20 vols., New York, 1936), XVIII, 568.

Even these two factors might not have been enough without the perfection of cheap processes for steel-making. But all this was a post-canal story.⁷

As with Cleveland, so with Youngstown and the Mahoning Valley. Youngstown's real growth came in the post-Civil War period, in the era of railroads and cheap mass-produced steel. As late as 1860 (six years after the Cleveland & Mahoning Railroad had bought control of the Pennsylvania and Ohio Canal), Youngstown's population was only 2,759. By 1880 it had more than quintupled; in 1900, it was 44,885. The twentieth century brought the rapid development that has made the "Youngstown District" the third largest iron and steel district of the country. The canal had been merely one step along the way.⁸

While undoubtedly the Pennsylvania and Ohio Canal was a useful agent for the further peopling of the Lakes plains that continued in the decade of the 'forties, its importance in this respect was certainly no greater than that of the Pennsylvania Canal to which it was a later appendage. And, with the broad Ohio River itself available to western travelers at Pittsburgh, it is questionable how important a factor was the northwesterly "Mahoning Valley" extension of the Pennsylvania Canal in the broad westward expansion story. Meanwhile, the Pennsylvania Canal itself was never more than a poor second to the earlier Erie Canal; even today its most interesting aspect is the engineering

⁷Ohio Guide, op. cit., pp. 229-30; article on "Cleveland" in current edition, Encyclopaedia Britannica.

⁸Article, "Youngstown" in Encyclopaedia Britannica, op. cit.

triumph of its Allegheny Portage Railroad, the unique system of inclined planes by which canal boats were carried over the mountains.⁹ New York City, after all, was the big immigrant port of the 19th century, not Philadelphia.

In economic terms, the north-south Ohio-Erie Canal was probably more important for regional development than the Pennsylvania and Ohio Canal.¹⁰ The main flow of anthracite coal for example (once it became popular nation-wide) was east from the coal fields of Pennsylvania and eastern Ohio, not west, as Edward C. Kirkland points out in his economic history.¹¹ The main transportation need in the "Old Northwest" in this period was for artificial waterways connecting the Great Lakes-Erie Canal route with the Ohio-Mississippi River systems.¹² The

⁹Jesse L. Hartman, "John Dougherty and the Rise of the Section Boat System," in Pennsylvania Magazine of History and Biography, October 1945, pp. 113-116, 127-131; Robert E. Riegel, in America Moves West (third edition, New York, 1957), p. 238 describes the "Pennsylvania system" as one of the mechanical marvels of its age (and the Portage Railroad the greatest application of inclined planes ever to be put into operation in the world), and notes that travelers came from far and near to see it and ride over it.

¹⁰Richard C. Wade, in the authoritative new treatment, The Urban Frontier: The Rise of Western Cities, 1790-1830 (Cambridge, 1959), p. 192, gives particular significance to the Ohio and Erie Canal, along with the Pennsylvania Canal (without mentioning its Akron extension), and the Louisville and Portland Canal as having particular significance for western commerce. Compare account of impact of Ohio and Erie Canal on growth of Cleveland and towns below (p. 220), and Akron (p. 169) in Ohio Guide, op. cit.

¹¹Edward C. Kirkland, A History of American Economic Life (third edition, New York, 1951), p. 224.

¹²Riegel, op. cit., p. 241.

