

Cultural Resources



Discovering New Jersey's Transportation Past

A Publication of the New Jersey Department of Transportation

Digest

Governor Jon S. Corzine

October 2009

Commissioner Stephen Dilts

> location:

dennis township
cape may county

> resource types:

archaeological
architectural

> action:

survey/inventory
evaluation of significance



Dennis Township
Cape May County

The *Cultural Resources Digest*, published by the New Jersey Department of Transportation, summarizes information from professional studies in archaeology, history and historic architecture conducted during the development of transportation projects. Visit us at <http://www.state.nj.us/transportation/works/environment/>

Dennis Creek Landing Update: Remains of Earlier Bridge Discovered During N.J. Route 47 Reconstruction



View looking north showing the north abutment of the bridge built in 1928 being removed in January 2006 [Source: Hunter Research, Inc.].

During the winter of 2005-06, the concrete and steel bridge carrying N.J. Route 47 over Dennis Creek, built in 1928, was replaced with a new larger span. Several archaeological resources had been found (and others hinted at by historic documents) during a cultural resources study conducted in 2000. Research showed that there had been wharves, storehouses and a tide mill at the crossing, and shipyards nearby on the banks of the creek. To offset the effects of the bridge replacement project on archaeological remains, the Federal Highway Administration, the New Jersey Department of Transportation and the New Jersey Historic Preservation Office required an archaeologist to be present during

the ground-disturbing stages of the bridge construction to identify and record any significant remains that might be unearthed.

Not surprisingly, subsurface remains were in fact encountered during construction. These consisted principally of *in-situ* timber posts and planks. The posts were in two parallel rows, sending historians back to revisit the history of the several bridges that had spanned the creek over the centuries. Ultimately it was concluded that the posts probably were relics of one of those earlier spans, dating from late in the 19th century. No identifiable traces of the mill, wharves or shipyards were uncovered.

Background

Dennis Creek Landing came into existence in the early 1790s when the state legislature authorized construction of a causeway across Dennis Creek and the extensive tidal marshes that border it, south of Dennisville. The project included the first bridge at this location and a public landing. The new crossing created an important overland route on the west side of Cape May, and Dennis Creek Landing shortly became a bustling port, shipping out cedar shingles, barrel staves and lumber harvested from the vast nearby stands. Within a few years a gristmill, powered by the fluctuations of the tide, was built at the landing. In the 19th century, the landing later became a shipbuilding center, then entered a period of decline. The creek crossing remained, becoming ever more important as cars and trucks replaced boats and ships to move people and goods, and in the process the bridge was replaced and upgraded several times.

When the current bridge replacement project was in the early planning stages in 2000, an archaeological and historical study of the landing and vicinity was conducted to determine what buried remains—if any—of the once-bustling community survived (see *Dennis Creek Landing: A Hub of 19th-Century Maritime Commerce* [July 2005], another in the Cultural Resources Digest series). However, traditional archaeological testing is virtually impossible in a tidal marsh without extensive coffer dams and pumping, so the study instead relied on archival research, visual inspection and mapping of visible remains. Besides what was known from historical documents, some wooden timbers and planks could be seen in the creek bed, some only tantalizingly visible at low tide. Wood is known to decay very slowly if it is completely waterlogged and no oxygen is present (a condition called *anaerobic*), as is the case if it is buried in muck; in fact, the mining of ancient cedar logs from the bottom of the swamps near Dennisville was one of the region's early industries. For this reason, the study



Dennis Creek Landing about 1915. The wooden bridge over Dennis Creek, at right, was built in 1885 and replaced in 1908 [Source: George Brewer, Jr.].



The pony truss bridge over Dennis Creek at Dennis Creek Landing about 1925. This bridge was built in 1908 and replaced in 1928 [Source: George Brewer, Jr.].

