

APPENDIX 2

HISTORIC AMERICAN ENGINEERING RECORD

WAGAMON POND DAM AND BRIDGE
(State Bridge Number 808)

HAER NO.DE-29

Location: State Road 197, Mulberry Street, bridge and dam spanning Broadkill River on Wagamon Pond Dam, Milton, Broadkill Hundred, Sussex County, Delaware.

UTM: 18 472,780 4,291,895
USGS Quadrangle: Milton 7.5 minute Delaware

Dates of Construction: Dam 1815
Existing concrete headrace box culvert 1917
Existing waste gate and Bridge 808 1917

Present Owner: State of Delaware
Department of Natural Resources and Environmental Control
Division of Fish and Wildlife
89 Kings Highway
Dover, Delaware 19901

Present Use: Vehicular bridge and waste gate

Significance: The structure is a combination dam and water control structure of an unusual type. The existing system has evolved through a series of reconstructions since the first bridge was replaced in 1815 by the present dam.

Project Information: This documentation was undertaken in July 1990 for the Delaware Department of Transportation as a mitigative measure prior to the reconstruction of the dam and replacement of the bridge. Historic photographs photocopied as part of the Phase I cultural resource management project were reproduced in the report and deposited with the archaeological records at the Island Field Museum, South Bowers, Delaware.

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WAGAMON POND DAM AND BRIDGE
(State Bridge Number 808)
HAER No. DE-29 (Page 2)

The Wagamon Pond Dam and Bridge is part of a hydraulic system originally built in 1815 to power a gristmill known as Wagamon's Mill. The mill no longer stands, but the related hydraulic control structures survive.

The bridge is a reinforced concrete slab with a structure length of 23', two spans 10' in length and a deck width 24' out to out. The structure serves as both a bridge and a dam/spillway for Wagamon's Pond. Adjustable wood plank gates retain the water in the pond and are raised or lowered within concrete tracks by hand to control the volume of flow through the spillway. The parapets are designed with a series of open arches.

South of the bridge, the earthen dam also contains the remains of a power system. A box culvert and gates mark the location of the Wagamon Mill headrace.

The box culvert, known as the penstock bridge, contains a gate system like the one in the main bridge. It also shares the arched motif in its concrete guardrail. Inside the mill building, the water fell into the turbines that drove the machinery, exiting through the tailrace below.

A short distance upstream, on Diamond Pond, is a similar combination dam and waste gate structure built by the same owners at about the same time. Diamond Pond was once part of the same power system, providing upstream water storage for the mill.

The earliest recorded roadway here was Fergus' Bridge, built at the head of navigation of the Broadkill by Major William Peery and later owned by James Fergus, a native of Scotland. His bridge was known as the "upper" bridge or "old" bridge to distinguish it from the "lower" bridge at Union Street.

In 1815 a partnership led by Dr. Joseph Maull obtained an Act of the Delaware General Assembly authorizing construction of a mill at Fergus' Bridge. Dr. Maull died in 1846 while serving as acting Governor, and Samuel R. Paynter bought the mill, beginning his family's half-century association with the property.

After Samuel R. Paynter died, the Orphans Court ordered the mill and other properties divided among his widow Sally and his children. In 1865, Sally A. Paynter insured the mill with Kent County Mutual Insurance Company, describing the mill as a two-story frame mill run by water power, valued at \$6,000, of which she insured \$4,000.

The Paynter heirs, Edwin R., Rowland C., and Hannah E. Paynter and Emma R. Wright, conveyed the mill property to John T., Hamilton K, and Daniel Wagamon by deed dated September 20, 1901. The Wagamons also bought Paynter's steam mill on Mill Street from their miller, George Andrew Bryan.

The new four-story Wagamon Mill was finished in 1901, equipped with the newest in Allis Chalmers turbine-driven roller equipment valued at \$5,600. It was thirty feet square, and stood back sixteen feet back from the raceway bridge.

A few years later, Hamilton Wagamon and William Wagamon bought the other partner's shares and became co-owners of the mill. In 1917, they built the

present penstock and waste gate and invited the county to pay for construction of new bridges, including Bridge 808 and the penstock bridge.

Delaware law contained special provisions directing the county governments to build bridges over mill dams at the request of the millers. The law also mandated state maintenance of roadways over mill dams.

The Levy Court [council] of Sussex County on May 22, 1917 agreed to build a superstructure with I-Beams and a reinforced concrete slab with two inch wearing surface of crushed stone in a bituminous binder. The resolution required that the county engineer review the plans and that a county inspector supervise the job.

The gap between the penstock, or headrace, bridge and the mill building was closed by the county to provide a safe walkway for school children. There was an icehouse west of the mill, on the side of the pond, and another icehouse on the downstream side of the dam just north of the mill. The last ice was cut around 1934, according to recollections. In 1926, a second mill building, also thirty feet square, was added to the rear. The first turbines were replaced in 1938 with 30-horsepower, 42" turbines.

The second mill burned in 1943, to be replaced by the Diamond State Roller Mills plant. This new mill included a stone for feed grinding, which was powered by the water turbine.

