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**National Park Service  
Cultural Landscapes Inventory  
2003**



**Roebling Bridge  
Upper Delaware Scenic and Recreational River**

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## Executive Summary

### General Introduction to the CLI

The Cultural Landscapes Inventory (CLI) is a comprehensive inventory of all historically significant landscapes within the National Park System. This evaluated inventory identifies and documents each landscape's location, physical development, significance, National Register of Historic Places eligibility, condition, as well as other valuable information for park management. Inventoried landscapes are listed on, or eligible for, the National Register of Historic Places, or otherwise treated as cultural resources. To automate the inventory, the Cultural Landscapes Automated Inventory Management System (CLAIMS) database was created in 1996. CLAIMS provides an analytical tool for querying information associated with the CLI.

The CLI, like the List of Classified Structures (LCS), assists the National Park Service (NPS) in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the National Historic Preservation Act, NPS Management Policies (2001), and Director's Order #28: Cultural Resource Management (1998). Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report on an annual performance plan that is tied to 6-year strategic plan. The NPS strategic plan has two goals related to cultural landscapes: condition (1a7) and progress on the CLI (1b2b). Because the CLI is the baseline of cultural landscapes in the National Park System, it serves as the vehicle for tracking these goals.

For these reasons, the Park Cultural Landscapes Program considers the completion of the CLI to be a servicewide priority. The information in the CLI is useful at all levels of the park service. At the national and regional levels it is used to inform planning efforts and budget decisions. At the park level, the CLI assists managers to plan, program, and prioritize funds. It is a record of cultural landscape treatment and management decisions and the physical narrative may be used to enhance interpretation programs.

Implementation of the CLI is coordinated on the Region/Support Office level. Each Region/Support Office creates a priority list for CLI work based on park planning needs, proposed development projects, lack of landscape documentation (which adversely affects the preservation or management of the resource), baseline information needs and Region/Support office priorities. This list is updated annually to respond to changing needs and priorities. Completed CLI records are uploaded at the end of the fiscal year to the National Center for Cultural Resources, Park Cultural Landscapes Program in Washington, DC. Only data officially entered into the National Center's CLI database is considered "certified data" for GPRA reporting.

The CLI is completed in a multi-level process with each level corresponding to a specific degree of effort and detail. From Level 0: Park Reconnaissance Survey through Level II: Landscape Analysis and Evaluation, additional information is collected, prior information is refined, and decisions are made regarding if and how to proceed. The relationship between Level 0, I, and II is direct and the CLI for a landscape or component landscape inventory unit is not considered finished until Level II is complete.

A number of steps are involved in completing a Level II inventory record. The process begins when the CLI team meets with park management and staff to clarify the purpose of the CLI and is followed by historical research, documentation, and fieldwork. Information is derived from two efforts: secondary sources that are usually available in the park's or regions' files, libraries, and archives and on-site landscape investigation(s). This information is entered into CLI database as text or graphics. A park report is generated from the database and becomes the vehicle for consultation with the park and the

## SHPO/TPO.

Level III: Feature Inventory and Assessment is a distinct inventory level in the CLI and is optional. This level provides an opportunity to inventory and evaluate important landscape features identified at Level II as contributing to the significance of a landscape or component landscape, not listed on the LCS. This level allows for an individual landscape feature to be assessed and the costs associated with treatment recorded.

The ultimate goal of the Park Cultural Landscapes Program is a complete inventory of landscapes, component landscapes, and where appropriate, associated landscape features in the National Park System. The end result, when combined with the LCS, will be an inventory of all physical aspects of any given property.

### Relationship between the CLI and a CLR

While there are some similarities, the CLI Level II is not the same as a Cultural Landscape Report (CLR). Using secondary sources, the CLI Level II provides information to establish historic significance by determining whether there are sufficient extant features to convey the property's historic appearance and function. The CLI includes the preliminary identification and analysis to define contributing features, but does not provide the more definitive detail contained within a CLR, which involves more in-depth research, using primary rather than secondary source material.

The CLR is a treatment document and presents recommendations on how to preserve, restore, or rehabilitate the significant landscape and its contributing features based on historical documentation, analysis of existing conditions, and the Secretary of the Interior's standards and guidelines as they apply to the treatment of historic landscapes. The CLI, on the other hand, records impacts to the landscape and condition (good, fair, poor) in consultation with park management. Stabilization costs associated with mitigating impacts may be recorded in the CLI and therefore the CLI may advise on simple and appropriate stabilization measures associated with these costs if that information is not provided elsewhere.

When the park decides to manage and treat an identified cultural landscape, a CLR may be necessary to work through the treatment options and set priorities. A historical landscape architect can assist the park in deciding the appropriate scope of work and an approach for accomplishing the CLR. When minor actions are necessary, a CLI Level II park report may provide sufficient documentation to support the Section 106 compliance process.

## Park Information

**Park Name:** Upper Delaware Scenic and Recreational River  
**Administrative Unit:** Upper Delaware Scenic and Recreational River  
**Park Organization Code:** 4870  
**Park Alpha Code:** UPDE

## Property Level And CLI Number

**Property Level:** Landscape  
**Name:** Roebing Bridge  
**CLI Identification Number:** 300159  
**Parent Landscape CLI ID Number:** 300159

## Inventory Summary

**Inventory Level:** Level I

### Completion Status:

#### Level I

**Date Level I Data Collected:** 1/22/2001  
**Level I Data Collection:** Nancy J. Brown, Cheryl Sams, Lanae Brown  
**Date Level I Entered:** 1/22/2001  
**Level I Data Entry Recorder:** Nancy J. Brown, Cheryl Sams, Lanae Brown  
**Level I Site Visit:** Yes

#### Explanatory Narrative:

Level I field survey work was performed by N. J. Brown and C. Sams in April, 2000. Sams completed additional research, writing and editing in August 2000 under the guidance of N. J. Brown. L. Brown entered the information into the CLAIMS database.

As part of Level I, an initial list of contributing and non-contributing features was included in each landscape characteristic. Features listed without a designation should be considered potentially contributing. This information is only preliminary and does not mean all elements will be confirmed eligible for the National Register as the inventory progresses. It is intended to provide baseline information for potentially significant landscape features on this site.

## Landscape Description

The Roebing Bridge component landscape of the Upper Delaware Scenic and Recreational River (UPDE) is located within the Delaware River Valley, and is located in both Pennsylvania and New York. The component landscape's contributing features include the suspension bridge, canal remnants from the Delaware and Hudson Canal, and the tollhouse used to collect tolls for the bridge after it was converted to a vehicular bridge.

The component landscape consists of several parcels of land, measuring approximately 10 acres, surrounding the previous Delaware Aqueduct of the Delaware and Hudson Canal. Also included in this component landscape is UPDE's .28-acre maintenance complex that is in close proximity to, within the nexus and sight of the Delaware Aqueduct. In addition, acquisition is pending on four additional contiguous properties: two on the Pennsylvania side of the bridge and two on the New York side. When acquired, these properties will add 3.7 more acres to the unit.

The Delaware Aqueduct is nationally significant as the oldest existing example of John A. Roebing's work. Roebing is best known for his design of the Brooklyn Bridge in New York City. The Period of Significance for the Delaware Aqueduct is 1847 – 1898: the time span it was used as part of the Delaware and Hudson Canal (D&H Canal). Five separate components of the D&H Canal, including the Delaware Aqueduct are recognized as a National Historic Landmark.

The site is also contains significant remains of the Delaware and Hudson Canal. The D & H Canal was the first canal to be financed with private funds, and was the primary carrier of anthracite coal to the New York region. The Period of Significance for the canal is 1828 – 1898: the span of time it was an active canal.

The Bridge and its associated Tollhouse are important components of the local transportation infrastructure. The bridge's strategic location on the Delaware River is the reason it was not destroyed as were the other Roebing Aqueducts at High falls, Neversink and Lackawaxen after the canal ceased operations. The period of significance of the bridge for local transportation was 1900-1979: the period the bridge was used as a toll bridge.

The Roebing Bridge unit contains features that have been identified by the List of Classified Structures (LCS) as contributing to these periods of significance. Level II documentation of the Roebing Bridge unit will analyze the integrity of these and other features noted as possibly contributing, as well as the condition of the landscape.

## Cultural Landscapes Inventory Hierarchy Description

Upper Delaware National Scenic and Recreational River is comprised of several noncontiguous sites along the Upper Delaware River between Pennsylvania and New York. The Roebing Bridge unit is one of three historically significant component landscapes of the park unit. The other historic component landscapes are the Zane Grey House and the Corwin Farm (Barryville Office).

Upper Delaware National Scenic and Recreational River is located within the Delaware Valley Sub-cluster of the Chesapeake Cluster of the Northeast Region of the National Park Service.



Hierarchy diagram showing general location of the Upper Delaware's component landscapes.

## Location Map



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<http://www.go.com/Maps/results.html>

## Boundary Description

The Roebing Bridge unit's boundary is complex due to its several tracts that have been acquired at different times. The boundary description will also need to be changed after the proposed land acquisitions have been completed. \*\*

\*\* Pending land acquisitions

PA side:

Alma Brown Keller house located north of the RIBC (Eagle Institute) property ~ 1-2 acres, with canal era house and barn

Steve and Leona Scheifer property located south of the parking lot – ¼ acre, with a canal era house and barn.

NY Side:

Sullivan County/NYS DOT property containing canal locks, north of NPS canal lock property which is south of the bridge about 2 acres.

Bridge Restaurant early 20th Century Structure on ½ acre, located south of the Tollhouse.

The northwestern corner of the boundary of the Roebing Bridge unit of Upper Delaware Scenic and Recreational River is located on the Pennsylvania side of the Delaware River along Lackawaxen Scenic Drive at the point where it curves east heading toward the river. From this starting point, the boundary line heads east, following Lackawaxen Scenic Drive about 130 feet\*. At this point the boundary turns south for 100 feet, and then turns east to head about 300 feet to the river's edge. The boundary then follows the river south 85 feet where it turns and heads 330 feet to the west. At this point, the boundary heads in a southeasterly direction for 285 feet before it turns east for 115 feet back to the river's edge and heads south for 20 feet. The boundary then edges a small, riverside parcel by heading west 18 feet then south for 35 feet. At this point, the boundary heads east for 415 feet, crossing the Delaware River to the New York side of the river.

After crossing the river, the boundary then heads north for 52 feet before jogging 8 feet to the east, then continues in a northerly direction for 490 feet. The boundary then shifts to a north-northeastern direction for 350 feet. At this northern most tip of the property, the boundary line turns east-southeast and heads 72 feet to Route 97 right of way. The boundary then turns southwest to follow Route 97 for 930 feet past the New York parking lot for the bridge to a point just south of the bridge.

At this point the boundary skirts the adjoining property of the Bridge Restaurant. The boundary heads west for 54 feet, then turns south-southwest for 21 feet before continuing west for 63 feet. The boundary then heads south for 135 feet, then returns to the Route 97 right of way by heading 88 feet to the east.

The boundary then heads south along the new canal towpath remains for 160 feet, where it turns south-southwest for 152 feet. At this point, the boundary line continues in south-southeasterly direction for 500 feet, passing the canal lock remains that remain in the New York Department of Transportation's (NYDOT) right of way for Route 97. Immediately adjacent to the dam built by NYDOT, the boundary

heads southeast 360 feet to the southern terminus of the property. The property line turns southwest and leads 41 feet to the Delaware River, where it follows the river's edge in a northerly route for 1450 feet where it intersects with the bridge. The boundary then travels 413 feet west, back across the Delaware River to Pennsylvania.

As the boundary reaches the Pennsylvania shore of the Delaware River, it turns south to frame the Pennsylvania parking lot for the bridge. The boundary first heads south for 36 feet then heads southeast for 16 feet before continuing south for an additional 230 feet. At this point, the boundary heads west for 95 feet, north for 85 feet, then west for 95 feet more. The boundary then heads northwest for 150 feet, terminating at Lackawaxen Scenic Drive.

The boundary then swings south to encompass the old fire station, which is now used by the National Park Service as a maintenance facility. The boundary heads south for 33 feet, east for 8 feet, then south for an additional 40 feet. It then crosses Lackawaxen Scenic Drive in a southwesterly direction for 25 feet before heading south-southwest for 130 feet to the southern most tip of the property on the Pennsylvania side. The boundary then turns northwest for 165 feet before shifting to a north-northwest direction for 142 feet. It then heads northeast for 67 feet, turns east for 67 feet, then crosses back over Lackawaxen Scenic Drive by heading northeast for 31 feet. The boundary then follows Lackawaxen Scenic Drive in generally north direction for 470 feet, passing the Roebing Bridge Information Center (RIBC) building which also houses the winter operations of the Eagle Institute before returning to its starting point.

\*All boundary measurements are approximate lengths.

## Regional Context

### Political Context

The Roebing Bridge unit of the Upper Delaware Scenic and Recreational River is located in Minisink Ford, Sullivan County, New York and Lackawaxen, Pike County, Pennsylvania. The state line between New York and Pennsylvania runs in the middle of the Delaware River.

### Cultural Context

Roebing Bridge is located along the Upper Delaware River, which is largely rural. The area is a popular seasonal tourist destination for people who wish to take advantage of the natural resources afforded by the river: rafting and canoeing, fishing, camping, eagle watching and sight seeing. New York State Route 97 was designated a state scenic byway in 2002 and efforts are underway to promote the area. Some of the permanent residents of the Upper Delaware make their living accommodating the tourists. While there are no major industries in the region, the area does currently face development pressure because of its proximity to the New York City Metropolitan area. This especially true since September 11, 2001, as more people seek homes a further distance from the city. Census data shows significant growth in the surrounding counties. However, Minisink Ford and Lackawaxen have remained small, rural towns with little infrastructure. The homes near the site are single family houses on mid-sized lots.