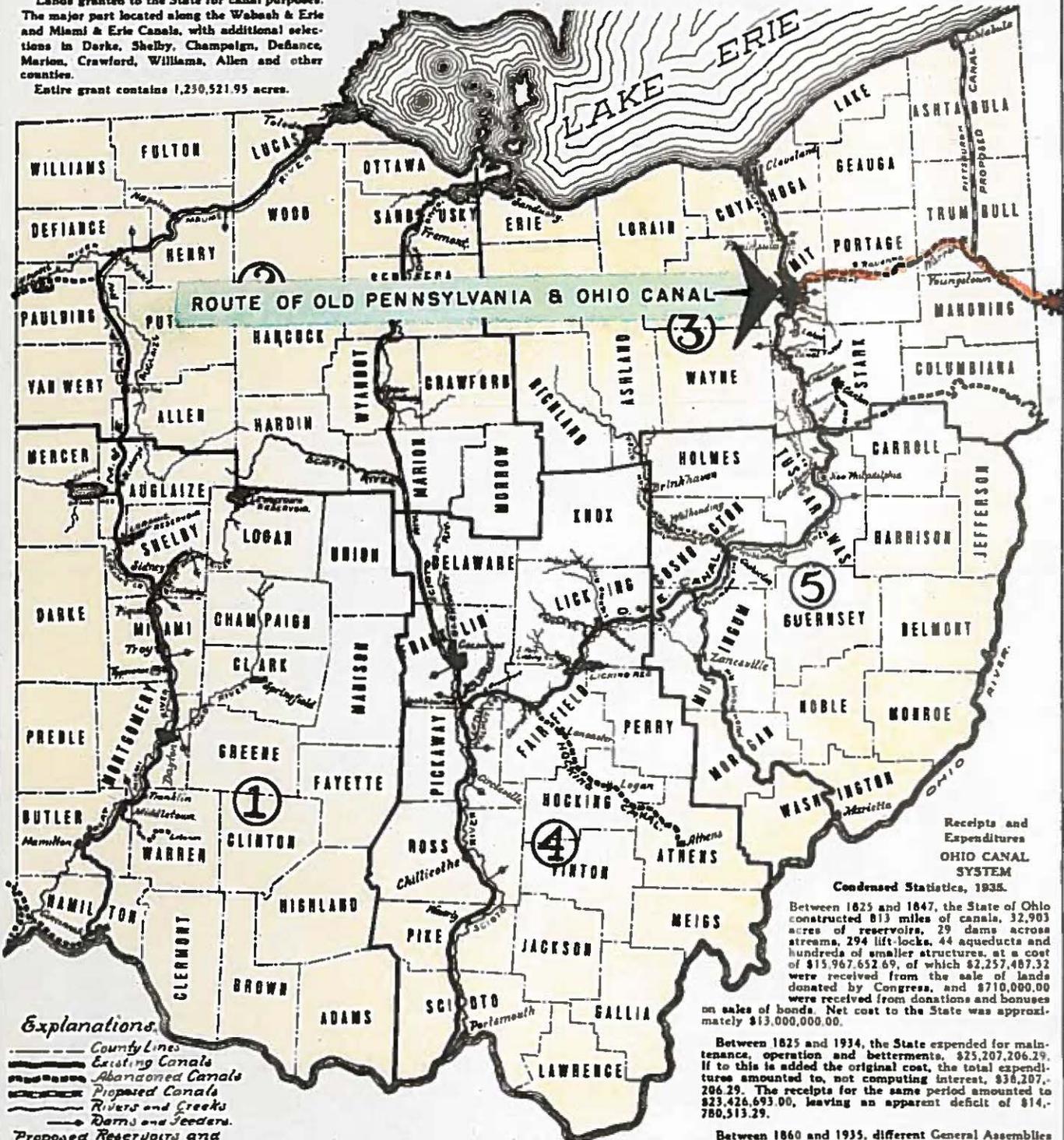
Pennsylvania and Ohio Canal--as an extension to the Pennsylvania Canal--
was an interesting attempt at "short cutting" this route. But it was
an attempt of limited success. There is no solid evidence to indicate
that it is of any more than regional or local significance in our
historical saga.

Map of the State of Ohio

showing

Existing, Abandoned and Proposed CANAL ROUTES

Lands granted to the State for canal purposes. The major part located along the Wabash & Erie and Miami & Erie Canals, with additional selections in Darke, Shelby, Champaign, DeFiance, Marion, Crawford, Williams, Allen and other counties. Entire grant contains 1,230,521.95 acres.



Receipts and Expenditures OHIO CANAL SYSTEM

Condensed Statistics, 1935.

Between 1825 and 1847, the State of Ohio constructed 813 miles of canals, 32,903 acres of reservoirs, 29 dams across streams, 294 lift-locks, 44 aqueducts and hundreds of smaller structures, at a cost of \$15,967,652.69, of which \$2,257,487.32 were received from the sale of lands donated by Congress, and \$710,000.00 were received from donations and bonuses on sales of bonds. Net cost to the State was approximately \$13,000,000.00.

Between 1825 and 1934, the State expended for maintenance, operation and betterments, \$25,207,206.29. If to this is added the original cost, the total expenditures amounted to, not computing interest, \$38,207,206.29. The receipts for the same period amounted to \$23,426,693.00, leaving an apparent deficit of \$14,780,513.29.