In 1946, the Diamond State Roller Mills was incorporated. Partners were William B. Wagamon, Richard Wagamon, and William B. Wagamon, Jr. They conveyed their shares of the real estate to Henry C. Wagamon, who was a non-participating landlord.

The sheriff sold the company's property in 1958 and the business closed. The mill itself changed hands in 1963. The new owner, Cool Spring Power and Water Company, did not operate the mill, but maintained the pond. The buildings fell into ruin.

Local residents salvaged the building materials, creating a safety hazard that the fire company resolved by torching the buildings finally in 1972. On a fall Sunday afternoon, firemen packed straw into the upper stories of the buildings, and then set them alight.

Shortly thereafter, the property was sold to Joseph R. Hudson and Stanley L. Thompson. They gave the pond and mill property to the State of Delaware for the use of the Division of Fish and Wildlife. The deed described a pond of 59 acres, more or less, and cited the 1853 survey lines, which in turn cited the 1820 boundaries, indicating that the present impoundment is the same as the original 1815 dam.

BIBLIOGRAPHY

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HISTORIC AMERICAN BUILDINGS SURVEY
INDEX TO PHOTOGRAPHS

WAGAMON POND DAM AND BRIDGE
(State Bridge Number 808)
State Road 197, Mulberry Street,
bridge and dam spanning
Broadkill River on Wagamon Pond Dam
Milton
Broadkill Hundred
Sussex County
Delaware.
Photographer: (Views 1 - 14) Tim O'Brien

HAER NO. DE-29

June 1990

- DE-29 -1 VIEW WEST FROM UNION STREET BRIDGE TOWARD BRIDGE 808
DE-29 -2 VIEW EAST FROM THE NORTH BANK OF WAGAMON POND (*Plate 20, page 54*)
DE-29 -3 OVERALL VIEW FROM THE SOUTHEAST, SHOWING THE FOOTBRIDGE ON THE
DOWNSTREAM SIDE OF BRIDGE 808 (*Plate 16, page 52*)
DE-29 -4 OVERALL VIEW FROM THE SOUTHEAST, SHOWING UNDERPINNINGS OF
FOOTBRIDGE ON THE DOWNSTREAM SIDE OF BRIDGE 808 (*Plate 21, page
55*)
DE-29 -5 VIEW FROM THE SOUTHEAST, LOOKING UPSTREAM, ACROSS THE ROADWAY
OF BRIDGE 808 (*Plate 2, page 3*)
DE-29 -6 VIEW NORTHWARD OVER BRIDGE 808 (*Plate 4, page 7*)
DE-29 -7 VIEW SOUTHWARD OVER BRIDGE 808 (*Plate 15, page 52*)
DE-29 -8 VIEW FROM ABOVE OF THE GATE STRUCTURE ON THE EAST SIDE OF
BRIDGE 808 (*Plate 11, page 30*)
DE-29 -9 VIEW NORTHWARD OF BRIDGE 808 AND THE FOOTBRIDGE (*Plate 22, page
55*)
DE-29 -10 VIEW NORTHWARD OF BRIDGE 808 AND THE UPSTREAM GATE STRUCTURE
DE-29 -11 VIEW SOUTHWARD OF THE PENSTOCK BRIDGE, SHOWING THE SURVIVING
UPSTREAM WALL STRUCTURE (*Plate 18, page 53*)
DE-29 -12 VIEW WESTWARD OF THE PENSTOCK BRIDGE AND SURVIVING GATE
STRUCTURE (*Plate 14, page 33*)
DE-29 -13 VIEW NORTHWARD ACROSS THE PENSTOCK BRIDGE (*Plate 17, page 53*)
DE-29 -14 VIEW NORTHEASTWARD OF THE UPSTREAM SIDE OF THE PENSTOCK BRIDGE
(*Plate 19, page 54*)

Index to Photographs
WAGAMON POND DAM AND BRIDGE
(State Bridge Number 808)
HAER No. DE-29 (Page 51)

- DE-29 -15 Photocopy of a photograph in Delaware Department of Transportation files, photographer unknown, about 1970 VIEW OF THE DOWNSTREAM SIDE OF BRIDGE 808 AND THE GATES, LOOKING SOUTH TOWARD THE MILL (*Plate 7, page 18*)
- DE-29 -16 Photocopy of a photograph in Delaware Department of Transportation files, photographer unknown, about 1970 VIEW OF BRIDGE 808, LOOKING SOUTH TOWARD THE MILL (*Plate 8, page 19*)
- DE-29 -17 Photocopy of a drawing (from the Corps of Engineers report, March 1979, plate 2) FRONT ELEVATION AND PLAN VIEW OF BRIDGE 808 IN 1979
- DE-29 -18 Photocopy of a drawing (from the Corps of Engineers report, March 1979, plate 3) SECTION THROUGH BRIDGE 808 AND THE DAM (*Figure 10, page 56*)
- DE-29 -19 Photocopy of a drawing (from Heite, 1990) SKETCH MAP OF WAGAMON POND PROJECT AREA 1911 (*Figure 7, page 14*)
- DE-29 -20 Photocopy of a drawing (from Heite, 1990) SKETCH MAP OF THE PROJECT AREA 1990 SHOWING EXISTING AND KNOWN FEATURES OF THE SITE (*Figure 3, page 6*)
- DE-29 -21 Photocopy of a drawing (from Heite, 1990) SKETCH MAP SHOWING KNOWN FEATURES AND TEST TRENCHES (*Figure 2, page 5*)

