SAUGATUCK RIVER BRIDGE
(Connecticut Bridge No. 01349)
Spanning the Saugatuck River on Route 136
Westport
Fairfield County
Connecticut

HAER No. CT-46

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Northeast Field Area
Chesapeake/Allegheny System Support Office
National Park Service
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

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HISTORIC AMERICAN ENGINEERING RECORD

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Location Spanning the Saugatuck River on Connecticut Route 136, Westport, CT.

UTM: 18.636880.4553450
Quad: Sherwood Point

Date of Construction: 1884, Engineered by Central Bridge Company of Buffalo, New York, which became part of Union Bridge Company of New York City sometime in 1884.

Present Owner: State of Connecticut

Present Occupant: State of Connecticut

Present Use: Vehicular and pedestrian bridge, with swing portion to accommodate navigation on the Saugatuck River.

Significance: Only manually operated swing truss in Connecticut. Rare surviving example of first generation movable iron bridge.

Project information: Memorandum of Agreement between U.S. Coast Guard and Connecticut State Historic Preservation Officer mandated recording of present structure prior to rehabilitation of structure.

Dr. Frederic Warner
Connecticut Archaeological Survey
1615 Stanley Street
New Britain, CT 06050
March 29, 1991

1. Physical History of the Bridge.

The bridge was built in 1884 as a replacement for an 1869 wooden bridge which had been destroyed by shipworms. The only company to answer the town's request for bids was the Central Bridge Company of Buffalo, New York, represented by Mr. Charles Kittredge. As reported by the Bridgeport Standard on July 18, 1884, the structure was to be a Pratt truss pin connected wrought iron bridge 286 feet long, with a draw of 144 feet and 20 feet wide in the clear. It was supposed to weigh 220,000 pounds, cost $26,000 and, barring any unforeseen problems, be completed by October 1, 1884.

The Central Bridge Company had purchased the works of the Kellogg Bridge Company in 1881, thereby acquiring the expertise of Charles Kellogg, one of the more innovative designers of movable span bridges. The Buffalo-based Kellogg Company had designed and constructed the 444 foot swing bridge over the Mississippi River at Louisiana, Missouri (Asher and Adams 1876:70). Despite their engineering successes, however, the firm only lasted from 1870 to 1881, when it was bought out by the Central Bridge Company. Central Bridge fared little better, being absorbed by the Union Bridge Company of New York City in 1884. The Union Bridge Company closed the Buffalo works about 1890 and was itself acquired by the American Bridge Company in 1900 (Darnell 1984:36,37,44).

The bridge consists of two spans, a single 144 foot Pratt through truss fixed span on the east and a swing span consisting of two 71 foot Pratt through trusses meeting over the pivot pier and tied together with die-forged eyebars between the upper portal joints. The trusses are approximately 16' from top to bottom chord and the open roadway is 19' 6". Because these swing span trusses are subject to very different stress distributions when the span opens many of the structural members differ from standard Pratt trusses. The hip vertical has been changed from a non load-bearing eyebar to a lattice girder to resist the increased compressive force present when the ends of the truss are unsupported. Likewise, the bottom chords have been changed from the tension members of the fixed span to compression members in the swing span and are heavy box girders rather than eyebars.

The pivot pier, located underneath the junction of the two swing span trusses, is made of stone quarried in Stony Creek, Connecticut, as were the other piers and abutments. These supports originally rested on timber grillages on the river bottom but subsequent renovations strengthened these with H-piles and steel beams. The pivot pier now contains the original stone pier encased in a cylindrical metal shell which has been filled with concrete. Two sets of three rollers moving along a metal track affixed to this shell support the swing span while it is open. A centering pivot holds the span in position but

bears none of the vertical load. A pinion gear shaft resting in a pier socket is turned by hand with a large T-handled wrench, engaging a ring gear fixed to the underside of the deck and rotating the span. When closing, the east end of the span passes over dolly wheels on the east rest pier, which then support that end of the span. The west span is then manually jacked up into proper alignment. Hand operated gates are used to control both vehicular and pedestrian traffic during bridge openings. According to posted instructions, the bridge will be opened on signal between 10:15 and 11:15 a.m. and 7:30 to 8:15 p.m. from June 1st to September 30th, or by calling a posted telephone number at other times.

There is presently a four foot wide sidewalk along the northern side of the hridge, which rests on steel beams cantilevered out from the main flooring system. However, an early photograph of the swing bridge under construction shows the sidewalk on the southern side of the bridge. That photograph also suggests that the bridge was being built for trolley tracks as well. Both documentary and field research seem to confirm the authenticity of the photograph, which certainly implies a major modification of the bridge at some time prior to Department of Transportation record-keeping. It might be noted that there is an account of the wooden walkway on another Saugatuck River bridge being blown off its timbers.