Between 1860 and 1935, different General Assemblies ceded away about \$25,000,000.00 worth of the canal property, mostly without any consideration.

At the end of 1903, the aggregate of canal receipts amounted to \$16,953,102.98, and expenditures \$12,063,849.47, and the U. S. Government Commission estimated that the receipts should have been \$25,000,000 greater, or \$41,953,102.98, if the canals had not been leased from 1862 to 1877, at a rental less than one-eighth of one per cent of their cost.

If, from the two items of loss caused by legislative acts, amounting to \$50,000,000.00, we deduct \$30,000,000.00 interest, estimated to have been paid on canal loans, the canals should be credited with \$20,000,000.00 over and above all expenditures. The State still has left some \$13,000,000.00 worth of canal lands that should be preserved for revenue and park development.

The benefits heretofore, both direct and indirect, to the State have greatly exceeded their cost. These lands have produced an average annual rental of \$251,000.00 during the past 22 years. Other than by taxation this is the principal source of revenue the State receives from its real property, the lands of the Old Canal System.

Explanations.
 --- County Lines
 — Existing Canals
 - - - Abandoned Canals
 - - - Proposed Canals
 ~~~~~ Rivers and Creeks  
 — Dams and Feeders.  
 Proposed Reservoirs and outlines of Watersheds shown in Red

Compliments of  
 Superintendent of Public Works.

### SITE REMAINS

Much more than half of the canal is now completely gone. The easternmost section from Niles, Ohio southeast to New Castle, Pennsylvania is built over with railroad lines and steel works and other industrial establishments. Similarly, the westernmost section from Akron city limits to Kent is largely overlaid with railroad track, city streets and highways, with only fragments of the grass and shrub-grown canal trace identifiable here and there. Sections of the canal that went through or near the towns of Kent, Ravenna, Newton Falls and Warren are similarly swallowed up, or suburbanized. Curiously, however, the only section of the "canal" that actually looks something like a canal today is a 1-1/2 mile stretch of the otherwise "lost" western section in the Arlington district of Akron, running along the Little Cuyahoga River beneath the North Expressway.

Set in an unkempt "jungle" of trees and other vegetative growth between two busy railroad lines (one above, one below) this stretch is the only canal remain seen with water, however stagnant. Elsewhere canal traces are grass or tree-grown ditches varying from shallow depressions nearly unrecognizable to earth-banked openings several feet in depth.

