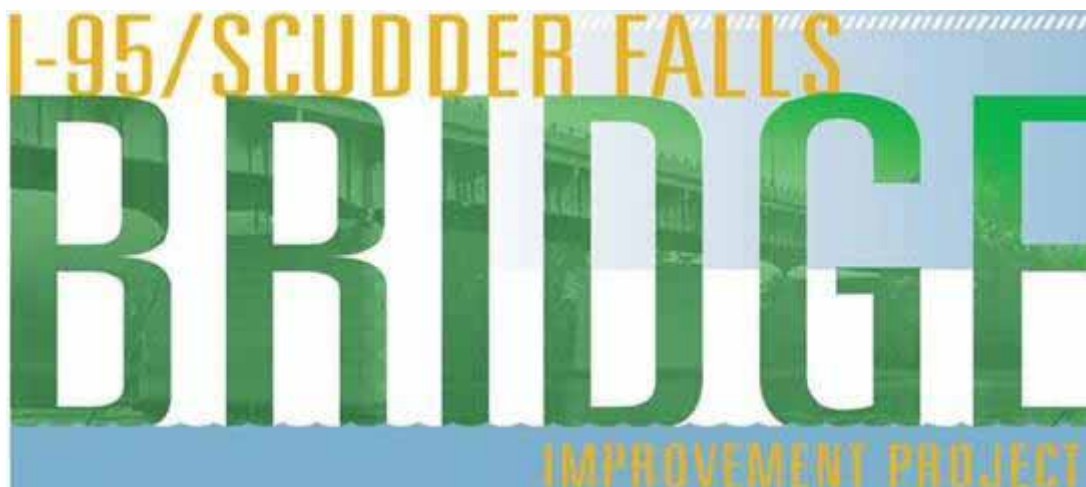




Delaware River Joint Toll Bridge Commission



Environmental Assessment/Draft Section 4(f) Evaluation Volume 3 – Draft Section 4(f) Evaluation

October 2009

Environmental Assessment/Draft Section 4(f) Evaluation

I-95/Scudder Falls Bridge Improvement Project Environmental Assessment

DRJTBC Contract C-393A, Capital Project No. CP0301A



This Environmental Assessment/Draft Section 4(f) Evaluation consists of three volumes:

Volume 1 is the Environmental Assessment (EA) and includes:

- Purpose of and Need for Action (Chapter I),
- Affected Environment (Chapter II),
- Alternatives Considered (Chapter III),
- Environmental Consequences (Chapter IV),
- Comments and Coordination (Chapter V), and
- Lists of References, Distribution List, and List of Preparers.

Volume 2 includes Attachments A through C of the Environmental Assessment:

- Agency Correspondence (Attachment A), including correspondence related to Section 7 of the U.S. Endangered Species Act and Section 106 of the National Historic Preservation Act
- Permitting Checklist/Consistency Determinations (Attachment B), and
- Technical Support Data Index (Attachment C).

Volume 3 is the Draft Section 4(f) Evaluation that documents potential impacts and mitigation measures for impacts on historic resources and public parklands protected under Section 4(f) of the U.S. Department of Transportation Act.