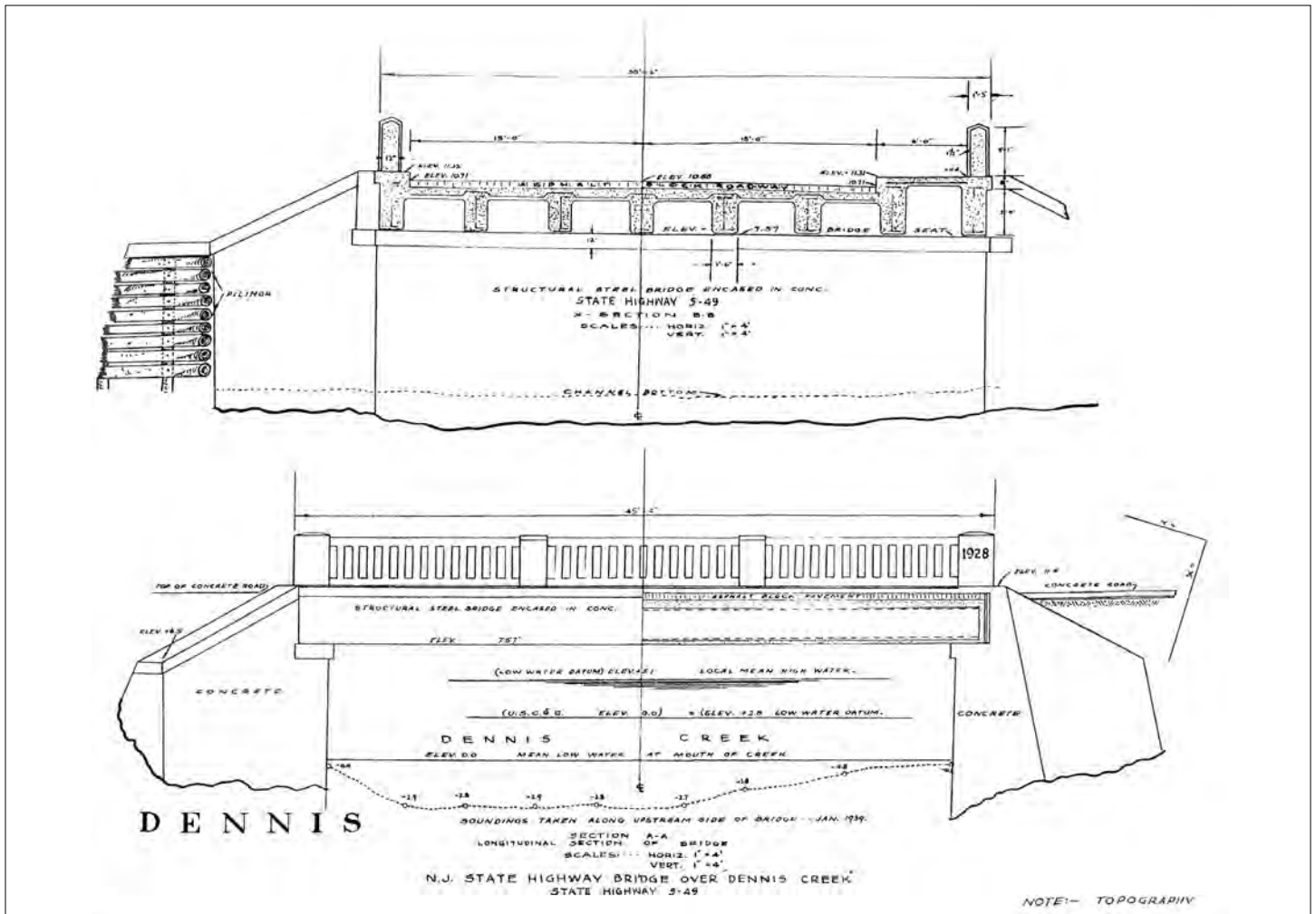
in 2000 concluded there was a strong potential that significant archaeological resources were present within the project “footprint” even without subsurface testing. Thus, *archaeological monitoring* (see sidebar) during construction was recommended as an alternative to a typical archaeological excavation before construction began.