## **Physiographic Context**

Roebing Bridge is located within the southern edge of the Appalachian Plateau province. The province is characterized by mild relief, except for the steep escarpments cut by the Delaware and Lackawaxen Rivers. The elevation ranges from 595 feet above sea level at the river, to over 1000 feet above sea level at the ridgelines on either side of the river.







Roebling Bridge Existing Conditions: New York - South Detail. (See Addendum for enlargement)



## Chronology

| <b>Year</b>        | <b>Event</b>   | <b>Description</b>   |
|--------------------|----------------|--|
| 12000 BC - 1650 AD | Inhabited      | American Indian inhabitation.<br>Native American: Lenape   |
| 1650 AD            | Settled        | European settlement.   |
| 1764 AD            | Exploited      | First use of timber as industry: sent timber rafts down Delaware River to Philadelphia.                  |
| 1825 - 1829 AD     | Built          | Delaware and Hudson Canal constructed.   |
| 1840 - 1850 AD     | Altered        | D&H Canal enlarged.  |
| 1847 - 1851 AD     | Built          | Delaware Aqueduct constructed.   |
| 1898 AD            | Abandoned      | D&H Canal abandoned.   |
| 1899 AD            | Purchased/Sold | Bridge purchased by The Cornell Steamboat Company.   |
| 1899 AD            | Purchased/Sold | Bridge purchased by The Erie and Wyoming Valley and the Delaware Valley and Kingston Railroad Companies. |
| 1900 AD            | Built          | Tollhouse constructed.   |
| 1908 AD            | Purchased/Sold | Bridge purchased by Charles Spruks.  |
| 1908 AD            | Built          | Tollhouse constructed.   |
| 1930 AD            | Purchased/Sold | Bridge purchased by Federal Bridge Co. of Washington DC (Lackawaxen Bridge Company).                     |
| 1942 AD            | Purchased/Sold | Lackawaxen Bridge Company bought by Edward H. Huber.   |
| 1968 AD            | Preserved      | National Historic Landmark Designation.  |

Roebling Bridge  
Upper Delaware Scenic and Recreational River

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|                |                |  |
|----------------|----------------|--|
| 1972 AD        | Preserved      | National Historic Civil Engineering Landmark Designation.                                  |
| 1973 AD        | Purchased/Sold | Lackawaxen Bridge Company bought by Albert L. Kraft.                                       |
| 1980 AD        | Purchased/Sold | Bridge purchased by National Park Service.   |
| 1985 AD        | Restored       | Phase 1: Restoration & Reconstruction.   |
| 1986 AD        | Reconstructed  | Phase 2: Reconstruction of superstructure.   |
| 1992 AD        | Built          | National Park Service installed New York parking lot (park to verify date).                |
| 1995 AD        | Altered        | National Park Service converted firehouse into maintenance facility (park to verify date). |
| 1997 AD        | Built          | National Park Service installed Pennsylvania parking lot and restroom facility.            |
| 1999 - 2000 AD | Rehabilitated  | National Park Service cleared and stabilized canal towpath for trail.                      |
| 2002 - 2003 AD | Rehabilitated  | Federal Highways Bridge Deck resurfacing and masonry repointing.                           |

## Statement Of Significance

To have historical significance, a landscape must be associated with at least one of four criteria established by the National Register of Historic Places. The four criteria are:

**Criterion A)** Associated with events that have made a significant contribution to the broad patterns of our history;

**Criterion B)** Associated with the lives of persons significant in our past;

**Criterion C)** Embodies distinct characteristics of a type, period or method of construction or represents a significant and distinguishable entity whose components may lack individual distinction;

**Criterion D)** has yielded, or may be likely to yield, information important in prehistory or history.

These criteria can be judged to be significant at the national, state or local level.

In 1968, the Delaware Aqueduct, also known as “Roebing Bridge”, was designated a component of a National Historic Landmark as one of five sites connected with the Delaware and Hudson Canal. The American Society of Civil Engineers declared the aqueduct a National Civil Engineering Landmark in 1972. A National Register nomination form was drafted in 1983, but has not been formally submitted to the Keeper. However, the aqueduct is listed on the Register due to its National Historic Landmark status.

These designations only specify the aqueduct built by John Roebing located within tracts 101-01 and 101-02. None adequately describe the canal features located in the vicinity of the aqueduct, which are within the Roebing Bridge unit of the Upper Delaware Scenic and Recreational River. Provided that there is an appropriate context statement and thorough research of the Delaware and Hudson Canal remains deems them significant, the nomination form should be updated to include the canal remnants within this park unit.

The Delaware and Hudson Canal remnants might meet Criterion A for national significance due to their representation of a chapter in the history of American industry and technology. Completed in 1828, the Delaware and Hudson Canal was the main waterway from the anthracite coal fields of northeastern Pennsylvania to the industrial and domestic furnaces of New York. The canal stretched 108 miles from Honesdale, Pennsylvania to Kingston, New York. “During the 1860s when anthracite coal was the main source of power and the chief fuel for the industrial system of the United States, northeastern Pennsylvania produced from 40 to 50 percent of the entire supply, and the Delaware and Hudson Canal carried the greater share of it to tidewater” (McDermott 1968, 1). The period of significance for the canal is 1828 – 1898, the period that the canal was in operation.

The Delaware Aqueduct meets Criterion B for national significance because it is the oldest surviving example of John A. Roebing’s work. “The Delaware Aqueduct, built in 1847-1849 to carry the Delaware and Hudson Canal over the Delaware River between Lackawaxen, Pennsylvania, and Minisink Ford, New York, is the earliest extant suspension bridge of John A. Roebing, one of the leading 19th century American civil engineers who is best remembered for his crowning work – the Brooklyn Bridge – built to his design by his son Washington (Unrau 1983, sect. 8). The period of significance for the aqueduct is 1847 – 1898, the period of time the aqueduct was used as part of the canal.

The Delaware Aqueduct meets Criterion C for national significance as an example of civil engineering in bridge design. “The aqueduct is the third work of Roebing’s, and in all likelihood, it is both the oldest suspension bridge in the United States and perhaps the oldest extant cable suspension bridge in the world that retains its original principal elements. Thus, the structure is one of the nation’s most significant engineering treasures” (Unrau 1983, sect. 8).

The Roebing Bridge and Tollhouse might be locally significant for Criterion A for their contribution to local transportation and as focal points of civic pride. After the canal closed in 1898, the aqueduct was converted to a vehicular bridge to provide local residents a method to cross the Delaware River between Lackawaxen, Pennsylvania and Minisink Ford, New York. The period of significance for the aqueduct, as converted to a bridge and the tollhouse is 1900 – 1950, the first half-century that the property was used as a toll bridge.

## Physical History

### 12,000 BC – 1650 AD: Native American Habitation

Human occupation in the region is believed to go back to 12,000 BC in the Paleo-Indian Era. It is believed that the Paleo-Indians crossed the narrow strip of land that connected Alaska to Russia and some migrated southeast to finally settle the Upper Delaware valley. The earliest Native Americans came during the melting of the last ice age, so the climate was much colder than it is today. The landscape was tundra marked with spruce and fir trees. The small, wandering bands of hunters and gathers followed herds of mammoth and mastodon.

The Archaic Era began after 6000 BC when large animals became extinct. These indigenous people of the Archaic Era did not wander as extensively as the Paleo-Indians and lived in caves and wooden long houses. The Native Americans had a greater variety of local resources for food, such as shellfish and wild plants, so it wasn't as necessary to migrate for food. The Native Americans of this period also developed spear throwing as a skill using the atlatl, a spear-throwing device usually consisting of a stick fitted with a thong or socket to steady the butt of the spear during the throw, to provide more power.

After 1,000 BC in the Woodland Era, the Native Americans in the region became known as the Lenape. During this period the Lenape developed a more local Indian culture. They started to produce their own food and tools through garden farming and making pottery. Farming made it easier to settle in a certain area, but the Lenape still hunted game and gathered wild plants. The pottery vessels were formed by hand and then fired in the open air. The settled life of the Lenape continued until 1650 AD when they first made contact with European settlers (NPS brochure: The Lenape Indians n.d.)

### 1650-1760: European Contact and Colonization

The Lenape had their first encounters with the European colonists in 1650, and after this point, their lifestyles changed considerably. The colonists traded European made tools with the Lenape for furs. The Indians now had access to tools such as iron hoes and brass kettles to assist them in their daily work. However, the Lenape were stricken with European diseases, such as smallpox and measles, and their numbers dwindled considerably. Due to the illnesses and disagreements with the colonists over land ownership, the Lenape began to migrate west, and by 1758 most Lenape had left the Delaware Valley. (NPS brochure: The Lenape Indians n.d.)

### 1760-1880s: Industrial/Commercial Development

The first attempt to tap into the natural resources of the Delaware Valley started in 1764 when the Skinner family began to sail timber rafts made from the large supply of hemlocks in the region down the Delaware River to Philadelphia for sale (Gold 1994, ). There was also a good supply of bluestone, which was ideal for sidewalks and curbing in New York City. The bluestone, or flagstone, was capable of holding up to the horses and carriages wear. The supply of hemlock trees also supported a growing tanning industry. The hemlock groves provided tannic acids to treat leather. The near-by Lackawanna Valley region was also plentiful in anthracite coal.

The primary difficulty in tapping into the natural resources in this region was the cost of transporting the material to the markets. While the Delaware River provided good access to the Philadelphia market, there were other suppliers for these materials closer by. The markets of New York and New England

offered a more attractive destination. However, in the 1800s the only access to the region from New York City was the Newburgh-Cochecton Turnpike, over which it was very difficult and costly to send wagons.

Maurice and William Wurts, brothers who owned the anthracite coal mines in the Lackawanna Valley region, had the idea to build a canal to link the mines to the Hudson Rivers. In 1823 they formed the Lackawaxen Coal Mine and Navigation Company and hired Benjamin Wright, the engineer of the Erie Canal to survey the path of the canal and estimate the cost of the route. While Wright was making the survey, they received authorization from both the Pennsylvania and New York legislatures to build the canal. The survey was completed by January 1824, and they broke ground on the canal on July 13, 1824. The canal was completely financed with private money, and The Delaware and Hudson Canal Corporation was formed in 1825 by these investors. The canal was finished in 1828, and the first boat traveled from Kingston, NY to Honesdale, PA in October of that year.

When first built, the canal prism was 32 to 36 feet wide at the waterline, and 4 feet deep. The locks were 70 feet long and 9 feet wide between the gates. These dimensions could accommodate boats carrying 25 to 30 tons of coal. As the demand for anthracite grew, the carrying capacity of the canal was reached in 1841 at 192,000 tons annually. The Delaware and Hudson Canal Company then set forth to enlarge the canal in the 1840s. The first enlargement in 1842 only expanded the canal prism dimensions to 44 feet wide at the waterline and 5 feet deep, which accommodated boats carrying 40 tons of coal. The next enlargement made from 1845-1847 enlarged the canal to 5 ½ feet deep that would accommodate 50-ton boats. Construction of the Erie Railroad up the Delaware valley in the 1840s, deprived the Delaware and Hudson Canal Company of its monopoly on the anthracite coal transportation. The Company directors sought to increase the volume of coal transported, as well as to decrease travel time. To accomplish this, they enlarged the prisms to 48 feet wide at the waterline and 6 feet deep. This enlargement would allow boats with a 98-ton capacity access to the canal, and these larger boats could also navigate the Hudson River, thus saving the time it previously took to reload coal from the smaller canal boats at the Hudson River to larger boats that could withstand the Hudson River's current (Unrau 1983, 5-7).

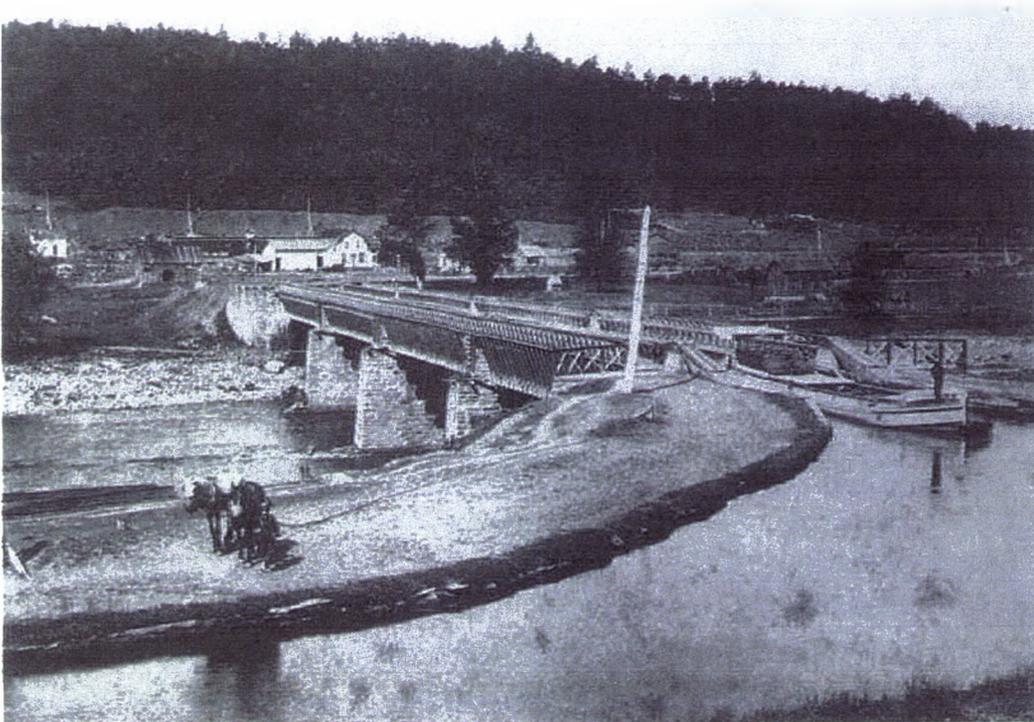
The other problem the Delaware and Hudson Canal had from the beginning was the slack water navigation crossing of the Delaware River at its confluence with the Lackawaxen River. The canal ran along the northern edge of the Lackawaxen River and when it met the Delaware River, the boat would need to be sent alone into the current, which was slowed by a dam, then would enter the guard lock on the east side of the Delaware River. The mules were brought across the Delaware via a rope ferry. This whole operation caused a huge bottleneck of boats waiting to cross the river. There were incidents of ice and water freshets causing damage to the boats as they tried to navigate the river. The Delaware and Hudson Canal Company directors were interested in finding a way to avoid the slack water crossing of the Delaware River. Their solution was to build aqueducts to carry the coal boats over the major streams and rivers along the canal route.