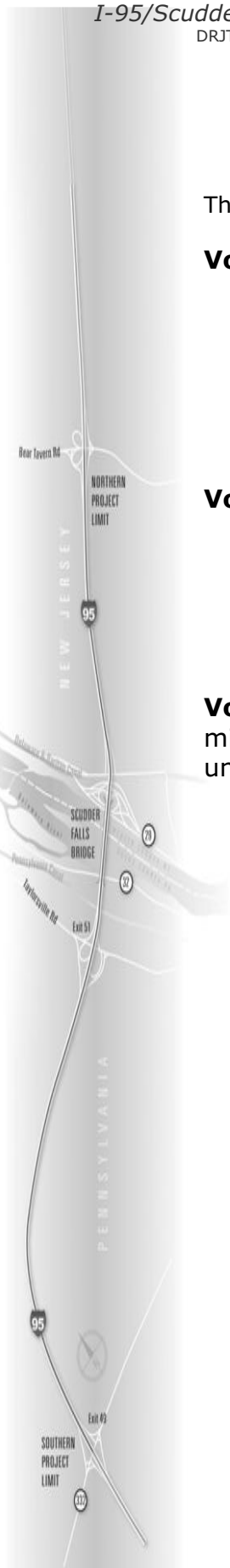




TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. PROJECT PURPOSE AND NEEDS SUMMARY	4
A. Project Purpose.....	4
B. Project Need	4
III. DESCRIPTION OF PROJECT SCOPE.....	6
IV. IDENTIFICATION OF SECTION 4(f) RESOURCES	7
A. Historic Resources	11
1. Delaware Canal.....	11
2. Elm Lowne	12
3. Delaware and Raritan Canal.....	12
4. NJ State Police Headquarters	14
5. Charles S. Maddock House	14
B. Archaeological Resources.....	14
C. Multi-Use Properties.....	15
D. Public Recreation Water Trails	16
V. IDENTIFICATION OF SECTION 4(F) RESOURCES WHICH ARE POTENTIALLY USED BY THE ALTERNATIVES OF THE PROJECT	16
VI. ALTERNATIVES ANALYSIS	17
A. Avoidance Alternatives.....	17
1. No-Build.....	18
2. I-95 Realignment	18
3. Reconstruct I-95/Scudder Falls Bridge and Taylorsville Road Interchange.....	19
B. Alternatives That Use Section 4(f) Properties That Were Studied in Detail.....	20
1. Transportation Systems Management/Transportation Demand Management.....	21
2. Build Alternatives	21
a. Pennsylvania I-95 Mainline Segment	22
b. Taylorsville Road Interchange	24
c. I-95/Scudder Falls Bridge and Approaches Design Options	25



d. I-95/Scudder Falls Bridge Alignment Design Options.....	25
e. NJ 29 Interchange.....	27
f. I-95 Scudder Falls Bridge Improvement Alternative.....	29

C. Temporary Construction Easements.....	30
---	-----------

D. Assessment of Least Harm	39
--	-----------

E. Measures to Minimize Harm to the Section 4(f) Resources	42
---	-----------

VII. SECTION 4(F) COORDINATION	43
---	-----------

LIST OF TABLES

Table 1 - Section 4(f) Resources in the Project Area	7
Table 2 - Section 4(f) Resources Potentially Used by the Alternatives	17

LIST OF FIGURES

Figure I-1 Regional Location Map	2
Figure I-2 Project Location Map.....	3
Figures IV-1A-C Section 4(f) Resources	8
Figures VI-1A-E Standard Lane Additions on Upstream Alignment.....	33
Figures VI-2 Delaware and Raritan Canal Potential Section 4(f) Use	38

APPENDICES

Appendix A Proximity Impact Assessment Summary
Appendix B Programmatic Agreement
Appendix C Agency Coordination
Appendix D Public Coordination





