

BANGOR & PORTLAND RAILWAY, MARTINS CREEK BRIDGE
(Delaware, Lackawanna & Western Railroad, Martins Creek Bridge)
Pennsylvania Historic Railroad Bridges Recording Project
Spanning mouth of Martins Creek
Martins Creek
Northampton County
Pennsylvania

HAER No. PA-544

HAER
PA
48-MACRE
1-

PHOTOGRAPHS

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HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
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Location: Spanning mouth of Martins Creek, Martins Creek, Northampton County, Pennsylvania.

USGS Quadrangle: Bangor, Pennsylvania (7.5-minute series).

UTM Coordinates: 18/485145/4513830

Date of Construction: 1896.

Basis for Dating: Construction drawings.

Date of Alteration: 1908.

Designer: Lincoln Bush (Chief Engineer, Delaware, Lackawanna & Western Railroad).

Fabricator / Builder: Edge Moor Iron Works (Wilmington, Del.).

Present Owner: Norfolk Southern Railroad.

Present Use: Railroad bridge.

Structure Type: Riveted lattice deck truss; riveted deck girder.

Significance: This bridge has different structure types on each of its two spans, a result of its having been pieced together from two different bridges. This is an excellent example of how railroads demoted main-line structures to branch line service as train loads increased.

Historian: Justin M. Spivey, April 2000.

Project Information: The Historic American Engineering Record (HAER) conducted the Pennsylvania Historic Railroad Bridges Recording Project during 1999 and 2000, under the direction of Eric N. DeLony, Chief. The project was supported by the Consolidated Rail Corporation (Conrail) and a grant from the Pennsylvania Historical and Museum Commission (PHMC). Justin M. Spivey, HAER

engineer, researched and wrote the final reports. Preston M. Thayer, historian, Fredericksburg, Virginia, conducted preliminary research under contract. Jet Lowe, HAER photographer, and Joseph E. B. Elliott, contract photographer, Sellersville, Pennsylvania, produced large-format photographs.

Description and History

The Bangor & Portland Railway (B&P) delivered slate from quarries in northern Northampton County, Pennsylvania, to the Delaware, Lackawanna & Western Railroad (DL&W) junction at Portland. Incorporated on 17 May 1879, the B&P opened an initial segment between its namesake towns in December 1880. A branch line connecting with the Pennsylvania Railroad at Martins Creek (now Brainards), New Jersey, was completed in December 1885.¹ Diverging from the B&P main line south of Bangor, the branch follows Martins Creek to the Delaware River. After passing through the town of Martins Creek, Pennsylvania, the single-track branch crosses both the creek and the river to enter Martins Creek, New Jersey. In 1896, the B&P replaced the original bridge over the creek (perhaps two wooden Howe truss spans similar to those in the Delaware River bridge) with two riveted steel deck girder spans, each 67'-2" long.²

The B&P became the Bangor & Portland Division of the DL&W in July 1903, and was completely absorbed by the DL&W six years later.³ During the interim period, the B&P would benefit from changes occurring elsewhere in the DL&W system. Most importantly, the DL&W's engineering department — under the direction of Chief Engineer Lincoln Bush from 1903 to 1908, and his successor George J. Ray thereafter — undertook what historian Thomas T. Taber III called an "almost complete reconstruction" of the DL&W main line. In an effort begun by Bush and continued by Ray, the DL&W replaced main-line metal truss bridges with concrete arch structures.⁴ This policy freed up a number of steel structures for re-use on branch lines such as the Bangor & Portland Division.

As it stood in 1908, the former B&P bridge over the mouth of Martins Creek needed reinforcement to safely carry train loads, which increased dramatically around the turn of the twentieth century. The result — girders on one span, trusses on the other — requires some explanation. Rather than replace the entire structure, Bush specified that girders from one span (referred to as span A) be doubled up with those of span B to provide the necessary strength. Trusses of similar depth would then be brought in from elsewhere to replace span A. Reconstruction of Bridge No. 138 on the DL&W's Buffalo Division released a number of 55'-6-1/2"-long riveted lattice trusses, which had been fabricated by Edge Moor Iron Works of Wilmington, Delaware. Three of these together had sufficient strength.⁵ Because the trusses were shorter than the girders, it was necessary to build a new reinforced concrete abutment for span A. The opposite abutment was evidently encased in concrete to match.

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Notes

1. Thomas T. Taber III, *Railroads of Pennsylvania: Encyclopedia and Atlas* (Muncy, Pa.: Thomas T. Taber III, 1987), 315.
2. The 1896 date is from milepost 96.50, region/division/branch 626255, correspondence files, Consolidated Rail Corporation, Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.; hereinafter cited as Conrail correspondence files]. For an image of the Delaware River Bridge, see Taber, *The Delaware, Lackawanna & Western Railroad, The Route of Phoebe Snow, in the Twentieth Century, 1899-1960* (Muncy, Pa.: Thomas T. Taber III, 1980), 351.
3. Taber, *The Delaware, Lackawanna & Western*, 353.
4. Taber, *The Delaware, Lackawanna & Western*, 17-20.
5. Bridge No. 138 was based on plans for "Bridge No. 5 Buffalo Division over Little Tonawanda Creek at Bethany 2 1/4 Miles from Erie switch, Attica Branch, NYL&W Railway," n.d. "NYL&W" refers to the New York, Lackawanna & Western Railway, which the DL&W acquired in 1882. See Conrail correspondence files.

Acknowledgment

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