The directors chose a design by John A. Roebling, who was one of the leading engineers in the country specializing in wire rope and suspension bridges. Roebling would later become famous for his design of the Brooklyn Bridge in New York City. Roebling's design needed only three piers, thus keeping the river open for the timber rafts, which often had trouble negotiating the slack water dam.

Roebling's cable suspension aqueduct was supported by two 8-½ inch diameter wrought iron cables, which were fabricated on site. The piers were made of rough-cut, coursed stone. The total length of the bridge was just short of 540 feet. The piers were covered with wooden icebreakers on the upstream side. The Delaware Aqueduct was completed by 1848. The Delaware aqueduct was just one of four aqueducts constructed by Roebling for the Delaware and Hudson Canal. The additions of these aqueducts cut a full

day of travel time from each trip, and saved an estimated 9 days of work stoppage per year due to ice or high water (Vogel 1971, 25).

The increased capacity of the canal allowed the Delaware and Hudson Canal to compete with the railroads for approximately 30 more years, but the last boat passed through the aqueduct in 1898 when the canal was closed in favor of railroad transportation. The other three aqueducts were closed and torn down, but due to the strategic location of the Delaware Aqueduct, it was converted into a vehicular bridge and saved.



*View of aqueduct looking west from New York. (Photo from Upper Delaware Scenic and Recreational River postcard, copyright Eastern National, printed by Consolidated/Drake Press)*

### **1880s – 1978: Resort/Vacation Destination**

The establishment of the railroad into the Delaware Valley brought other benefits besides the ability of transporting raw materials to the East Coast. It also transported citizens of New York City and surrounding areas out to the mountains to get relief from the city during their summer vacations. As the canal activity slowed down and closed, people who made their livings working on the canal started converting their farmhouses to take boarders. The Erie Rail Road promoted the boarding houses and early resorts. As the region became more popular as a tourist destination, families began to buy up old farms to make resorts for the vacationers. After World War I, and the availability of cars and buses grew, there was a growth in the number of bungalow colonies in comparison to the large resorts.

During this period, the Delaware Aqueduct had been rehabilitated as a toll bridge to offer vehicular and pedestrian access across the Delaware River. The towpath was cut off, and a low barrier was placed on the upstream side to allow pedestrian access. The bridge was purchased by Charles Spruks, a Scranton lumber dealer who specialized in the heavy timbers used as supports in the area's coal mines. He primarily purchased the bridge to offer a quick way to get his lumber from Sullivan County, New York, to the railhead in Lackawaxen. He built the tollhouse in 1908 to collect tolls as a sideline (Vogel 1971, 25).

The bridge was purchased by the Federal Bridge Company of Washington DC around 1929, and they prepared the bridge to be able to handle highway traffic of the "heaviest class" in 1930. There was a fire on the bridge around 1932 that destroyed the woodwork, and at that time all original wood on the bridge was removed and the bridge deck, but not the trunk walls were replaced. E. H. Huber of Scranton purchased the bridge in 1942, and held the bridge until the National Park Service took possession in 1980.

### **1978 – Present: Upper Delaware Scenic and Recreational River**

The United States Congress designated The Upper Delaware River a National Wild and Scenic River on November 10, 1978 and since then the National Park Service (NPS) has played an active roll in managing river recreation and preserving both its natural and cultural features. The first parcel purchased by the NPS was the Delaware Aqueduct in 1980. The bridge was in disrepair, and the bridge deck was not structurally sufficient to support vehicular traffic. The NPS set forward to restore the bridge to interpret the structure as an aqueduct while accommodating vehicular traffic. In 1981 the National Park Service's consultant, AG Lichtenstein, assessed the viability of the bridge for cars and tested the strength of the cables. Lichtenstein considered the cables were strong enough to support vehicular traffic. Phase I of the aqueduct's restoration took place in 1985. This phase designed by Lichtenstein restored the piers and reconstructed the icebreakers in the river. The second phase of the restoration took place in 1986 when they the NPS reconstructed the entire wooden superstructure of the aqueduct, with the towpaths. They celebrated The completion of the restoration was celebrated with a gala reopening ceremony on June 13, 1987. Since then, the NPS has acquired more land surrounding the bridge, to protect portions of the canal and the aqueduct's rural setting. The NPS has stabilized the tollhouse and is currently using it for as an interpretive exhibit.. They also have added parking lots on both sides of the river to provide access for visitors, developed a rest room facility on the Pennsylvania side of the river, installed ten interpretive wayside exhibits, developed a half-mile long trail on the remnants of the towpath, and produced a trail guide for the site.

## Analysis And Evaluation

### Summary

The Roebing Bridge unit of the Upper Delaware Scenic and Recreational River consists of several parcels of land, measuring approximately 10.5 acres, surrounding the previous Delaware Aqueduct of the Delaware and Hudson Canal. The unit contains the suspension bridge, canal remnants from the Delaware and Hudson Canal, and the tollhouse used to collect tolls for the bridge after it was converted to a vehicular bridge.

The bridge is the oldest existing example of renowned bridge maker, John A. Roebing's work. The bridge was originally built as an aqueduct to provide canal boats a way to cross the Delaware River. The Roebing Bridge has been restored to its aqueduct appearance, but still accommodates vehicular access across the river.

An initial list of contributing, possibly contributing, and non-contributing features is included in each landscape characteristic as part of the Level I inventory. Features listed without a designation should be considered potentially contributing. This information is only preliminary and does not mean all elements will be confirmed eligible for the national Register as the inventory progresses. It is intended to provide baseline information for potentially significant landscape features on this site.

### Landscape Characteristics And Features

#### Natural Systems And Features

The Roebing Bridge unit of Upper Delaware Scenic and Recreational River is located within the Appalachian Plateau province, and thus the primary natural systems are the Appalachian plateau and the river valley cut by the Delaware River.

Roebing Bridge spans the Delaware River between Pennsylvania and New York, which is the primary resource for water in the region. The Delaware River is known for being free flowing from Hancock, NY to the Atlantic Ocean. The river varies from 150 feet to 1500 feet in width within the Upper Delaware Scenic and Recreational River, and measures approximately 535 feet wide at the Roebing Bridge (NPS Schematic Design/Environmental Assessment 1995, 17). The Lackawaxen River joins the Delaware River approximately 1/3 mile upstream from the bridge. The confluence of these two rivers along with the remains of the 1828 slack water dam causes the Delaware River's current to slow down. The Delaware River has a high water quality, and has been declared a special protection zone by the Pennsylvania Department of Environmental Resources, New York State Department of Environmental Conservation and the Delaware River Basin Commission.

Much of the Roebing Bridge unit is located within the Delaware River's 100-year flood plain. Most floods occur in the spring as a result of the winter thaw, but tropical storms traveling up the eastern seaboard in summer have been known to flood the valley as well. The roadbed of the bridge, the two parking lots, maintenance building, RBIC and the tollhouse are not within the flood plain, but all the canal remnants are within the flood plain.

The Roebing Bridge unit's soils vary according to their position within or above the floodplain. The deep, level or gently sloping, well drained sand, silt and cobblestone soil within the floodplain is underlain by stony and cobbly alluvial soils. These soils are too frequently flooded to support building sites, but they can be used for grass and pasture land. These soils originate from materials dropped during

flood events and do not have a specific parent. The soils above the floodplain consist of Tunkhannock gravelly, sandy loam. These soils are characterized by strong acidity, rapid permeability, nutrient leaching, and low water retention. These soils originate from a variety of shale, sandstone and limestone parent materials (NPS Schematic Design/Environmental Assessment 1995, 17-18).

### **Spatial Organization**

As the primary contributing feature of the site is the Roebing Bridge, the discussion of the spatial organization of the site will begin here. The bridge spans the Delaware River, enabling both vehicular and pedestrian crossing of the River from Pennsylvania to New York. Vehicles cross the bridge via a single lane at the lower level, while pedestrians can cross the bridge using the recreated towpaths above the vehicular lane on either side of the bridge.

Lackawaxen Scenic Drive and the River frame the Pennsylvania side of the bridge. Delaware Drive bisects the site to offer vehicular access to the bridge. The Pennsylvania visitor parking lot, which includes a bridge overlook and restroom facility, is located immediately south of Delaware Drive. The building that houses the RBIC is located directly north of Delaware Drive, right at the corner of Delaware Drive and Lackawaxen Scenic Drive. The RBIC's garage is sited just north of the house. The Upper Delaware National Park Service Maintenance Facility is located across Scenic Drive, directly east of the Pennsylvania parking lot. The NPS property north of the bridge forms an unusual shape due to the adjoining properties. The east boundary is defined by a row of pine trees that follow the curve of Lackawaxen Scenic Drive as it bends toward the river. The NPS parcel then slices between two properties to the river. A small garage is located within this parcel. As the property line heads back towards the bridge, the adjoining property has been clearly marked with a row of trees along their property line.

The New York parcels of the Roebing Bridge unit are arranged in a line organization between the Delaware River and Route 97. There is a distinct vertical separation of the features within the New York parcels as well. The tollhouse and New York visitor parking lot are located on the upper level, and the canal path and canal remnants are located below the bridge within the floodplain. The tollhouse is built into the south bridge abutment, and projects slightly into the roadway. The New York visitor parking lot is located immediately north of Delaware Drive, and includes sidewalks to access the bridge: handicap accessible on the north, and steps adjacent to the tollhouse on the south. The Towpath Trail is accessed from the north end of the New York parking lot. There is a mown emergency access road stretching down to the river north of the bridge, which provides a view of the confluence of the Lackawaxen River with the Delaware River. The Towpath Trail branches off of this mown access road to head south under the bridge towards the canal remnants located on the parcel of land south of the bridge.

## Land Use

The primary use for the Roebing Bridge is for vehicular transportation. Since it opened as a vehicular bridge at the turn of the century, it has been the primary Delaware River crossing for the residents of Lackawaxen and Minisink Ford. The bridge location is very important to the businesses located in Lackawaxen. Without the bridge people in Minisink Ford or Lackawaxen would need to drive several miles out of their way to get to the other side. The bridge is also used as a pedestrian bridge for the Delaware River.

The National Park Service uses this unit to offer educational opportunities to its visitors. There is access to the bridge and a canal path to enjoy the river and appreciate the engineering marvel of bridge and canal. There are picnic tables available for outdoor eating as well. Access to the bridge and canal also offers the NPS the opportunity to interpret the national importance of the aqueduct and canal to industry during the 1800s.

Another land use for the Roebing Bridge unit is the Eagle Institute. This organization has a cooperative agreement with the NPS and occupies the house on the parcel north of the bridge on the Pennsylvania side of the bridge during the winter when the eagles migrate to the Upper Delaware from the northern portion of the United States and Canada.

The Roebing Bridge unit also houses the a maintenance shop for the Upper Delaware Scenic and Recreational River. The maintenance shop is located in a converted fire station located across Scenic Drive from the Pennsylvania visitor parking lot.

## Topography

The Roebing Bridge unit is located within the Upper Delaware River Valley. Thus, it is located at the low point between the two escarpments on either side of the river. On the Pennsylvania side, the elevations in the site range from 595 feet above sea level at the river to 640 feet above sea level. Off-site, the elevation climbs relatively quickly to 1050 feet above sea level. On the New York side, the elevation starts at 595 feet above sea level at the river then climbs to 622 feet above sea level. The escarpment on the New York side of the river is approximately 1180 feet above sea level.

The topography within the site is relatively flat to slightly rolling. The only significant slope is located along the riverbanks, where, in areas, the slope is greater than 15%. The New York side has many retaining walls holding up the tow paths and canal prisms. There is also an area on the Pennsylvania side with steeper slope. Lackawaxen Scenic drive is approximately 8-12 feet higher than the Pennsylvania visitor's parking lot, and the berm supporting the road has a significant slope.



*View northeast from canal trail up to New York bridge abutment and tollhouse.*



*View west from river's edge of Pennsylvania bridge overlook and emergency access road.*

## Vegetation

The vegetation at the Roebing Bridge unit of the Upper Delaware Scenic and Recreational River consists of designed planting schemes, scrub and second growth, and volunteer plants listed on the invasive plant lists. The parking lots and tollhouse areas have designed planting plans. The river slopes on both sides of the river have scrub growth, trees and grass. Most of the canal remnants are set in second growth forest cover.