DRAFT SECTION 4(f) EVALUATION

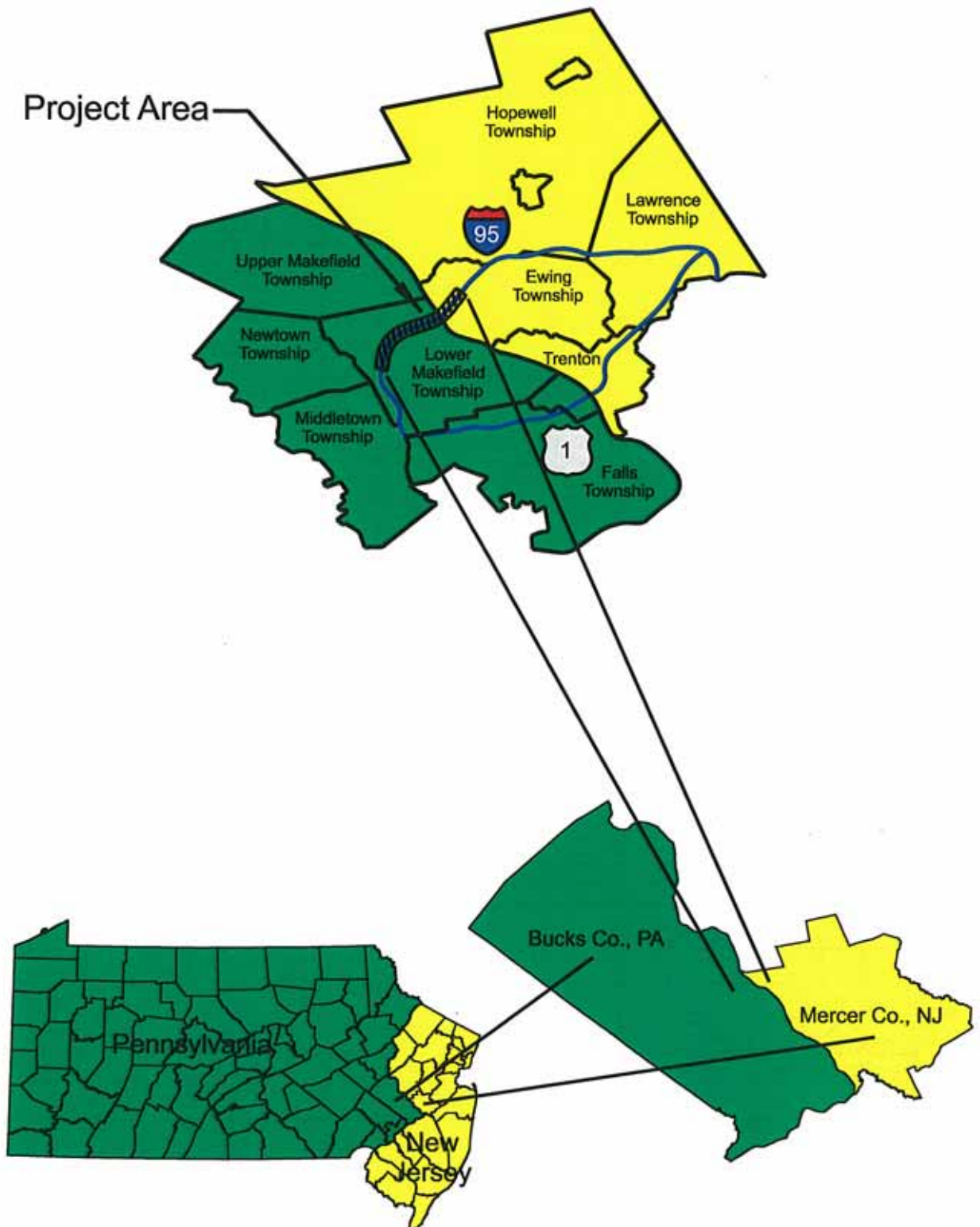
I. INTRODUCTION

The Delaware River Joint Toll Bridge Commission (DRJTBC), in cooperation with the Federal Highway Administration (FHWA), Pennsylvania Department of Transportation (PennDOT), and the New Jersey Department of Transportation (NJDOT), proposes improvements to the I-95/Scudder Falls Bridge over the Delaware River and 4 miles of the I-95 mainline to alleviate traffic congestion and improve operational and safety conditions. The I-95/Scudder Falls Bridge, which was constructed in 1959, carries I-95 across the Delaware River between Lower Makefield Township, Bucks County, Pennsylvania and Ewing Township, a suburb of Trenton, in Mercer County, New Jersey (Figures 1 and 2). The project study limits approximately extend between PA 332 (Newtown-Yardley Road) in Lower Makefield Township and Bear Tavern Road in Ewing Township.

Based on Section 6009(a) of SAFETEA-LU, 49 U.S.C. 303, and 23 CFR 774, the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge or land from a historic site of national, state, or local significance as determined by the federal, state or local officials having jurisdiction over the park, recreation area, refuge, or site only if:

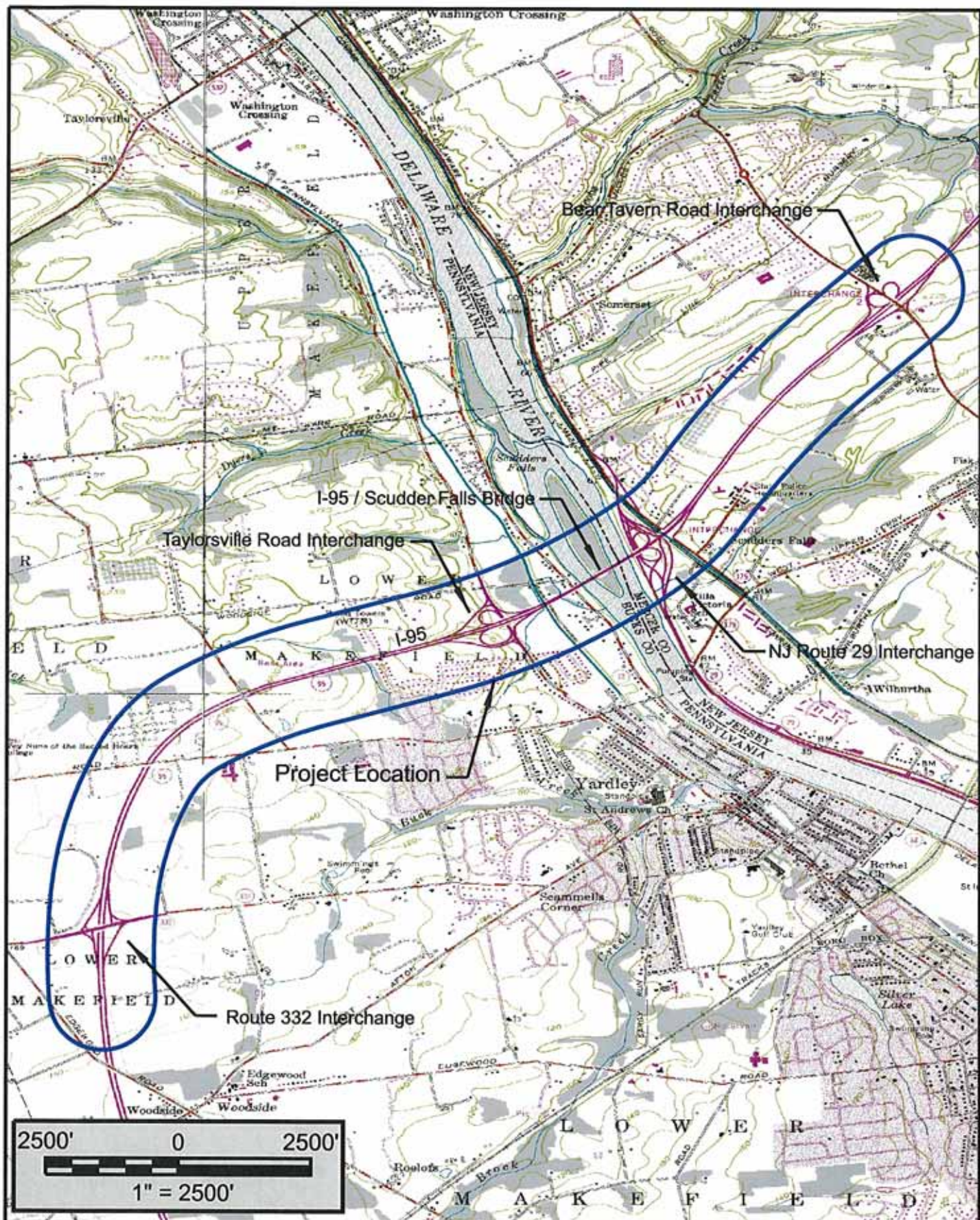
- There is no feasible and prudent alternative to the use of such land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use; or
- The use, including any measures to minimize harm will have a de minimis impact on the property.

This evaluation was prepared to comply with Section 4(f) and Section 2002 of PA 120, 71 P.S. §512(a) (15). This Section 4(f) Evaluation includes a summary of the project purpose and needs, description of Section 4(f) resources, alternatives analysis, assessment of least harm, mitigation, and coordination.



I-95 / Scudder Falls Bridge Improvement Project

Figure I-1
Regional Location Map



I-95 / Scudder Falls Bridge Improvement Project

Figure I-2
Project Location Map



II. PROJECT PURPOSE AND NEEDS SUMMARY

The I-95 Scudder Falls Bridge Improvement Project will involve replacement of the existing bridge over the Delaware River and reconstruction of sections of I-95 in both Pennsylvania and New Jersey. The project will address a variety of different needs that are required for the transportation facilities at this location.

A. Project Purpose

The purpose of the project is to relieve current and future traffic congestion and improve safety and traffic operational conditions on the I-95/Scudder Falls Bridge and the segment of I-95 extending from Bear Tavern Road (County Route 579) Interchange to PA Route 332 (Newtown-Yardley Road) Interchange.