Save for interruptions through the towns of Ravenna and Newton Falls, the remainder of the canal apparently\* exists as a more or less identifiable trace about 20 miles long from just west of Ravenna to

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\*Route checked as intersecting highways and roads permitted.

just west of Warren. However, the best sustained stretch in this section (the seven miles from Campbellsport to Wayland) will shortly be flooded as part of a Corps of Engineers flood control project (West Branch Reservoir, Mahoning River, Ohio River Basin). Clearing for the latter project is already underway.

Of the numerous locks, several dams, and aqueducts built in connection with the Pennsylvania and Ohio Canal, very little seems to remain. A necessarily limited survey disclosed only a portion of one lock at Kent and the probable stone abutments for the aqueduct that carried the canal across the West Branch of the Mahoning at Newton Falls. Remnants of other structures may be identifiable given closer study, but nothing of major consequence.

## PRESERVATION AND DEVELOPMENT POTENTIAL

It is possible that symbolic sections of the canal might be preserved and interpreted; however, only limited use thereof for historical-interpretive purposes seems likely. Fragmented as it is, lacking (for the most part) the important element of water, and lacking significant structures serving to highlight the dubious traces that remain, the "canal" would have little or no historical impact and would certainly not provide recreational opportunities of any great consequence. It is hard to imagine its disconnected remains as a "recreational waterway" comparable to the Chesapeake and Ohio Canal National Monument. None of its remains--nearly all hard to identify--have the potential for "supreme experience" that is associated with a National Park Service area. Their rural setting is unexciting. Lacking, first and foremost, is an historical story of national significance.

That part of the canal that appears to offer greatest possibilities for preservation--but only as a local landmark--is the 1-1/2 mile stagnant water section within the City of Akron. From a recreational standpoint, this remnant would seem to offer little except for hiking and "slack water" nature study. A great deal of work would be required to "brush out" the area, and there would be a continuing problem of maintenance. Still, this remnant would be as fitting for local preservation as the locks of the Ohio and Erie Canal that the Akron Metropolitan Parks Department is preserving north of the city.