Included with the design of the Pennsylvania visitor's parking lot was a planting plan, which included a plant palette of Hackberry [*Celtis occidentalis* 'Magnifica'], Flowering Dogwood [*Cornus florida*], Eastern White Pine [*Pinus strobus*], Willow Oak [*Quercus phellos*], Lowbush Blueberry [*Vaccinium angustifolium*], and Blackhaw Viburnum [*Viburnum prunifolium*]. There is a small grove of aspen trees [*Populus tremuloides*] immediately adjacent to the bridge element sculpture. The groundcover immediately surrounding the parking lot consists of turf grass.

The area around the Roebing Bridge Information Center building has planted vegetation as well. The plantings consist of several Norway spruce trees [*Picea abies*], Rhododendron shrubs under the spruce trees, Lilac bushes [*Syringa vulgaris*], and a Japanese maple [*Acer palmatum*].

The parcel north of the Roebing Bridge is open lawn with scattered trees throughout the site. The edge of the parcel is lined with Norway spruce trees [*Picea abies*] along Lackawaxen Scenic Drive. The other scattered trees consist of maples [*Acer*], apples [*malus*], and pines. The slope heading to the river on this parcel is covered with a scrub plant growth of grass, sumac [*rhus*], and a few volunteer trees.

The New York parking lot has less vegetation than the Pennsylvania parking lot; the primary vegetation feature in this area is turf grass. There are several evenly placed small trees planted west of the parking lot, but several trees have been removed. The fire road heading to the northern end of the parcel is covered with mown turf grass. The bank heading up to Route 97 has scrubby growth with some Daylily varieties. The vegetation near the river consists of birch and sycamore trees.

The canal towpath trail begins in a more open field, but as it heads south of the bridge it leads into second growth hardwood forest cover. There is a mix of maple, birch, sycamore and oaks. The canal prism has several plants listed on the NPS invasive plant list: Japanese knotweed [*Polygonum cuspidatum*], barberry [*Berberis thunbergii*], multiflora rose [*Rosa multiflora*], and poison ivy [*Rhus radicans*].



*Vegetation surrounding Eagle Institute.*



*Second growth forest typical along the canal trail.*

## Circulation

The Roebing Bridge unit of the Upper Delaware Scenic and Recreational River contains both vehicular and pedestrian circulation features. The vehicular circulation consists of through roads, emergency access roads, parking lots and driveways. The pedestrian circulation consists of the reconstructed towpaths on both sides of the bridge, a trail through the canal remnants on the New York side, and sidewalks providing access to the bridge, tollhouse, parking lots, the Roebing Bridge Information Center and maintenance building.

The public roads used to access the Roebing Bridge unit are Lackawaxen Scenic Road in Pennsylvania, New York State Route 97 in New York, and Delaware Drive, which crosses the Delaware River via the Roebing Bridge.

The Roebing Bridge unit offers two parking areas for visitors to access the bridge. The New York asphalt parking lot lies north of the bridge and is offset from Route 97 by a 10-foot grass median and a 6-foot wide sidewalk that runs the length of the parking lot. The lot has 9 regular parking bays and one handicapped bay. It consists on a single row of 90 degree parking bays with the handicapped spot located the furthest from the entrance, which is closest to the bridge and tollhouse. There is a single lane for access and egress to and from the parking bays. The level parking lot is supported above the slope to the river with a concrete retaining wall, which has a rail barrier. The parking bay has a gutter system that directs water to a drop basin at the northwest corner of parking lot.

The Pennsylvania parking lot and restroom is located south of the bridge and is accessed from Delaware Drive at the corner with Lackawaxen Scenic Drive. The double loading parking lot accommodates 17 cars and one handicapped parking space, which is immediately adjacent to the restroom facilities.

There is emergency vehicular access to both sides of the river. The New York side is accessed off of the entry drive to the parking lot. The 20-foot wide, turf covered ramp to the river is blocked by two posts with a removable wire barrier. The Pennsylvania side of the Delaware River is accessed at the end of Pennsylvania parking lot. Removable black, metal bollards block the steep graded access to the river.

Both the Roebing Bridge Information Center and the maintenance building have driveways for vehicular access. The RBIC has a short gravel driveway leading to the single car detached garage. The maintenance building has 2 long concrete driveways leading off of Lackawaxen Scenic Drive to the dual bay garages. The northern side of the maintenance building's driveway leads to the lowest level of the building. It is cut into the hill and has stone gravity retaining walls supporting the upper slope. The poured concrete driveway to the southern side of the building leads to the second story and the slope is supported by fill. The driveway is supported by a concrete block retaining wall above Lackawaxen Scenic Drive.

The sidewalk system of the Roebing Bridge unit is almost exclusively 6-foot wide poured concrete sidewalks. The Pennsylvania parking lot has sidewalks on its south, east and north sides. The north side sidewalk provides two choices for accessing the bridge. The most direct route uses a flight of steps up the slope to the bridge. The second route leads the visitor away from the bridge, past the bulletin board and the bridge frame exhibit, and then swings around the Roebing Bridge sign and heads east to provide handicap access to the bridge. At the point where this walk swings around the Roebing Bridge sign, there is a crosswalk across Delaware Drive to provide handicap accessible, pedestrian access to the towpath walkway across the north side of the bridge.

The New York Parking lot provides a sidewalk along the length of the parking bays, which leads the

pedestrian south to either the bridge or the tollhouse. At the end of the parking bay, the walk curves around the bulletin board then splits in two directions. The first turns east to provide handicap access to north side of the bridge. The second walk continues south to a crosswalk across Delaware Drive to the tollhouse. Just south of the tollhouse, there is a flight of stairs leading to the upper level of the tollhouse and to the south side of the bridge.

The Roebing Bridge Information Center's sidewalks are 4-foot wide flagstone slabs that lead from Lackawaxen Scenic Drive to the front door. The walk also branches off to the south and leads around the south side of the house to the side entrance of the porch. There is also a wood chip trail connecting the bluestone sidewalk to the paved walkway leading to the upstream towpath of the bridge.

The upper level of the bridge, which was originally the towpath for the canal, has been reconstructed and provides pedestrian access across the bridge. Both sides of the bridge have these elevated "boardwalks" which are 6-foot wide and have wooden rails on both sides. The pedestrian can look down at the vehicular access or take in the views both upstream and downstream. The reconstructed towpath on the north side of the bridge includes lookouts over each of the piers.

The Towpath Trail begins at the New York parking lot's north edge. The trail was built by UPDE staff and volunteers, who participate in an annual D&H Towpath Trail spring clean up event. The trail is well used and is interpreted through wayside exhibits and a self-guiding brochure introduced in 2002. Pedestrians access the trail by heading down slope on the emergency access road, then turning south on a pathway approximately 6 feet wide, which is covered with wood chips. The Towpath Trail follows the original canal's towpath, predating the bridge, and runs between the river and the canal prism for approximately ¼ mile. The trail's wood chip surfacing near the entrance thins out and ends later along the trail. The trail is then composed of cleared dirt with occasional stones. The trail leads to the dam built by NYDOT to keep Delaware floods from reaching the roadway. At that point, the trail leads down into the canal prism and then back up via four timber steps to the towpath. (At the time of the field survey, this was accomplished by using well placed stones, which have since been replaced by the steps.) From this point southward, the Towpath Trail surface was covered with large rocks, which required vigilance to avoid slipping and twisting ankles. Since this survey, the trail has been improved by the addition of wood chips and it was re-routed back in and out of the canal prism to avoid the exposed rocks. The trail continues south until it meets up with Route 97. The state has made the shoulder wider here to accommodate parking for about a half dozen vehicles.

Roebling Bridge  
Upper Delaware Scenic and Recreational River

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*Delaware Drive heading east over the bridge.*



*Pennsylvania parking lot.*



*New York parking lot.*



*Sidewalk providing access to north side of bridge.*



*Canal trail south of NYDOT dam surfaced with large stones.*

| <b>Characteristic Feature</b>                   | <b>Type Of Contribution</b> | <b>LCS Structure Name</b> | <b>IDLCS Number</b> | <b>Structure Number</b> |
|---|-----------------------------|---------------------------|---------------------|-------------------------|
| Delaware Drive: Road across bridge              | Non-Contributing            |                           |                     |                         |
| Emergency access to river                       | Non-Contributing            |                           |                     |                         |
| Parking/driveway access to maintenance and RBIC | Non-Contributing            |                           |                     |                         |
| Sidewalks                                       | Non-Contributing            |                           |                     |                         |
| Visitor parking.                                | Non-Contributing            |                           |                     |                         |
| Towpath trail                                   | Undetermined                |                           |                     |                         |
| Towpath walkways across bridge                  | Undetermined                |                           |                     |                         |

## **Buildings And Structures**

The primary structure of the site is the Roebing Bridge, which was designed to be an aqueduct to carry canal boats across the Delaware River. It is supported by the cable anchorage enclosed in the two stone abutments built into the slope of the Delaware River on both sides of the river and by three stone piers spaced across the river. The piers are protected upstream by wooden icebreakers projecting north from the piers. The suspension wires of the bridge, views of which are generally obscured by the framing, support the roadway and the towpath. The trunk walls are angled wooden planks that obscure the vehicular view out over the river. The roadway is red tinted concrete with imbedded aggregate.

The New York end of the bridge is the location of the tollhouse. The two-story building is built into the bridge abutment, and extends slightly into the roadway with access for the collection for tolls. The tollhouse has a gable roof and full-length porch on the west elevation. It has wood siding painted slate grey with white trim. The door facing east is accessed at the street level, while the door on the west façade exits onto the porch at the bridge walkway level. The Tollhouse has self-guiding exhibits and displays and is open during the day, but is unstaffed.

The Roebing Bridge Information Center house is a two and a half-story structure covered with asbestos shingles painted slate blue with white trim. The west façade has a centered door and two windows on the first and second stories, and the third story has a single window beneath the gabled roof. The south side of the gable has a dormer that expands the size of the room on this story. There is a porch across this façade, which extends across the south façade of the house. The porch is covered with an asphalt-shingled, hipped roof with gables cut in to accent the front and side doors. The wood shingle porch roof is supported by spindle posts, which are painted white with slate blue accents. The south façade has 3 bays on the first and second floor, and a 2-window dormer on the third story. The east side of the house has an extension on the first story and outdoor access to the basement or cellar. The RBIC's single car garage with a window indicating that there is a second level access. The building is covered with wood siding painted to match the house and has a shingle covered gabled roof. The east façade has a door for pedestrian access and a window beneath the roof as well.

The maintenance building is a split-level structure with 3 stories total. The south end of the building is the high side with the driveway and garage built at grade. The north end of the building is the low side of the building, and the driveway and garage on this side has been cut in below grade. The building has been rehabilitated by UPE and has driftwood gray 5-” “Dutchlap” (cove) vinyl siding, white trim and a 40-year architectural estate gray shingle roof. There is also a manufactured stone block retaining wall, landscape foundation plantings and a flagpole on the east side of the building. Pedestrian access to the building is on the east façade with prefab concrete steps leading up to the door.

The restroom facilities for the site are adjacent to the Pennsylvania parking lot. The unit is a pre-fabricated structure with a gabled roof. There are two single unit accommodations for both men and women. It is covered with unpainted, wood shingles and has an entry screen on the north façade.

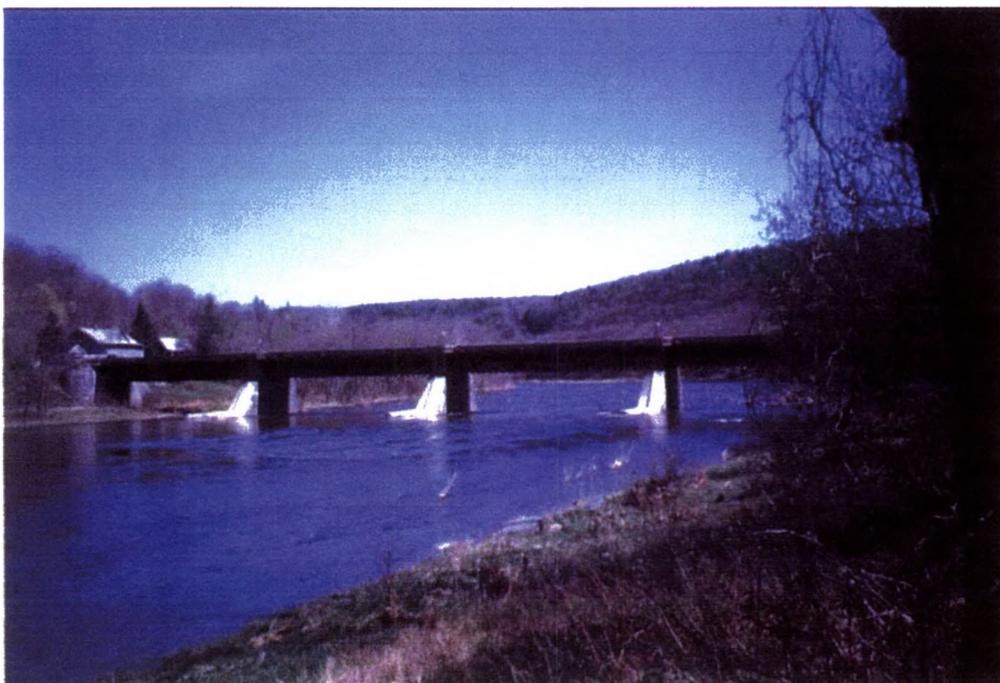
The parcel north of the bridge in Pennsylvania has a small garage. It is a single story structure that lies in a north-south orientation. It has brown painted wood shingles with tan trim. It has a gabled roof and the garage door entry is on the north façade. There are doors on the east and west sides as well.