Initial project studies included extensive traffic data collection and analyses to determine existing and projected future traffic conditions. A *Needs Report (Technical Memorandum No. 11)* was prepared to document existing transportation conditions, future transportation demand and projections.

The goal is to improve safety by meeting current highway design criteria. The project includes consideration of improvements at two interchanges along I-95, Taylorsville Road and NJ Route 29 to meet current design criteria.

A major project objective is to alleviate current and future traffic congestion on the I-95/Scudder Falls Bridge and the I-95 project area between PA Route 332 and the Bear Tavern Road Interchange. The I-95/Scudder Falls Bridge and adjoining highway segments, which consist of two lanes in each direction between PA Route 332 and NJ Route 29 and three lanes in each direction east to Bear Tavern Road, are projected to be operating over capacity in 2030. The goal for the improvements in this segment of I-95 would be to achieve traffic Level of Service (LOS) D, generally considered to represent an acceptable traffic operating level in an urban environment.

B. Project Needs Summary

System Connectivity and Mobility

The existing I-95/Scudder Falls Bridge and I-95 project area, extending over a total distance of 4.4 miles, are a vital link to the Interstate Highway System. Traffic congestion conditions along this highway segment adversely affect critical mobility for through traffic, inhibiting the movement of people and goods between Pennsylvania and New Jersey. I-95 is the easternmost Interstate Highway, extending roughly 1,900 miles from Florida to Maine. The I-95/Scudder Falls Bridge is heavily used for regional travel, providing access to the nearby Trenton-Mercer Airport and serving as a truck route for interstate commerce.

The I-95 corridor in the project area is a major commuter route for employment destinations in and near the study area, as well as for commuters residing in communities along the route. Interstate 95 in the project area accommodates an estimated 54,000 to 63,000 vehicles on an average weekday, with up to 6,500 vehicles in the peak hour. During the morning and evening peak hours, I-95 experiences frequent backups and delays related to commuter traffic.



Peak travel directions on I-95 (northbound in A.M. peak and southbound in the P.M. peak) reflect the fact that 13% of Bucks County residents work in Mercer County, compared to 4% of Mercer County residents that work in Bucks County. Overall, Bucks County is forecasted to experience population and employment growth to 24% by 2025, compared to the 14% - 15% growth in Mercer County from 2000 to 2015. The populations of Buck and Mercer Counties are forecasted to grow by over 140,000 persons and 50,000 persons, respectively. An influx of 66,500 and 33,300 new jobs are expected in Bucks and Mercer Counties, respectively, over this time period. With this future growth in the regional employment and population, delays on the I-95/Scudder Falls Bridge will worsen.

Transportation Deficiencies

As listed below, there are areas within the project corridor that do not meet current design criteria, including the shoulder areas or lack of shoulders, horizontal geometry, inadequate deceleration and acceleration lanes, and inadequate capacity.

- The existing I-95/Scudder Falls Bridge consists of two lanes in each direction, separated by a concrete median barrier. There are no inside and outside shoulders on the bridge. The bridge does not meet current geometric design criteria. This current configuration does not provide adequate areas to provide refuge for drivers in the event of a breakdown, emergency, crash, or other incidents.
- Congestion at the I-95/Scudder Falls Bridge is exacerbated not only by the narrow bridge, but also by the proximity of the adjoining interchanges, with ramps merging onto the I-95 mainline close to the bridge.
- The load ratings for the I-95/Scudder Falls Bridge superstructure do not meet current AASHTO (American Association of State Highway and Transportation Officials), PennDOT, and NJDOT design criteria. For the AASHTO HS20 (36 ton) vehicle, the existing load factor design (LFD) inventory rating is 30 tons, controlled by the main girders. The bridge is not currently posted for loads, because the operating rating is greater than 36 tons; however, permit loads currently require operational restriction limiting concurrent heavy vehicle traffic on the bridge.
- The existing bridge superstructure (the two main beams under the concrete deck) is of a non-redundant type. A non-redundant bridge generally has only two primary load-carrying members (beams), where the failure of one of these members results in catastrophic collapse of the bridge. The design of non-redundant structures is no longer permitted nationwide by the FHWA and state DOTs. Leakage from rain and de-icing salt through the deck joints has caused considerable deterioration to the structural steel and deck, resulting in vertical movement of the concrete deck under traffic. The movements of the deck is due to the severe corrosion and wear in the deck and steel framing.
- The two main beams and pinned hangers (four large steel pins supporting each suspended portion of the bridge) are fracture critical members, whose failure would result in collapse of the bridge. The two existing main beams of the bridge consist of steel plates and steel angles that are riveted together to make up the I-beam shape. This method (called riveted built-up) was used for large beams before advanced welding technology was developed after the 1960's. Riveted built-up construction offers limited opportunities to upgrade the beams to meet the current internal redundancy requirements. The DRJTBC installed redundancy hangers at all