Bridges and More Bridges

Because the new bridge was to be constructed on virtually the same location as the bridge built in the 1790s and its successors, the greatest likelihood was that any remains discovered during construction would relate to one or more of those structures. Nothing is known with certainty about the nature of the first bridge, but given its environment and the fact that it didn’t survive, it was most likely made of wood (metal bridges were still decades in the future). The causeway

was enlarged in 1803 and again sometime between 1818 and 1848.

In 1845 the County Freeholders ordered the first bridge replaced. The new structure was to utilize the existing foundations, be wide enough for a carriage and a walkway and be “properly enclosed and covered over.” In other words, Dennis Creek Landing now had a covered bridge. According to a newspaper article published 30 years later, the bridge was built of hemlock, with cedar siding, cedar shingles and cedar planks; undoubtedly this wood was produced and obtained locally. The total cost of this bridge, in 1845, was \$1,702.18. This span stood until 1885, when it was declared obsolete and sold at auction. The purchaser had 60 days to remove it. All that is known of the next bridge, apparently constructed in 1885, is what can be learned from the one known historic photograph in which half of it appears. In this view it has the character more of a pier than a bridge, apparently with intermediate pilings in the



The concrete and steel bridge over Dennis Creek built in 1928 [Source: New Jersey State E.R.A. Riparian Stream and Waterways Survey 1939].

creek. It seems to have had a railing or a parapet, but it was not a covered bridge. It stood until 1907, when it was condemned.

In 1908, the bridge built in 1885 was replaced, this time by a steel pony truss. Pony trusses are not as tall as through trusses and have no top cross-members, so vehicles of any height can use them. They were used for shorter crossings and were designed for lighter loads than through trusses. The Dennis Creek Landing pony truss was photographed at least twice, and in one of these views it appears that the pilings from its predecessor bridge had been left in place. They are clearly not supporting the new steel bridge.

The pony truss survived 20 years, and the automobile was its downfall. The New Jersey State Highway system was created in 1917. Where feasible, existing roads were upgraded and incorporated into the system. Route 15, from Bridgeton to Rio Grande, would cross Dennis Creek on the old causeway. In 1927 Route 15 and Route 6 (Salem to Bridgeton) together became Route 49 or

Delsea Drive, running nearly from the Delaware to the sea—the Legislature named it in 1933. It was intended to provide access to Cape May from the Philadelphia-Camden area, and its 40-foot-wide roadway was nearly double the width of the truss. In 1928 the truss was replaced by the concrete and steel bridge that stood until 2005. (A numbering change at Millville in 1953 created today’s Route 47 from Westville, on the Delaware near Camden, to Wildwood).

Monitoring the New Bridge Construction

When the bridge built in 1928 was replaced in 2005-06, an archaeologist was present to observe all ground-disturbing activity, including the removal of the foundations of the existing bridge. This was accomplished by the construction of four temporary cofferdams using interlocking sheet pilings that were driven into the creek and the banks. The water was then pumped out, and each cofferdam was excavated

to a depth of about 18 feet. While this was going on, the archaeologist spotted numerous wooden planks and pilings in the creek. Most were lying on the creek bed, but some of the pilings had been driven vertically into the bed, where they remained. All were mapped and photographed.

The planks and posts lying on the creek bed were interpreted as possibly being remains of wharves known to have lined the creek. The vertical pilings turned out to be arranged in two rows, oriented north-south and about 17 feet apart. In all likelihood these related to one of the earlier bridges, probably the wooden bridge built in 1885, and these may be the same posts that appear in the photograph of the pony truss that succeeded it.

Equally intriguing was what was not found: there were no signs of timber cribbing or stonework related to construction of the causeway, and no cultural materials were found in the fill behind the abutments installed in 1928. It is theorized that since the more modern bridges (particularly the bridge erected in 1928) were longer than the one built in the 1790s, the earlier abutments had been in locations that were excavated in 1928. The absence of cultural materials is attributed to clean fill being brought in to the site during the construction episode of 1928.

Archaeological Monitoring

Archaeological remains are sometimes suspected to survive in a construction zone but in locations that are inaccessible until construction is underway. They are also sometimes encountered unexpectedly during the early stages of construction. In such cases, archaeologists are on site during construction to observe, inspect, investigate and record archaeological discoveries. The goal is to recover information with minimal disruption of construction schedules.

