

CHESTER & DELAWARE RIVER RAILROAD, CHESTER CREEK BRIDGE
(Philadelphia & Reading Railroad, Chester Creek Bridge)
Pennsylvania Historic Railroad Bridges Recording Project
Spanning Chester Creek at Edgemont Ave.
Chester
Delaware County
Pennsylvania

HAER No. PA-525

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
1849 C Street, NW
Washington, DC 20240

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INDEX TO PHOTOGRAPHS

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Jet Lowe, photographer, spring 1999.

- PA-525-1 PERSPECTIVE VIEW, LOOKING WNW. NOTE THAT SWING MECHANISM HAS BEEN REMOVED, AND BRIDGE IS NOW SUPPORTED ON CONCRETE BLOCKS AT MID-SPAN.
- PA-525-2 PERSPECTIVE VIEW OF EAST PORTAL, LOOKING SW.
- PA-525-3 LONGITUDINAL VIEW OF WEST PORTAL, LOOKING EAST TOWARD KIMBERLY-CLARK PAPER MILL.
- PA-525-4 LONGITUDINAL VIEW OF INTERIOR, LOOKING EAST FROM MID-SPAN.

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Location: Spanning Chester Creek at Edgemont Ave., Chester, Delaware County, Pennsylvania.

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

UTM Coordinates: 18/469235/4410260

Dates of Construction: 1906-07.

Basis for Dating: Secondary sources.

Designer: A. Hunter (Chief Engineer, Chester & Delaware River Railroad).

Fabricator / Builder: American Bridge Co.

Present Owner: Shared asset between CSX Transportation and Norfolk Southern Railroad.

Present Use: Railroad bridge.

Structure Types: Riveted Pratt through truss swing span.

Significance: Because Pennsylvania has few low-lying areas, the Chester Creek Bridge is one of a limited number of movable railroad structures in the state. This bridge is remarkably low, about a foot above water at high tide, and also unusual as a shared asset between pairs of competing lines throughout much of its history.

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 Chester & Delaware River Railroad (C&D) was incorporated in 1871 to serve industry south of Philadelphia along the Delaware River. Although construction had been partially financed by the Philadelphia & Reading Railroad (P&R), the C&D operated as an independent railroad for about eighteen months following its November 1874 opening.¹ The independent C&D even completed an extension to Marcus Hook before coming under P&R control in May 1875. Presumably its 158'-0"-long wooden swing bridge across Chester Creek was part of this construction campaign. In 1907, C&D Chief Engineer A. Hunter ordered a replacement span, a pin-connected steel Pratt through truss of similar dimensions, from the American Bridge Company. The structure carries only one track, and is remarkably just 1'-0" above the water at high tide.²

Like the majority of swing bridges on American railroads, the Chester Creek Bridge is of the center-bearing type, meaning that most of its weight bears on a single central pivot when open. This type requires a smaller pivot pier, and is generally easier to construct, than swing bridges that turn on a circular nest of rollers.³ Its operating parts — wedges driven under the center and ends of the span when closed, end locks, and rail lifts — are fairly typical. Although the bridge was originally cranked around by hand from mid-span, a 12-horsepower electric motor was added in 1909. Other alterations include repairs to the bottom chords in 1929 and reconstruction of the deck in 1975.⁴

This bridge is unusual, however, because it has been shared between pairs of competing lines throughout much of its history. In 1917, the Pennsylvania Railroad (PRR) built its Chester & Philadelphia Branch to handle increased traffic from industries along the Delaware River during World War I. The new line narrowed to a single track at Eddystone, then crossed Chester Creek on the tracks of its competitor, the P&R. Conrail, formed in 1976, absorbed both lines.⁵ As of this writing, however, the line once again has two competing owners: CSX Transportation and Norfolk Southern Railroad, between which Conrail's assets were divided.

CHESTER & DELAWARE RIVER RAILROAD, CHESTER CREEK BRIDGE

HAER No. PA-525

(Page 3)

Notes

1. Thomas T. Taber III, *Railroads of Pennsylvania: Encyclopedia and Atlas* (Muncy, Pa.: Thomas T. Taber III, 1987), 458.
2. Chester & Delaware River Railroad, "Renewing Draw Span over Chester Creek, Chester, Pa.," dated 11 Sep. 1906, milepost 11.11, region/division branch 150306, aperture card files, Consolidated Rail Corp., Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.; hereinafter cited as Conrail aperture cards].
3. J. A. L. Waddell, *Bridge Engineering* (New York: John Wiley & Sons, 1916), 685.
4. Reading Company, "Repairs to Bridge No. 11/11 over Chester River, Chester, Pa., Chester Branch, Phila. Div.," dated 12 Jun. 1929, Conrail aperture cards; and milepost 11.1, region/division/branch 150306, correspondence files, Consolidated Rail Corp., Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.].
5. Frank G. Tatnall, President, Philadelphia Chapter, Pennsylvania Railroad Technical & Historical Society, to author, 17 Jan. 2000; see also Philadelphia, Baltimore & Washington Railroad Co., *Second Annual Report for the Year 1917* (Philadelphia: Press of Allen, Lane & Scott, 1918), 5.

Acknowledgment

The author is grateful to Frank G. Tatnall, President of the Philadelphia Chapter of the Pennsylvania Railroad Technical & Historical Society, for responding to a preliminary survey form.