The Pennsylvania visitor parking lot offers a semi-circular overlook to view the bridge. It located at the eastern end of the parking lot just south of the emergency access road to the river. It constructed of poured concrete to support it at the parking lot sidewalk's grade, and has the same surface pattern as the sidewalk. There is a 4-foot black metal tube guardrail attached to the outer ring of the overlook and a

wayside exhibit attached to the handrail.

Retaining walls are often used throughout the site. Of particular interest are the walls that are connected with the construction of the canal. Throughout the area, locally obtained bluestone, a hard type of sandstone is the building material of choice. (See the Constructed Water Features of this report for detailed description of these walls.) The maintenance building has been supported with retaining walls as well. The driveway leading to the north side garage has gravity bluestone retaining walls, while the driveway and the slope on the north end of the building are supported by formed concrete retaining wall pavers. The north parcel in Pennsylvania has a low wall in the thin parcel between the two private lots. It is a gravity wall that ranges between 1 ½ - 2 feet tall and is constructed of local bluestone.

There is a pedestrian bridge on the canal path, which is directly adjacent to the north side of the New York abutment. The small bridge is 4-feet wide and approximately 20-feet long. It is constructed of wooden planks and has a noticeable slope. At the time of the field survey, there were no handrails on the bridge. Handrails have since been added to both sides of the bridge.



*Roebing Bridge.*



*Tollhouse.*



*Eagle Institute.*



*Maintenance facility.*



*Garage in parcel north of bridge.*

| <b>Characteristic Feature</b>          | <b>Type Of Contribution</b> | <b>LCS Structure Name</b>    | <b>IDLCS Number</b> | <b>Structure Number</b> |
|--|-----------------------------|------------------------------|---------------------|-------------------------|
| Roebing Bridge LCS#7000                | Contributing                | Delaware Aqueduct            | 80000               | 48707000                |
| Tollhouse LCS#7250                     | Contributing                | Delaware Aqueduct Toll House | 80001               | 48707250                |
| Walking bridge on Towpath Trail        | Non-Contributing            |                              |                     |                         |
| Garage in Pennsylvania - North parcel  | Non-Contributing            |                              |                     |                         |
| Maintenance building                   | Non-Contributing            |                              |                     |                         |
| RBIC house and garage                  | Non-Contributing            |                              |                     |                         |
| Restroom facility                      | Non-Contributing            |                              |                     |                         |
| Retaining walls (not related to canal) | Non-Contributing            |                              |                     |                         |

### **Views And Vistas**

The Roebing Bridge unit's location within the Upper Delaware River affords many interesting and scenic views. There are views of the surrounding hills from nearly every location in the unit. The New York side has a striking, mature sycamore tree directly past the bridge, and the Pennsylvania side has the view of Lackawaxen and white church steeple that stands out on the hillside. The Pennsylvania visitor's parking lot offers an overlook to provide visitors a look at the bridge and the bridge is also visible from the New York visitor parking lot. The fire road on the north side of the bridge on the New York side also has a wonderful view of the bridge, with the icebreakers. The pedestrian boardwalks on the bridge offer views both up and down river, and there are views up and down river from most locations within the Roebing Bridge unit.



*View of Lackawaxen and hillside from bridge.*

| <b>Characteristic Feature</b>  | <b>Type Of Contribution</b> | <b>LCS Structure Name</b> | <b>IDLCS Number</b> | <b>Structure Number</b> |
|--|-----------------------------|---------------------------|---------------------|-------------------------|
| Views of bridge from both sides of river                                 | Undetermined                |                           |                     |                         |
| Views to hillsides on both sides, including church steeple in Lackawaxen | Undetermined                |                           |                     |                         |
| Views up and downstream from bridge and banks                            | Undetermined                |                           |                     |                         |

## Constructed Water Features

Important constructed water features of the site are the Delaware and Hudson Canal remnants located on both sides of the Delaware River and the remains of the slackwater dam across the river. This parcel is unique in that it documents the canal both before and after the Delaware Aqueduct was built. The features that survive are the retaining walls of the holding and turning basins on both sides of the aqueduct, the canal prisms for both the old and new canals, the slackwater dam and the towpaths.

Before the aqueduct was built, the canal came down the north side of the Lackawaxen River until it merged with the Delaware River. At this point, the canal boats would float across the Delaware River to enter the canal on the east side of the Delaware River. This point is located in the New York parcel north of the Roebing Bridge. The original canal is now located under the Roebing Bridge and continued south along the Delaware River. The remnants of this older portion of the canal are still evidenced by the stone retaining wall holding up the towpath along the river, LCS #7311. This dry-laid stone retaining wall tapers to the river's edge to support the towpath. It varies in height between 6-8 feet tall and is approximately 700 feet long (LCS #7311, 1996).

The towpath itself, LCS #7310, is a stacked, dry-laid, roadbed with sand and earth in-fill. The towpath is approximately 15 feet wide and 700 feet long. This towpath continued south until it crossed over a bridge at the guard lock where it connected to another towpath, LCS #7320 (LCS #7310, 1996). This 15-foot wide towpath, LCS # 7320, continues along the river's edge for approximately an additional 2000 feet. The original towpath built before the aqueduct in 1828 merges into the new towpath built in the late 1840s. This section of the towpath is also supported above the river with a dry-laid stone retaining wall, LCS #7321. The wall, also approximately 2000 feet long, has a height that varies from 6-10 feet from the river's edge. Remnants from the old canal prism, LCS #7300, also still exist. This old section of the canal is approximately 2000 feet long and is 10 feet high with tapered walls that measure 50 feet wide at the top and 40 feet wide at the bottom. (LCS #7300, 1996) The prism is stabilized by courses of dry-laid stones.

From the inception of the canal, the slackwater Delaware River crossing was recognized as a problem and operational bottleneck. In the early 1840's, demand for coal had grown to the extent that the canal company directors decided to move forward with a series of enlargement and improvements including building an aqueduct to cross the Delaware River to remain competitive with rival canals and railroads. The new pathway for the canal crossed the Lackawaxen River via an aqueduct, then crossed the land through Lackawaxen to the Delaware Aqueduct. After the boats crossed the river, they were turned and brought through a series of locks to meet up with the original canal. Many remnants of these additions are still evident, although the National Park Service does not own all of them.

The Pennsylvania entrance to the bridge has curved, stone retaining walls on both side of Delaware Drive. These are the remnants of the holding basin where boats waited for their turn to cross the aqueduct. The new Delaware and Hudson upstream canal ruin, LCS #7005, is located on the north side of Delaware Drive, and is approximately 67 feet long. On its east end, the dry-laid stone wall measures 4 feet high, then tapers to 1 foot high on the west end. The new Delaware and Hudson downstream canal ruin, LCS #7006, is located on the south side of Delaware Drive, and measures about 80 feet in length. The curved wall, made of dry-laid stone, measures 5 feet 4 inches at its tallest point but does not taper as drastically as the upstream wall. The downstream canal ruin supports the Pennsylvania new Delaware and Hudson canal towpath ruin, LCS #7007. According to the List of Classified Structures, the towpath was "constructed of coursed, random, rough-cut stone to apex then topped with earth and sand creating a pathway for men and animals for towing canal boats. The overall dimensions are 162 feet long by 15 feet wide by 6 feet high (LCS 7007, 1996). This towpath was surfaced with a 6-foot wide, poured concrete sidewalk when the Pennsylvania visitor parking lot was added.

Another canal related retaining wall is located across New York State Route 97 from the bridge. This wall is the remnant of turning basin that turned the boats into position to enter the lock system. These remnants are still visible and help interpret the use of the aqueduct, but are not owned by the National Park Service. The installation of Route 97 removed one of the locks, but one lock remains within the highway right of way. While this lock still remains, it is showing signs that it is beginning to fail. The towpath and its retaining wall that accommodated the new canal and lock system are partially located within the National Park Service boundaries. The new Delaware and Hudson Canal towpath, LCS #7210, is 50 feet long and 8 feet wide, but only 3-5 feet of that width are within the NPS boundary. The 10-foot high, dry-laid, stone retaining wall that supports the towpath, LCS #7211, is about 300-400 feet long and merges with the inner berm wall to the old Delaware and Hudson Canal.

The New York Department of Transportation built a diversion structure, LCS #7323, at the point where the old and new canal prisms joined to keep floodwaters from reaching the roadway. This 40-foot long wall, which is 10 to 12 feet tall, measures 10 feet wide at the base and tapers to 4 feet wide at the apex. The wall is made of coursed, mortared slabs, which step in from base to apex on each side. The National Park Service ownership extends to the northern half of the structure (LCS 7323, 1996).

**\*\*Cross-section diagram of constructed water features to be added at level 2 inventory.**



*Canal prism and retaining wall for towpath.*



*Old towpath retaining wall (LCS #7311) along Delaware River*

| <b>Characteristic Feature</b>                                   | <b>Type Of Contribution</b> | <b>LCS Structure Name</b>                        | <b>IDLCS Number</b> | <b>Structure Number</b> |
|---|-----------------------------|--|---------------------|-------------------------|
| New Delaware and Hudson Canal Towpath LCS #7210                 | Undetermined                |  |                     |                         |
| New Delaware and Hudson Canal Towpath retaining walls LCS #7211 | Undetermined                |  |                     |                         |
| New Delaware and Hudson Canal towpath ruin                      | Undetermined                | New Delaware Canal Tow Path Ruin                 | 81482               | 48707007                |
| New Delaware and Hudson downstream canal wall ruin              | Undetermined                | New Delaware & Hudson Canal Downstream Wall Ruin | 81479               | 48707006                |
| New Delaware and Hudson upstream canal wall ruin                | Undetermined                | New Delaware & Hudson Upstream Canal Wall Ruin   | 82170               | 48707005                |
| NYDOT Flow diversion structure LCS #7323                        | Undetermined                |  |                     |                         |
| Old Delaware and Hudson Canal prism LCS #7300                   | Undetermined                |  |                     |                         |

Old Delaware and Hudson Canal    Undetermined  
towpath LCS #7310

Old Delaware and Hudson Canal    Undetermined  
towpath retaining walls LCS  
#7311

Old Delaware and Hudson Canal    Undetermined  
towpath retaining walls LCS  
#7321

Old/new Delaware and Hudson    Undetermined  
Canal towpath LCS #7320

## Small Scale Features

The small scale features of the Roebing Bridge unit consist of National Park Service wayside exhibits, signage and bulletin boards, lights, utility poles, interpretive sculpture, trash cans, handrails and barriers, wells, culverts and headwalls.

The National Park Service signage consists of the large entry sign on the Pennsylvania side, which is a wooden billboard identifying "Roebing's Delaware Aqueduct" to the visitor. It is mounted on wooden timbers.

There is bulletin board next to the steps leading from the Pennsylvania parking lot to the bridge. There is a fiberglass imbedded orientation panel and a bulletin board case in an upright metal case.

On the New York side of the river's the sign for the aqueduct is a brown metal sign that calls out the site as "Delaware Aqueduct built by John A. Roebing". It is mounted on the back of a bulletin board, which has two panes and displays general information and information about the Delaware and Hudson Canal.

A bulletin board case and exhibit panel has been installed at the trailhead of the Towpath Trail north of the NY parking area. The bulletin case and exhibit panel are displayed back to back on a metal stand. Each measures 24" x 24".

There is a metal wayside posted on the south New York abutment of the bridge with a picture demonstrating how the bridge accommodated canal boats when it was used as an aqueduct. There are five porcelain interpretive waysides installed in metal frames on the bridge towpaths. They provide detailed information on the construction of the aqueduct and general introductions to the canal era landscape and canal operations. Three more porcelain waysides will be added to the abutments in 2003. They will provide a general overview of the D&H Canal system, an introduction to Roebing's Delaware Aqueduct and an explanation of the icebreakers.

The tollhouse has a brown metal sign indicating that it houses information and exhibits.

There are three trashcans on the site. Two are located in the Pennsylvania parking lot and the third is in the New York parking lot. The style of the cans are consistent, they have metal cans encased in vertical wooden slats with a bearproof lid. However, 2 are square, and one is round.