of the pinned hangers many years ago to prevent catastrophic collapse of the bridge from a pin failure.

- The deceleration and acceleration lanes of the adjacent interchanges do not meet current design criteria. There is inadequate spacing of the ramp merges.
- The interchanges do not meet current design criteria for geometry, lane and shoulder widths, and ramp configurations.

Traffic Congestion

The heavy traffic demand, combined with the roadway and bridge geometric deficiencies, result in substantial delays during peak period. The bridge and adjoining sections of I-95 experience severe congestion during peak hours and are currently operating at levels well over available highway capacity.

On the I-95/Scudder Falls Bridge, traffic currently operates at LOS E or F during the morning and afternoon peak periods. Traffic during peak hours is expected to grow by 14% to 19% by year 2030 in peak flow directions. This lack of available bridge capacity results in lengthening of the peak hours and adds to delays on the I-95 mainline including the adjoining interchanges.

Project Needs Statement

The following transportation needs were identified for the project:

- Provide a safe and reliable river crossing, as the existing bridge is approximately 50 years old, has experienced structural deterioration, and does not meet current design criteria
- Provide adequate shoulders to enhance safety and traffic flow. Provide adequate outside shoulders (breakdown lanes) on the I-95/Scudder Falls Bridge to provide pullover areas for vehicles in the event of a breakdown, crash, emergency, or other incidents.
- Provide adequate acceleration and deceleration lanes at adjoining interchanges, and adequate spacing of ramp merges, to improve traffic flow and enhance safety for merging of traffic from adjoining NJ Route 29 and Taylorsville Road.
- Provide adequate roadway capacity to provide acceptable traffic operations during peak travel periods (generally defined as Level of Service D in urban areas)
- Improve interchange configurations that do not currently meet design criteria for geometry, lane and shoulder widths, and ramp configurations.

III. DESCRIPTION OF PROJECT SCOPE

The proposed project involves improvements to I-95 and the I-95 Scudder Falls Bridge in Lower Makefield Township, Bucks County, Pennsylvania and Ewing Township, Mercer County, New Jersey. The proposed project would involve improvements to the I-95/Scudder Falls Bridge, I-95 mainline in Pennsylvania and New Jersey between PA Route 332 and Bear Tavern Road, and the I-95 interchanges at Taylorsville Road and NJ Route 29. The scope of the improvements were determined based on meeting the project purpose and needs, consideration of environmental resource impacts, and community input.



IV. IDENTIFICATION AND DESCRIPTION OF SECTION 4(f) RESOURCES

Approach - A two-step screening process was conducted to identify Section 4(f) resources and potential Section 4(f) use by the alternatives of the project. Step 1 involved the identification of Section 4(f) resources within 300 feet of the centerline of the highway which might be impacted by the alternatives of the project. The identification step included review of both primary and secondary sources. Primary sources included field views, coordination with the officials having jurisdiction over the Section 4(f) resources, and previous studies and records. Secondary sources included maps, aerial photographs, and recreation and comprehensive plans. This step also included the identification of the Section 4(f) resource boundaries.

Coordination was conducted with the officials having jurisdiction of the Section 4(f) resources along with other environmental resources agencies. The officials having jurisdiction over the Section 4(f) resources include the State Historic Preservation Officers for Pennsylvania and New Jersey, Pennsylvania Department of Conservation and Natural Resources, Delaware and Raritan Canal Commission, Pennsylvania and New Jersey Departments of Environmental Protection, Pennsylvania Fish and Boat Commission, Pennsbury School District, and Lower Makefield and Ewing Townships. Other local, state and federal agencies were also contacted to identify existing and planned public parks and recreational facilities within the project study area. Coordination was conducted with local school districts and private property owners to help identify potential multi-use properties, such as schools and community centers that may be protected by Section 4(f).