*On the following pages are additional photographs
and drawings from the HAER survey,
as noted in the list above*



Plate 15: Penstock bridge, overall view, looking south
1990 Photo by Tim O'Brien of DelDOT for HAER survey



Plate 16: View from downstream, looking northwestward at the wooden
footbridge attached to the downstream side of Bridge 808
1990 Photo by Tim O'Brien of DelDOT for HAER survey



Plate 17: Penstock bridge, looking north, overall view
1990 Photo by Tim O'Brien of DelDOT for HAER survey



Plate 18: Penstock bridge, looking southwestward.
1990 Photo by Tim O'Brien of DelDOT for HAER survey

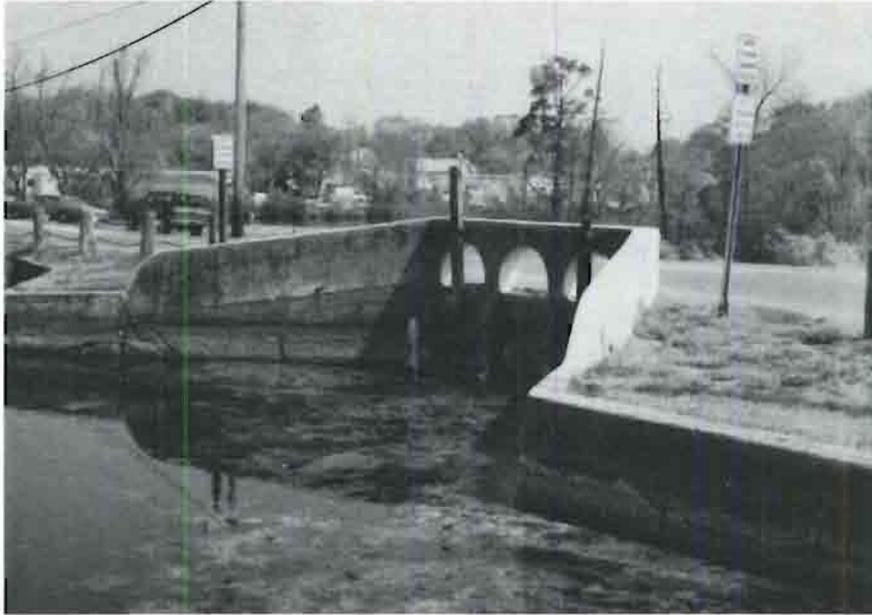


Plate 19: Penstock bridge, looking northeast, detail of upstream structure
1990 Photo by Tim O'Brien of DeIDOT for HAER survey

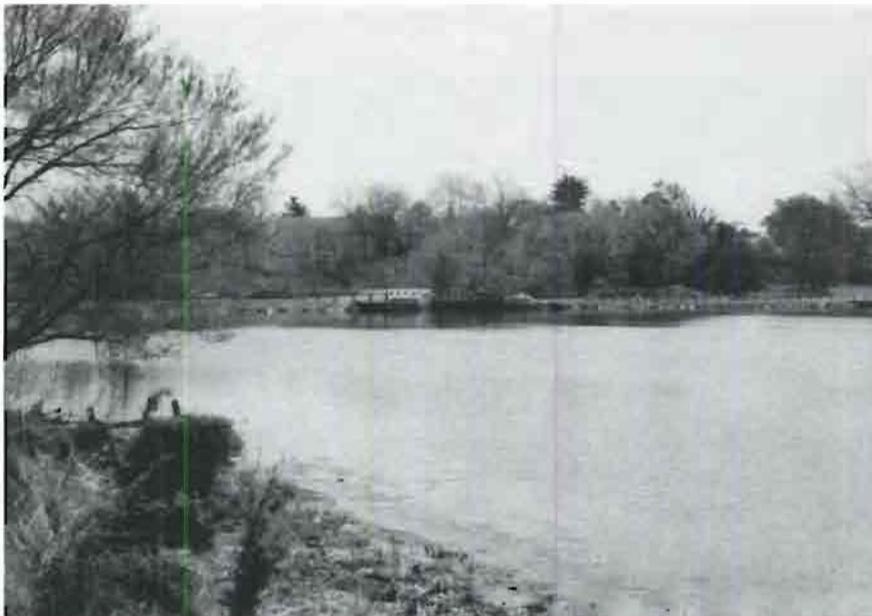


Plate 20: Penstock bridge, looking southwestward.
1990 Photo by Tim O'Brien of DeIDOT for HAER survey



Plate 21: Overall view from the southeast, showing underpinnings of footbridge on the downstream side of Bridge 808
1990 Photo by Tim O'Brien of DelDOT for HAER survey



Plate 22: View northward of Bridge 808 and the footbridge.
1990 Photo by Tim O'Brien of DelDOT for HAER survey