No records of any nineteenth or early twentieth century work on the bridge have been found but Connecticut Department of Transportation records show the following repairs and modifications:

1925 Replacement of the wooden plank deck by an open grate steel deck.
1952 Strengthening of the east rest pier by addition of steel beams and "H" piles. The pivot pier was encased in a metal shell and concrete pumped in to stabilize the original stone pier.
1968 Strengthening of the end floor beams and replacement of floor heam hangers. These alterations permitted an increase in load capacity from 7 to 10 tons.
1983 Changes in American Association of State Highway and Transportation Officials (AASHTO) load evaluation criteria reduced the limit from 10 to the earlier 7 ton figure.
1988 Emergency repairs added reinforcing plates to panel points, allowing the load limit to remain at 7 tons.

There are several other alterations or repairs, such as welding patches on some diagonals in the fixed span, but these appear to be minor and were probably done at the same time as other repairs.

2. History of the Crossing.

The first European contact with the area of Westport was probably by the Dutch navigator, Adrian Block, who sailed along the Connecticut shoreline in 1614. The coastal area of Westport became more directly involved when Captain John Gallup sailed along the coast in 1637 to protect English troops pursuing the Pequot Indians running from their defeat in southeastern Connecticut (DeForest 1851:146ff).

The first settlement of the area came in 1648 when Thomas Newton, Henry Gray, and John Green obtained permission from Fairfield to establish residences along the shore. Thomas Newton, who was involved in several ventures, was frequently the losing defendant in a number of court cases, eventually got into serious trouble with the authorities, and fled to New Amsterdam in 1650, never to return. By 1711 there were 270 people in the two settlements of Compo and Maximus, at which time parish privileges were granted the community under the name of Fairfield West Parish. Travel along the shoreline usually crossed the Saugatuck River at a ford located near the present Post Road (US Rte 1) bridge. During periods of high tide it was necessary to travel upriver another mile or so to another fording place. In April, 1777, during the Revolutionary War, over two thousand British soldiers disembarked at Compo Beach just east of the project area and moved inland for their raid on Danbury, being harassed by an unorganized group of local militia firing from behind a stone wall. On the return trip from Danbury the British were again fired upon, this time by several hundred American troops under General Benedict Arnold, among others. General Arnold set up a blockade at Old Hill, preventing the British troops from crossing the Saugatuck River until one of their spies told them about the upstream fording. The main body of British troops thus reached Compo Beach and their ships safely.

By the middle of the eighteenth century agricultural and commercial interests had begun to develop the protected anchorages of the Saugatuck River, building wharves and warehouses at the head of navigation, which is presently the center of town. There was also some commercial activity around Saugatuck, as the lower part of Westport was called. Indeed, a ferry was established just downstream of the present bridge as early as 1746 (Potts 1985:146). The main interests were, however, centered in the upper section of town. An important merchant family, the Jesups, were instrumental in having the 1807 Connecticut Turnpike located so that it went by their warehouse and wharf (Crofut 1937:1,163). The turnpike company crossed the Saugatuck with a wooden bridge near the present Rte. 1 structure. That bridge had major repairs in 1837 and, when completion of the 1848 railroad bridge diverted much of the turnpike traffic, the turnpike company went out of business and gave the bridge to the town in 1857. At this point the town needed a new bridge but had trouble deciding what type of bridge to build. Eventually they built one on casters which telescoped onto a stationary pier.

In 1866 a charter was granted to the Saugatuck Bridge Company to build a bridge in Saugatuck, the lower section of Westport. Nearhy residents then persuaded an 1868 town meeting to vote $8,000 to either construct a bridge at Saugatuck or to buy one from the bridge company. The following week the "uptowners", as the people from Westport center were known, called another town meeting and rescinded the bridge motion. Evidently they feared the possible economic competition from shippers located closer to Long Island Sound. Another meeting was held and the Saugatuck people again got the bridge resolution passed. Again, the uptowners called a meeting to nullify the action, but also moved to prevent any future consideration of such a petition. After much legal wrangling a meeting was held in February 1869 and $21,000 was appropriated for the bridge, some two and one-half times the original estimate. The bridge was constructed by the A.D. Briggs Company of Springfield, Massachusetts, and cost some $22,500. Even then, the uptowners were successful in holding off actual payment for the new bridge for nearly four years, during which time the legal fees brought the final total to almost $30,000 (Birge 1926:43).

The 1869 bridge was hardly paid for by the time shipworms had eaten much of it away. In something over ten years the bridge was rendered virtually impassable, despite maintenance costs of almost $2,000 a year. Accusations of improper construction, poor materials, and faulty management were leveled at the Briggs Company but the bridge had to be replaced. It was at this point that the town requested bids for an iron bridge to replace the existing one. In July 1884 the town voted to spend $26,000 for the Central Bridge Company structure, which is still standing. The final cost of the new bridge was $26,700, to which was added some $362 for demolition of the old bridge.

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