Observational monitoring is the rapid recording of buried features uncovered during the contractor's operations (with brief work stoppage, measured in hours, not days, if necessary). The monitors inspect backdirt piles and trenches, map soil profiles and collect soil samples and take photographs. *Documentary monitoring* is the more detailed investigation of an archaeological discovery, similar to that usually done in advance of construction; the archaeologist may halt the contractor's operations up to a predefined time limit, such as two days.

Successful monitoring is integrated into the larger transportation project early in the development of contract documents. The responsibilities of the monitor, contractor, and resident engineer are spelled out in the construction specifications, along with the procedures to be followed by each party. Monitoring locations are written into the specifications and shown on the plans, and provision is also made for unanticipated discoveries in other locations.



View looking north showing the new bridge near completion in May 2007 [Source: Hunter Research, Inc.].

Project: Replacement of N.J. Route 47 Bridge over Dennis Creek
Location: Route 47 from Route 83 to north of Dennis Creek, Dennis Township, Cape May County
Date: Summer 2000; 2005-08
Consultant: Hunter Research, Inc., 120 West State Street, Trenton, NJ 08608

For More Information...

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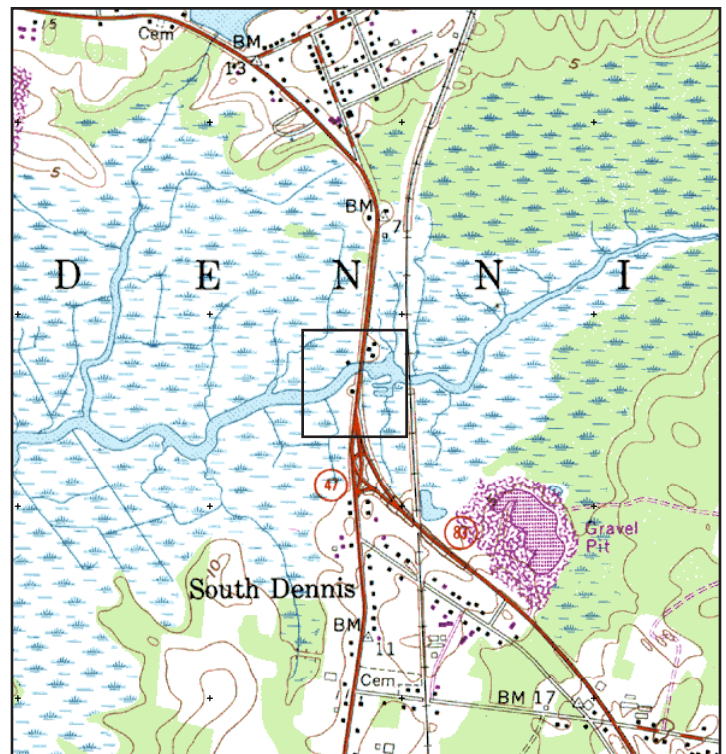
2001 Cultural Resources Survey: N. J. Route 47 [Sections 4D and 5E], Dennis Creek Landing and South Dennisville, Dennis Township, Cape May County, New Jersey. On file, NJ Department of Transportation, Bureau of Environmental Services, Trenton, New Jersey.

2008 Archaeological Monitoring, N.J. Route 47/N.J. Route 83 Bridge Replacement and Intersection Improvements, Dennis Township, Cape May County, New Jersey. On file, NJ Department of Transportation, Trenton, New Jersey.

Additional information on transportation projects and historic preservation is available from the Division of Environmental Resources, New Jersey Department of Transportation (<http://www.state.nj.us/transportation/works/environment/overview.htm>), the Federal Highway Administration (<http://www.fhwa.dot.gov/environment/archaeology/index.htm>), the New Jersey Historic Preservation Office (<http://www.state.nj.us/dep/hpo/2protection/njrreview.htm>), and the Advisory Council on Historic Preservation (<http://www.achp.gov/work106.html>).



Project vicinity map



Area of detail