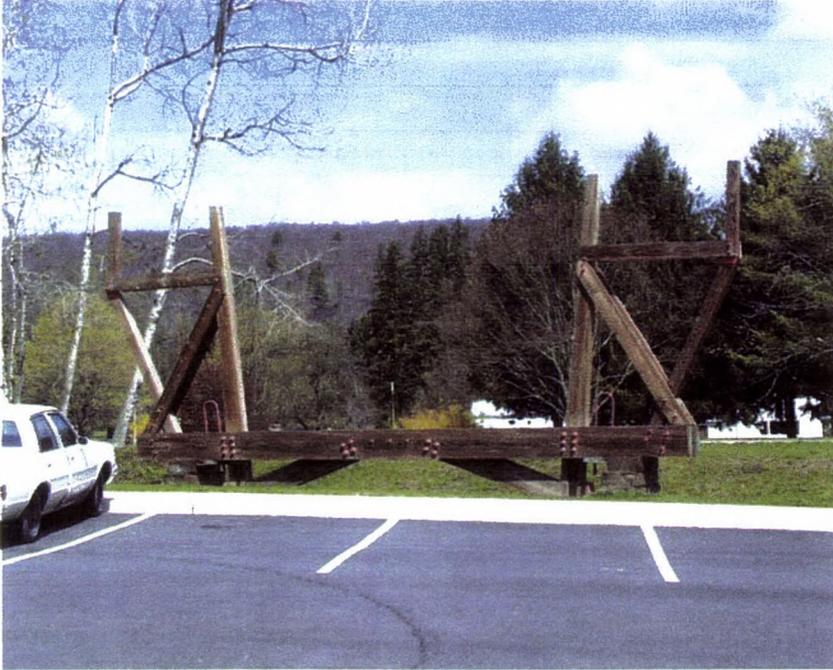
The only lighting in the site is attached to the bridge. There are modern lamps attached to square wooden posts along the length of the bridge at the piers. The lamps are metal lanterns with glass covered bulbs. A final lamp is mounted on the north side of the tollhouse. Its style matches the rest of lights on the bridge.

One of the bridge's wooden framing pieces has been used as an interpretive element on the grass strip between the Pennsylvania parking lot and Delaware Drive. The timber frame is a cross section of bridge for understanding how the bridge is put together. The description of the exhibit has been added to the bulletin board in this parking lot.

As with most sites with areas of elevation change, Roebing Bridge unit has several culverts, drop inlets and gutters to help manage storm water run off. A drop inlet collects water from the maintenance building and pipes it under Lackawaxen Scenic Road to a 3-foot head wall behind the restroom structure, where the water then runs down a stone gutter to the river. The southeast corner of the parking lot also has a drop inlet that pipes water under the overlook to run over rip-rap to the river. The bridge also has drop inlets spaced along the edges of the roadway. The New York parking lot has concrete gutters that

lead water to a drop inlet in the northwest corner of the lot, which is then piped under the Towpath Trail to the river. The New York emergency access to the river has two culverts, which accommodate runoff from New York State Route 97. The final culvert and headwall is located between Delaware Drive and the New York parking lot. This culvert drains water from Route 97 and discharges the water from twin pipes set into a stone headwall and then drains through an expanse of rip-rap down the slope to the river.

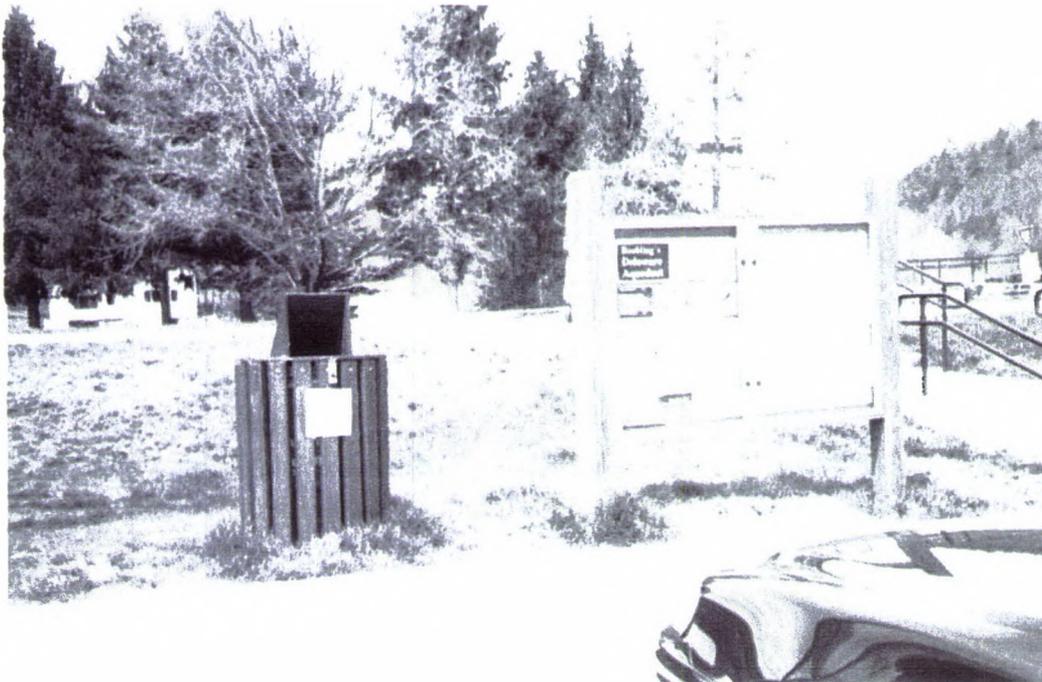
The parcel North of the bridge in Pennsylvania has utility poles passing through the open grassy area. There are also several wells in the vicinity of the garage unit on this parcel.



*Bridge frame sculpture.*



*Culvert, headwall, and gutter system for Pennsylvania stormwater drainage, with Eagle Institute in background.*



*Bulletin board and trash can adjacent to Pennsylvania parking lot.*

| <b>Characteristic Feature</b>   | <b>Type Of Contribution</b> | <b>LCS Structure Name</b> | <b>IDLCS Number</b> | <b>Structure Number</b> |
|---------------------------------|-----------------------------|---------------------------|---------------------|-------------------------|
| Bridge timber frame             | Non-Contributing            |                           |                     |                         |
| Culverts, headwalls             | Non-Contributing            |                           |                     |                         |
| Hand rails/barriers             | Non-Contributing            |                           |                     |                         |
| Lights                          | Non-Contributing            |                           |                     |                         |
| NPS signage and bulletin boards | Non-Contributing            |                           |                     |                         |
| Trash cans                      | Non-Contributing            |                           |                     |                         |
| Utility Poles                   | Non-Contributing            |                           |                     |                         |
| Wells                           | Non-Contributing            |                           |                     |                         |

### **Archeological Sites**

The Roebing Bridge unit offers the opportunity for further archeological research. The canal leading from the Lackawaxen aqueduct to the Delaware aqueduct has been filled in, and it is undetermined whether the stone remnants of the prism were removed. There are also artifacts on the New York side of the river that need further archeological research. These are primarily the features associated with the original canal before the aqueduct was built. There is documentation of a guard lock, which is located on this parcel, but some of its remaining features are submerged beneath the Delaware River.

| <b>Characteristic Feature</b> | <b>Type Of Contribution</b> | <b>LCS Structure Name</b> | <b>IDLCS Number</b> | <b>Structure Number</b> |
|-------------------------------|-----------------------------|---------------------------|---------------------|-------------------------|
| Canal Remnants NY             | Undetermined                |                           |                     |                         |
| Filled in canal in PA         | Undetermined                |                           |                     |                         |

## Management Information

### Descriptive And Geographic Information

**Historic Name(s):** D&H Canal  
Delaware and Hudson Canal  
Delaware Aqueduct  
Roebing's Delaware Aqueduct

**Current Name(s):** Roebing Bridge

**Management Unit:**

**Tract Numbers:** 101-10, 101-07, 101-12, 101-02, 101-11, 101-05, 101-01, 101-03, 101-06

**State and County:** Pike County, PA  
**State and County:** Sullivan County, NY

**Size (acres):** 10.60

**GIS File Name:**

**GIS File Description:**

### National Register Information

**National Register Documentation:** Entered -- Inadequately Documented

**Explanatory Narrative:**

The Delaware Aqueduct has been designated a National Historic Landmark and a National Historic Civil Engineering Landmark, and such designation grandfathers a site into the National Register. This very significant, historic feature has been extensively documented for National Landmark designation and its presence in the landscape designates the site as nationally significant. The focus of this report is to study the landscape surrounding the bridge, and with this focus, the CLI will discuss the possibility of local/state/national significance of the landscape features in the Roebing Bridge unit of Upper Delaware Scenic and Recreational River.

**NRIS Information:**

NRIS Number: 68000055  
Primary Certification: Listed In The National Register  
Primary Certification Date: 11/24/1968  
Name In National Register: Delaware Aqueduct  
Other Names In  
National Register: See Also:Delaware and Hudson Canal

**National Register Eligibility:**

**Explanatory Narrative:**

**Date of Eligibility Determination:** 1/1/1968

**National Register Classification:** Site

**Significance Level:** National

**Contributing/Individual:** Individual

**Significance Criteria:**

A -- Inventory Unit is associated with events that have made a significant contribution to the broad patterns of our history

B -- Inventory Unit is associated with the lives of persons significant in our past

C -- Inventory Unit embodies distinctive characteristics of type/period/method of construction; or represents work of master; or possesses high artistic values; or represents significant/distinguishable entity whose components lack individual distinction

**Period Of Significance**

Time Period: 1825 - 1898 AD

Historic Context Theme: Developing the American Economy  
Historic Context Subtheme: Shipping and Transportation by Water  
Historic Context Facet: Canals

Time Period: 1847 - 1898 AD

Historic Context Theme: Expanding Science and Technology  
Historic Context Subtheme: Technology (Engineering and Invention)  
Historic Context Facet: Transportation

Time Period: 1900 - 1979 AD

Historic Context Theme: Developing the American Economy  
Historic Context Subtheme: Transportation by Land and Air  
Historic Context Facet: Early Turnpikes, Roads, And Taverns East Of The Mississippi

**Area Of Significance:**

Category: Transportation

Priority: 1

Category: Engineering

Priority: 2

## National Historic Landmark Information

**National Historic  
Landmark Status:** Yes

**Date Determined Landmark:** 11/24/1968

**Landmark Theme:** Canals

## World Heritage Site Information

**World Heritage Site Status:** No

## Current and Historic Use/Function:

**Use/Function Category:** Transportation  
**Use/Function:** Water-Related  
**Detailed Use/Function:** Aqueduct  
**Type Of Use/Function:** Historic

**Use/Function Category:** Transportation  
**Use/Function:** Water-Related  
**Detailed Use/Function:** Canal  
**Type Of Use/Function:** Historic

**Use/Function Category:** Social  
**Use/Function:** Clubhouse (Social/Garden)  
**Detailed Use/Function:** Clubhouse (Social/Garden)  
**Type Of Use/Function:** Current

**Use/Function Category:** Transportation  
**Use/Function:** Pedestrian-Related  
**Detailed Use/Function:** Interpretive Trail  
**Type Of Use/Function:** Current

**Use/Function Category:** Landscape  
**Use/Function:** Leisure-Passive (Park)  
**Detailed Use/Function:** Leisure-Passive (Park)  
**Type Of Use/Function:** Current

**Use/Function Category:** Government  
**Use/Function:** Government Office  
**Detailed Use/Function:** Maintenance Facility  
**Type Of Use/Function:** Current

|                        |                        |
|------------------------|------------------------|
| Use/Function Category: | Transportation         |
| Use/Function:          | Road-Related           |
| Detailed Use/Function: | Road Bridge            |
| Type Of Use/Function:  | Current                |
| Use/Function Category: | Domestic (Residential) |
| Use/Function:          | Single Family Dwelling |
| Detailed Use/Function: | Single Family House    |
| Type Of Use/Function:  | Historic               |

## Ethnographic Information

**Ethnographic Survey Conducted:** No Survey Conducted

## Adjacent Lands Information

**Do Adjacent Lands Contribute?** Yes

### Adjacent Lands Description:

The adjacent land in New York at the Roebing Bridge unit in contains several features that help interpret the use of the bridge as an aqueduct. The turning basin remains for the aqueduct is located across State Route 97 from the bridge. This curved retaining wall helps demonstrate how the canal boats were turned from the aqueduct and lined up to enter the series of locks that would return the boats to the original canal prism. The single remaining lock of this system is located on the New York Department of Transportation's land and its proximity to the existing canal towpath trail provides another opportunity for interpretation. However, the lock's walls are beginning to fail, so this resource may not be available much longer. Another feature on the adjacent land in New York is The Bridge Restaurant, which is located immediately south of the bridge. The building that houses this restaurant is pictured in many historic photographs of the aqueduct. Thus, its placement helps add context to the site.

The adjacent land in Pennsylvania does not offer the obvious opportunities to interpret features of the canal as the New York side, but the filled-in canal could be resurrected or at least marked to lend context to the canal's historic path. Also, an adjacent property contains a canal era building and barn ruin. The town of Lackawaxen is nestled in the area between the escarpment and the confluence of the Lackawaxen River and the Delaware River. The post office is just south of the bridge. The rail road tracks immediately adjacent to the site, which on occasion causes a noise disturbance as the trains pass through, can remind the visitor that the railroad was built in the mid-nineteenth Century and its rivalry is part of the D&H Canal story, especially in Lackawaxen.



*View east from bridge overlook of "The Bridge" restaurant in New York.*

## General Management Information

**Management Category:**

**Management Category Date:**

**Explanatory Narrative:**

## Condition Assessment And Impacts

The criteria for determining the condition of landscapes is consistent with the Resource Management Plan Guideline definitions (1994) and is decided with the concurrence of park management. Cultural landscape conditions are defined as follows:

*Good:* indicates the landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The landscape's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

*Fair:* indicates the landscape shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character-defining elements will cause the landscape to degrade to a poor condition.