RECOMMENDATIONS

1. That the approximately 1-1/2 mile section of the Pennsylvania and Ohio Canal in Akron be referred to the Metropolitan Park Commission for study as part of the metropolitan park system.
2. That the remnants of the Pennsylvania and Ohio Canal not be considered for inclusion within the National Park System.

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APPENDIX

## Harpers Ferry Center

### SEPARATION SHEET

|                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description of Material</b><br>Photographs: Pennsylvania & Ohio Canal, 1962                                                                 |
| <b>Collection Name</b><br><br><b>Proposed Areas</b>                                                                                            |
| <b>Record Series</b><br><br>Series III: Park Planning, Facilities, and Lands Records, Subseries E: Proposed Areas                              |
| <b>Original Location</b><br><br>Folder Title: Individual Proposals: Northeast – PA, OH – Pennsylvania & Ohio Canal, 1962<br>Box # 4 Folder # 2 |
| <b>New Location</b><br><br>HFCA Willow Springs, Rm 129<br>Proposed Areas Box 15 (Binder Box)                                                   |
| Separated by: Lloyd S. Williams<br>Date: 2/20/2015                                                                                             |



Mahoning Valley at North Edinburg, Pennsylvania (just west of New Castle). View west along canal route, as overlaid by B&O Railroad tracks.



Canal trace, south and east of Ravenna, Ohio, off New Milford road.



Canal trace below North Expressway, Akron, looking west.



Canal trace below North Expressway, Akron, looking east. Canal wall shown is late construction.

1234 COLSON CUNEIFORM

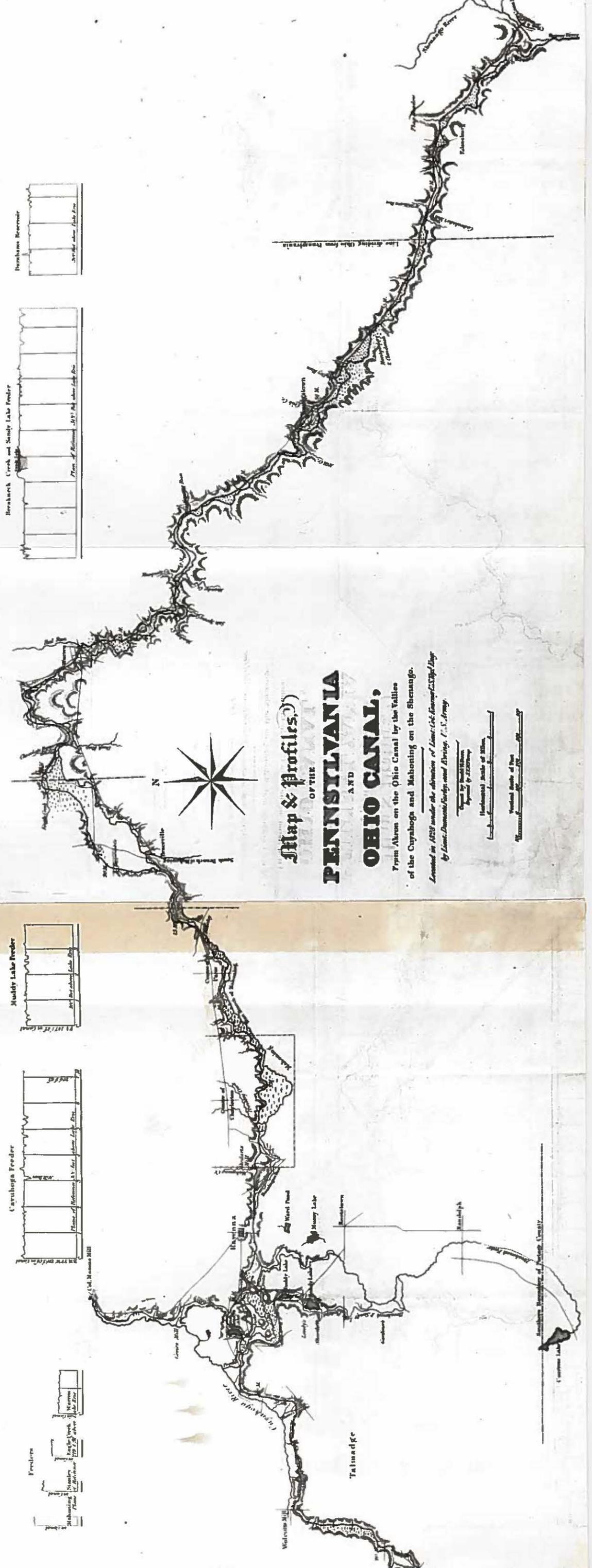
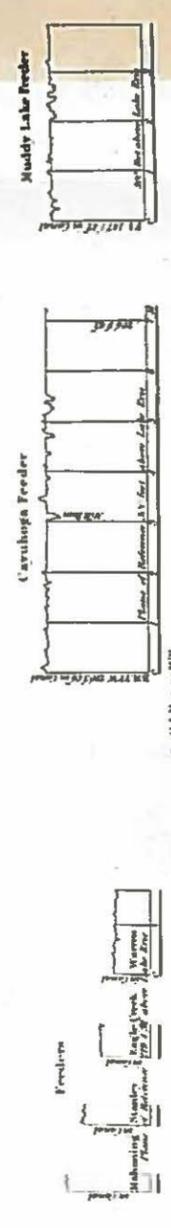
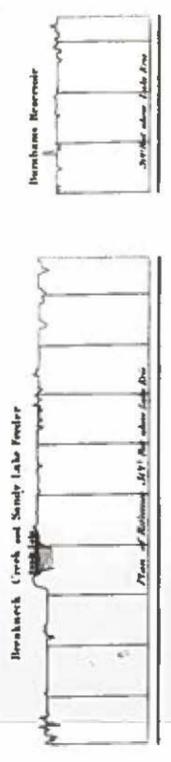
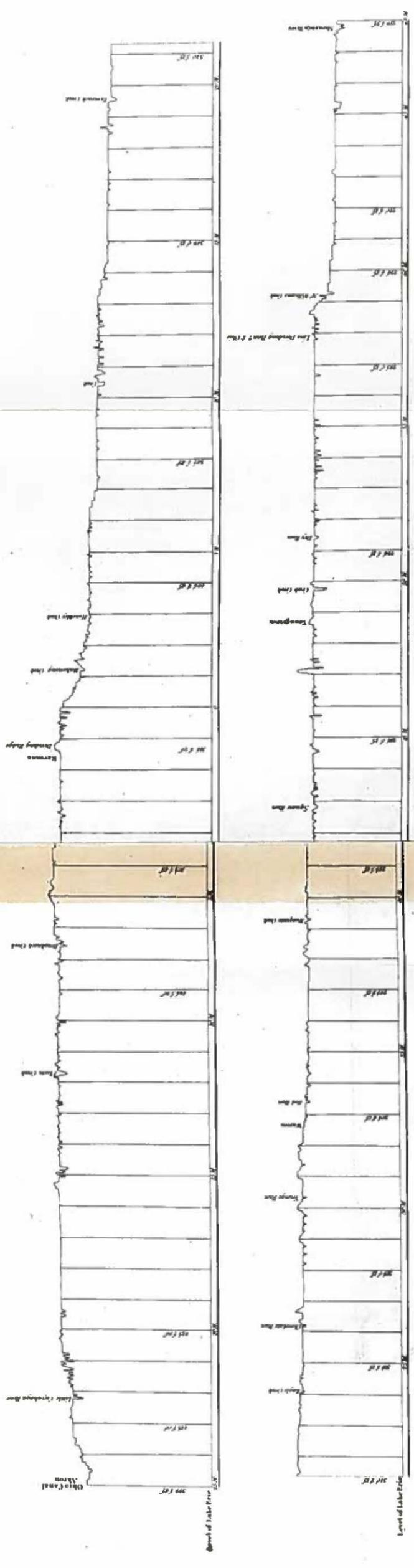
*St. Lawrence*



Probable abutments for aqueduct across East Branch, Mahoning River, at Newton Falls, Ohio.



Canal "trace" outside Newton Falls, Ohio.



**Map & Profiles**  
OF THE  
**PENNSYLVANIA AND OHIO CANAL,**  
From Akron on the Ohio Canal by the Valleys  
of the Cayuga and Mahoning on the Seneca.  
Laid out in 1825 under the direction of Genl. L. R. Ingalls, U.S. Army.  
Designed by J. H. Rouse.  
Engraved by J. H. Rouse.

