



New York State Archives

**New York State Engineer and Surveyor Barge Canal Plans
B1009**

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Overview of the Records

Repository:	New York State Archives
Summary:	The volume contains plates of plans, drawings, profiles and location maps relating to the improvement and enlargement of the Barge Canal. Locks, dams, and bridges are frequently represented. Generally the plates depict: typical channel sections, prism walls and the types of wall and bank protection employed; locks; power plants; fixed and movable dams and navigation aids. A list of plates in front of volume functions as an index.
Creator:	New York (State). State Engineer and Surveyor
Title:	Barge Canal plans
Quantity:	0.1 cubic feet
Quantity:	1 volume; 156 plates
Quantity:	1 volume(s)
Date:	1920
Series:	B1009

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Arrangement

Numerical by plate number.

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Scope and Content Note

This one-volume series contains 156 plates of plans, drawings, profiles and location maps relating to the improvement and enlargement of the Barge Canal. It was produced by the office of the State Engineer and Surveyor and issued as a supplement to his 1920 annual report with the express intent to preserve the work of the engineers involved, to "be of lasting benefit to the engineering profession" and to assist in the design of future public or private works.

The volume contains an introduction by State Engineer Frank M. Williams

The Barge Canal was an important engineering feat because it was a river canalization that used natural waterways along with some divergence of channels through a considerable portion of the system. This approach was a radical departure in canal building from the previous methods of independent channels or so-called land line canals. In the barge system the natural flow of streams which are canalized supply the needs of the various canals, and they are reinforced by reservoirs and feeders that were originally built to supply the previous canals. Consequently, much of the engineering work was involved in ensuring and controlling an adequate water supply.

The plates in this series show typical work done as well as some features special or unique to the barge canal project. The two best examples of stretches of canal where unique engineering problems occurred are at Cohoes Falls, which resulted in the greatest series of high lift locks then known in the world; and the gorge near Medina at Oak Orchard Creek, which required an unusually high channel and walls bordering the gorge--after plans for the largest (at that time) single span concrete structure ever devised were given up. Similarly the movable dam at Rochester is shown because of its engineering novelty and because it was the result of the latest study at the time. The selection of kinds of work depicted is comprehensive except for terminal work, for which only examples of piers and dock walls are shown. Since locks and dams were the most important structures in the project they, along with bridges, are most highly represented in the volume.

Generally the plates cover the following: typical channel sections, prism walls and the types of wall and bank protection employed; locks (typical pile foundation and combined or tandem locks, wooden and steel lock gates, siphon locks, and lock operating equipment); power plants (hydro electric and gasoline electric); fixed and movable dams (sector gate, bridge, and taintor gate types, as well as a dam with automatic crest that originated in the course of designing the canal); guard gates (for sections of the canal lying above the level of the surrounding land); siphon spillways (which also originated with barge canal design, providing automatic starting and stopping of the flow of water); dams, including retention dams (across the beds of streams entering the canal channel) and culverts and aqueducts (notably the largest one in the barge system, which did not have the long aqueducts found in the old canal system); bridges (lift, bascule, and steel arch types used or made to be converted to use as local conditions warranted); terminal piers and dockwalls; and navigation aids (lighthouse towers, tankhouses, etc.).

Plates were reproduced from contract plans that were reduced to the size suitable for a volume. Some plates are made up of drawings selected from two or more contract sheets. Each plate has a new title and each part of it has a scale for the reduction given in feet or inches. Occasional legends or explanatory notes are added. The only identification of the selected structures is by contract and sheet numbers which appear at the lower right corner of each plate (these refer to the original contract drawings). Several sections, drawings, diagrams or details are contained within the neat line (marked border) of each plate. Plates measure 28 x 42 cm within a volume size of 33 x 48 cm.

The few maps found in the volume are strictly for location and are placed within the larger general plan. The printed map on the first plate shows all parts of the Barge Canal system. The legend provides for the Barge Canal, all branches, spurs and diverting feeder channels; natural lake channels lying between parts of the system; and the old canal system. The ruled scale is in miles. The various branches are listed and their limits briefly described in explanatory notes. A similar note is given on the map for parts of the old canal that were retained as part of the new system. The map also shows profiles of the improved canals in both vertical and horizontal scales, in miles and feet.

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Related Information

Related Material

Related Publications

The Barge Canal Bulletin, available at the New York State Library, was a monthly publication issued for 11 years by the State Engineer and Surveyor (from February 1908 to January 1919) which contains descriptive articles on general and particular canal subjects, some of which are covered by the plans in this series.

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Other Finding Aids

Available at Repository

A list of plates in front of volume functions as an index.

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Use of Records

Access Restrictions

There are no restrictions regarding access to or use of this material.

Administrative Information

Custodial History

Volume was discovered in the State Archives process area in 1987. There is no accession data available. It is presumed the volume was transferred to the State Archives in 1978 by the State Library.

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Access Terms

- Diagrams
- Locks (Hydraulic engineering)
- Sectional perspectives
- Plans (orthographic projections)
- Profiles
- Maps (documents)
- New York (State)
- New York State Barge Canal System (N.Y.)
- Structural engineering
- Constructing canals
- Civil engineering
- Location maps
- Designing canals
- Canals--New York (State)
- Canals--Design and construction
- Canals--Lifts
- New York (State). Department of Transportation
- Williams, Frank M.