*Poor:* indicates the landscape shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

*Undetermined:* Not enough information available to make an evaluation.

|                                     |            |
|-------------------------------------|------------|
| <b>Condition Assessment:</b>        | Fair       |
| <b>Assessment Date:</b>             | 09/30/2000 |
| <b>Date Recorded:</b>               | 09/30/2000 |
| <b>Park Management Concurrence:</b> | No         |
| <b>Level Of Impact Severity:</b>    | Moderate   |

**Stabilization Measures:**

**Impact:**

Type of Impact: Release To Succession  
Internal/External: Both Internal and External

Description:

The New York south portion of the site is covered by second growth forest, which has impacted the canal remnants. Tree growth along the canal has inserted roots into the stone work and trails. While healthy trees should not be removed, they should be monitored for disease and rot so that they can be removed sensitively before toppling naturally and causing damage to the canal remnants.

Type of Impact: Structural Deterioration  
Internal/External:

Description:

While the remaining canal lock is located within the NYDOT right of way, its potential to aid in the interpretation of the new canal from the aqueduct meeting the original canal bed makes its condition germane to the Park Service land. The walls of this canal lock have begun to fail and will be lost if stabilization measures are not taken.

Type of Impact: Vegetation/Invasive Plants  
Internal/External: Internal

Description:

The Roebling Bridge unit has been affected by invasive plants such as Japanese knotweed [*Polygonum cuspidatum*], Barberry [*Berberis thunbergii*], Multiflora Rose [*Rosa multiflora*], and Poison Ivy [*Rhus radicans*]. These plants can spread prolifically if left untended. The areas most affected are the river slopes on both sides of the river, and the old canal prism bed in the proximity of the bridge, which is not under the canopy of trees further south along the trail.

## Agreements, Legal Interest, and Access

**Management Agreement:** Cooperative Agreement

**Expiration Date:** 10/10/9999

**Explanatory Narrative:**

Gilson's Locks are owned by Sullivan County, with easement to New York State Department of Transportation. Cooperative agreement to manage land.

**NPS Legal Interest:** Fee Simple

**Explanatory Narrative:**

**NPS Legal Interest:** Less Than Fee Simple

**Explanatory Narrative:**  
might include easements

**Public Access:** Other Restrictions

Unrestricted

With Permission

## **Treatment**

- Approved Treatment:**
- Approved Treatment Document:**
- Document Date:**
- Explanatory Narrative:**
- Approved Treatment Completed:**

## **Approved Treatment Cost**

- LCS Structure Approved Treatment Cost:**
- Landscape Approved Treatment Cost:**
- Cost Date:**
- Level of Estimate:**
- Cost Estimator:**
- Explanatory Description:**

## **Stabilization Costs**

- LCS Structure Stabilization Cost:**
- Landscape Stabilization Costs:**
- Cost Date:**
- Level Of Estimate:**
- Cost Estimator:**
- Explanatory Description:**

## Documentation Assessment and Checklist

**Documentation Assessment:** Fair

**Documentation:**

**Document:** Historic Resource Study

**Year Of Document:** 1968

**Amplifying Details:** Delaware and Hudson Canal, Pennsylvania & New York, Special Report, The National Survey of Historic Sites and Buildings

**Adequate Documentation:**

**Explanatory Narrative:**

McDermott, John D., August 5, 1968. U.S. Dept. of Interior

**Document:** Other

**Year Of Document:**

**Amplifying Details:** Lenape Indians Brochure

**Adequate Documentation:**

**Explanatory Narrative:**

Park brochure, no date, National Park Service, U S Department of Interior

**Document:** Other

**Year Of Document:** 1979

**Amplifying Details:** Delaware and Hudson Canal: Past and Present

**Adequate Documentation:**

**Explanatory Narrative:**

Jacox, Diann L., December 1979, U S Department of Interior

**Document:** Other

**Year Of Document:** 1983

**Amplifying Details:** Upper Delaware Scenic And Recreational River  
Unrau, Harlan D  
Historic Structures Report, Historical Data, The Delaware Aqueduct, Upper Delaware National Scenic and Recreational River

011654

HSR- Historical Data

09/1983

**Adequate Documentation:**

Document: Other  
Year Of Document: 1987  
Amplifying Details: Upper Delaware Scenic And Recreational River  
Speers, Sandra R  
Historic Structures Report, Physical History and  
Analysis, The Delaware Aqueduct, Upper Delaware  
Scenic and Recreational River, New York-Pennsylvania  
014748

Adequate Documentation:

Document: Other  
Year Of Document: 1995  
Amplifying Details: Upper Delaware Scenic and Recreational River  
Denver Service Center  
Delaware Aqueduct Site  
Schematic Design/Environmental Assessment  
July 1995

Adequate Documentation:

Document: Resource Management Plan  
Year Of Document: 1994  
Amplifying Details: Upper Delaware Scenic And Recreational River  
Staff  
Resource Management Plan: Upper Delaware Scenic &  
Recreational River

016572  
Resources Research Plan

U.S. Department of the Interior, National Park Service  
1994

Adequate Documentation:

## Appendix

### Bibliography

#### Citations:

Citation Author: Gold, David M. Editor  
Citation Title: The River and the Mountains  
Year of Publication: 1994  
Source Name: Library Of Congress/Dewey Decimal  
Citation Location: S. Fallsburg NY, Marielle Press

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Citation Author: Wakefield, Manville B.  
Citation Title: Coal Boats to Tidewater, the story of the Delaware and Hudson Canal  
Year of Publication: 1965  
Source Name: Library Of Congress/Dewey Decimal  
Citation Location: Purple Mountain Press, Fleischmanns, NY

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Citation Author: Vogel, Robert M.  
Citation Title: Roebing's Delaware and Hudson Canal Aqueducts  
Year of Publication: 1971  
Source Name: Library Of Congress/Dewey Decimal  
Citation Type: Both Graphic And Narrative  
Citation Location: Washington DC, Smithsonian Institution Press

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Citation Author: Kraft, Herbert C.  
Citation Title: The Lenape Archaeology, History, and Ethnography  
Year of Publication: 1986  
Source Name: Library Of Congress/Dewey Decimal  
Citation Location: Newark, NJ Historical Society

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## Supplemental Information

**Title:** Abandonment Map  
**Description:** State Department of New York Department of Transportation  
1994  
UPDE Office



*Abandonment Map, 1994.*

**Title:** Aerial Photograph - Roebing Bridge  
**Description:** mid-1980s  
UPDE Office



*Aerial Photograph, mid-1980s*

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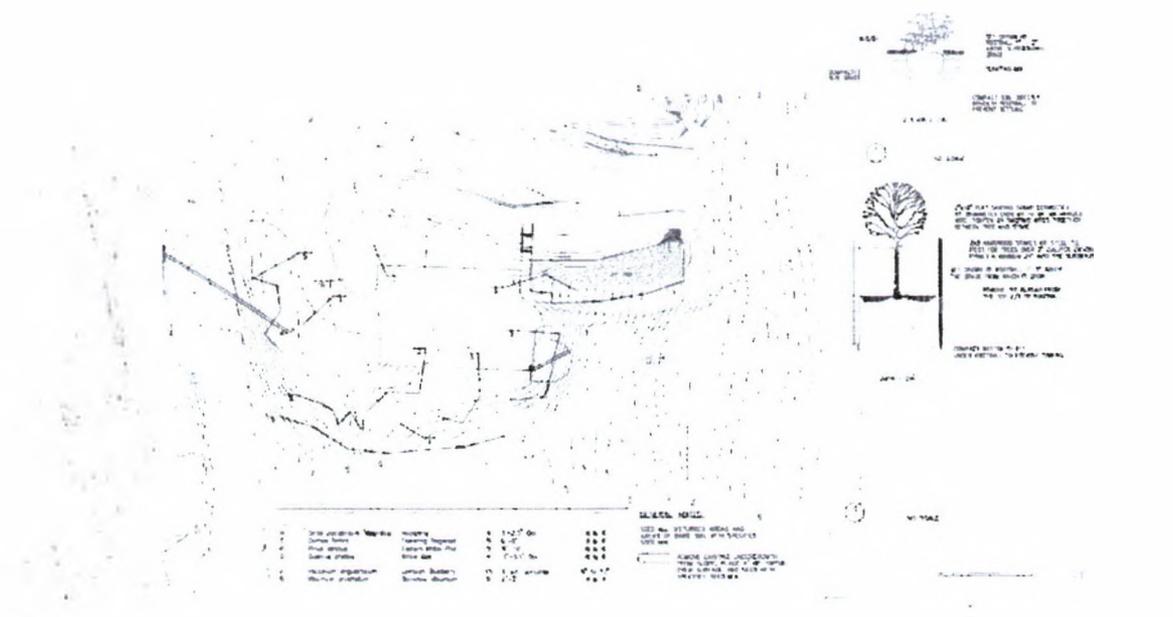
**Title:** Contour Map - NY South Parcel  
**Description:** State Department of New York Department of Transportation  
1994  
UPDE Office



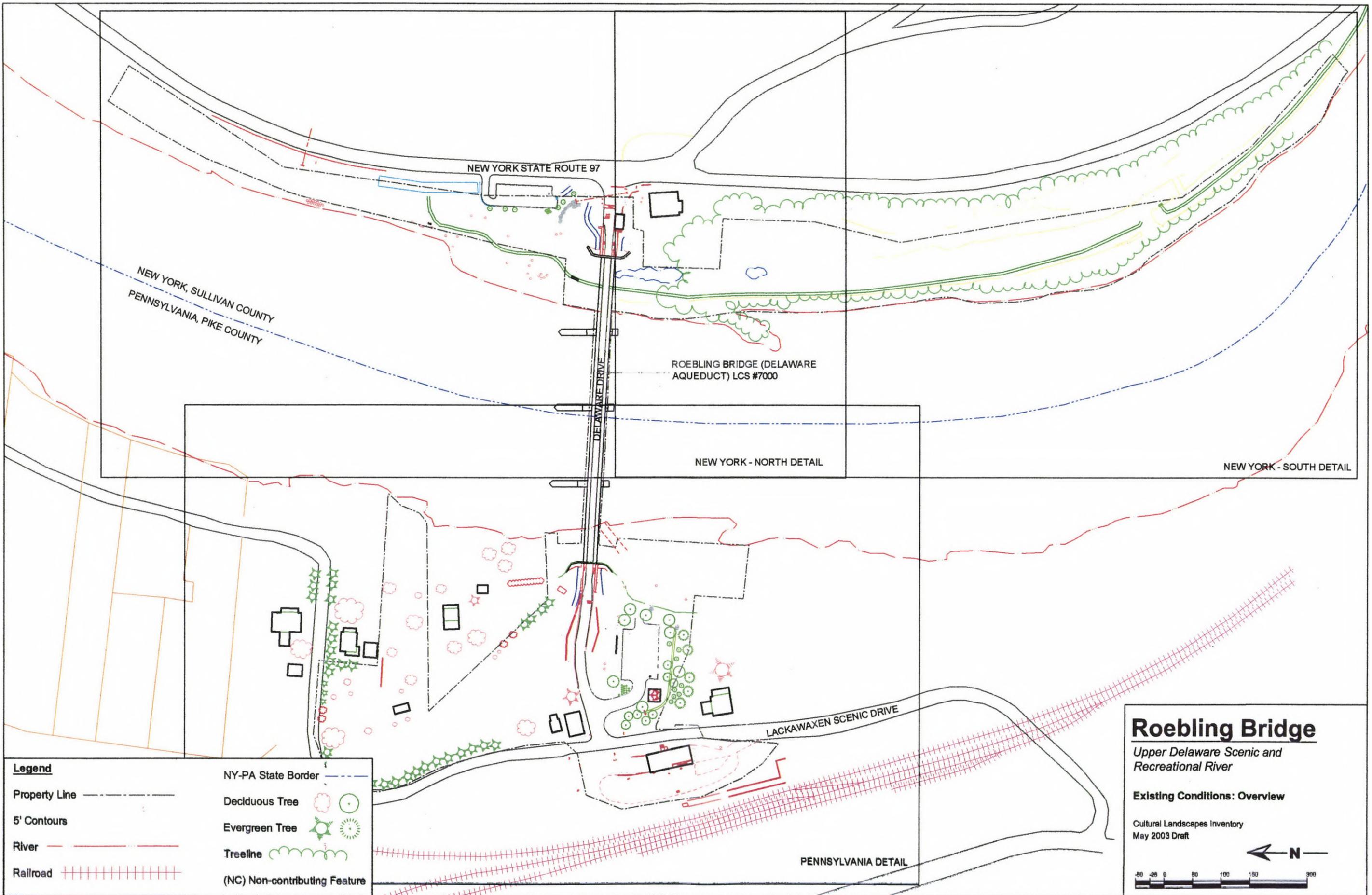
*Contour Map, NY South Parcel, 1994.*

---

**Title:** Site Improvements/Delaware Aqueduct  
**Description:** CAD File: Map #41003  
 May 8, 1998  
 Denver Service Center - Technical Information Center



Site Improvements/Delaware Aqueduct: Planting Plan PA Side, 1998.



**Legend**

|               |       |                               |           |
|---------------|-------|-------------------------------|-----------|
| Property Line | ----- | NY-PA State Border            | - - - - - |
| 5' Contours   | ----- | Deciduous Tree                | ○ ○ ○     |
| River         | ----- | Evergreen Tree                | ● ● ●     |
| Railroad      | +++++ | Treeline                      | ~~~~~     |
|               |       | (NC) Non-contributing Feature | .....     |

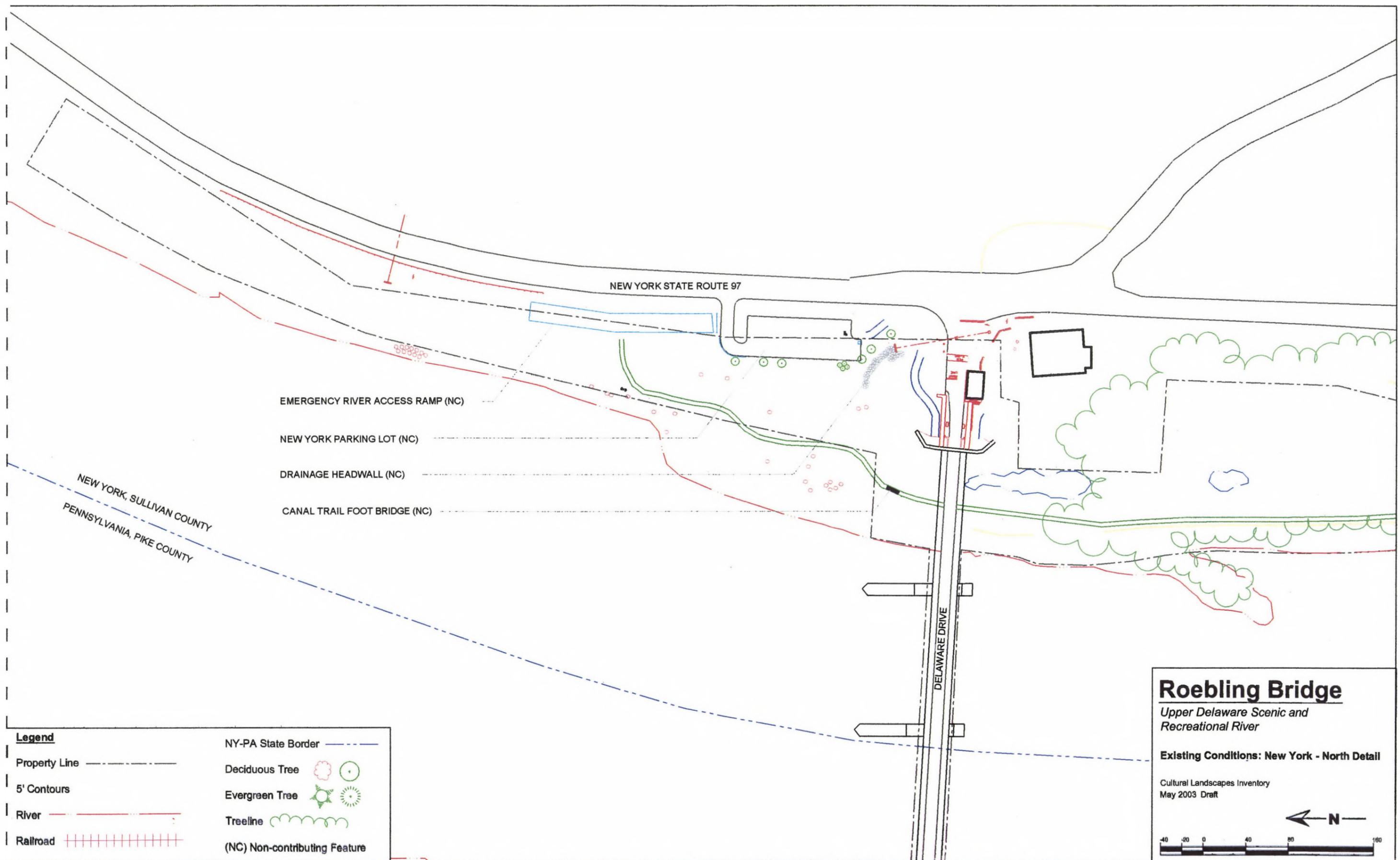
# Roebing Bridge

Upper Delaware Scenic and Recreational River

Existing Conditions: Overview

Cultural Landscapes Inventory  
May 2003 Draft





EMERGENCY RIVER ACCESS RAMP (NC)

NEW YORK PARKING LOT (NC)

DRAINAGE HEADWALL (NC)

CANAL TRAIL FOOT BRIDGE (NC)

NEW YORK, SULLIVAN COUNTY  
PENNSYLVANIA, PIKE COUNTY

DELAWARE DRIVE

NEW YORK STATE ROUTE 97

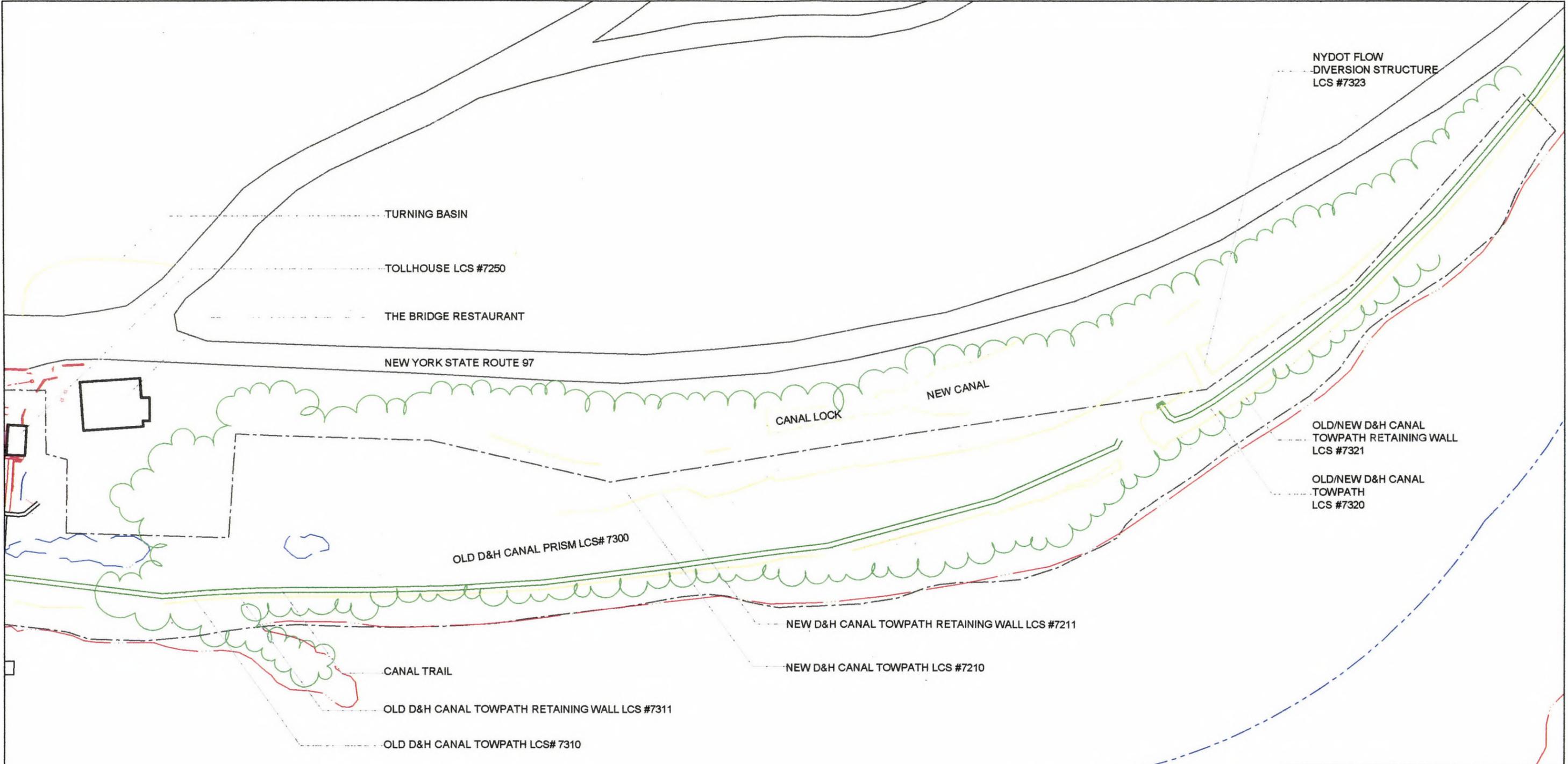
**Legend**

- Property Line
- 5' Contours
- River
- Railroad
- NY-PA State Border
- Deciduous Tree
- Evergreen Tree
- Treeline
- (NC) Non-contributing Feature

**Roebling Bridge**  
Upper Delaware Scenic and Recreational River

**Existing Conditions: New York - North Detail**

Cultural Landscapes Inventory  
May 2003 Draft



NEW YORK, SULLIVAN COUNTY  
 PENNSYLVANIA, PIKE COUNTY

**Legend**

|               |       |                               |   |
|---------------|-------|-------------------------------|---|
| Property Line | ----- | NY-PA State Border            | -----   |
| 5' Contours   | ..... | Deciduous Tree                |  |
| River         | ----- | Evergreen Tree                |  |
| Railroad      | +++++ | Treeline                      |  |
|               |       | (NC) Non-contributing Feature |   |

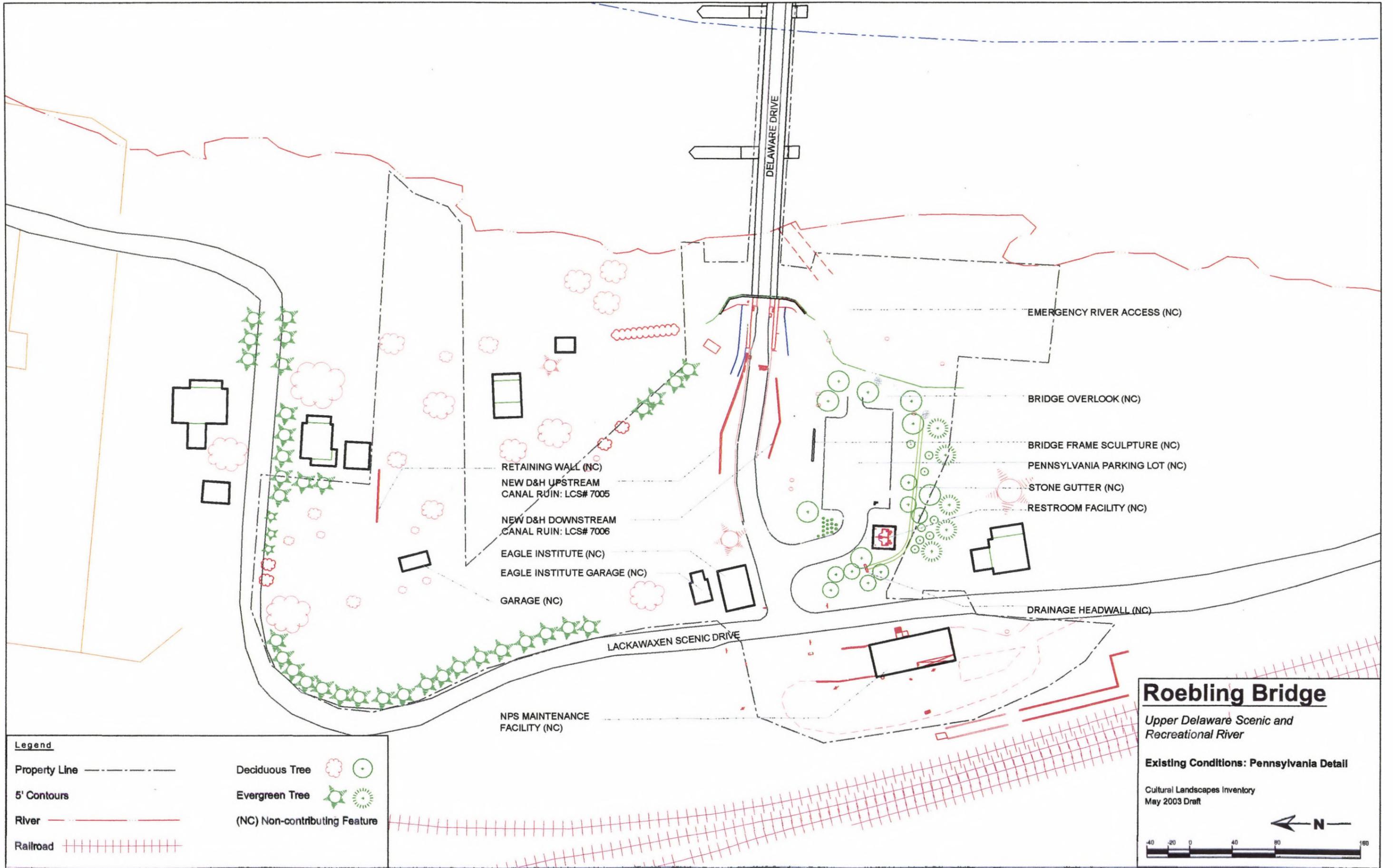
**Roebling Bridge**  
 Upper Delaware Scenic and Recreational River

**Existing Conditions: New York - South Detail**

Cultural Landscapes Inventory  
 May 2003 Draft







DELAWARE DRIVE

LACKAWAXEN SCENIC DRIVE

RETAINING WALL (NC)  
 NEW D&H UPSTREAM CANAL RUIN: LCS# 7005  
 NEW D&H DOWNSTREAM CANAL RUIN: LCS# 7006  
 EAGLE INSTITUTE (NC)  
 EAGLE INSTITUTE GARAGE (NC)  
 GARAGE (NC)

EMERGENCY RIVER ACCESS (NC)  
 BRIDGE OVERLOOK (NC)  
 BRIDGE FRAME SCULPTURE (NC)  
 PENNSYLVANIA PARKING LOT (NC)  
 STONE GUTTER (NC)  
 RESTROOM FACILITY (NC)  
 DRAINAGE HEADWALL (NC)

NPS MAINTENANCE FACILITY (NC)