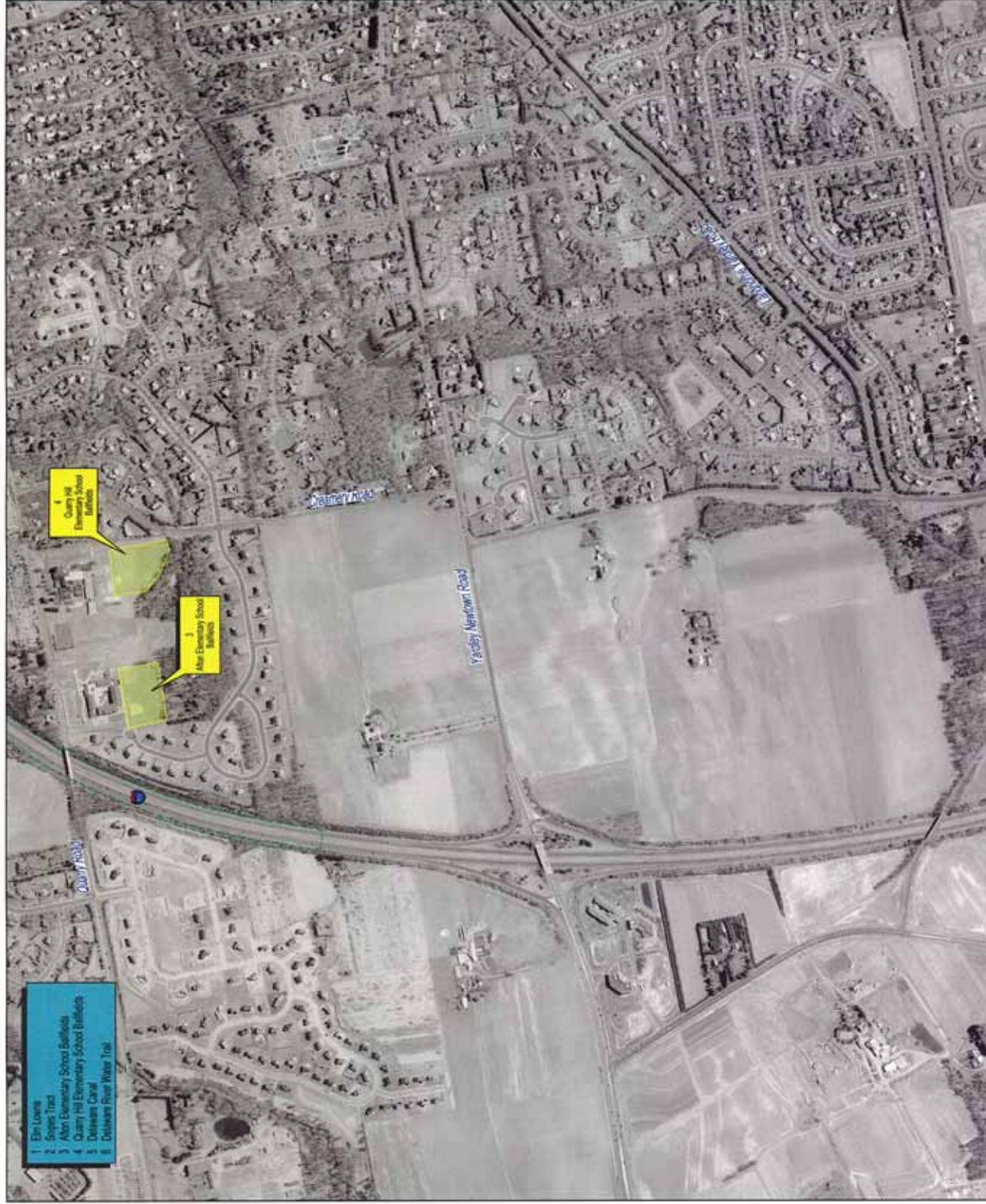
Step 2 was undertaken to determine if there was a potential Section 4(f) use on a Section 4(f) site due to the alternatives considered for the project. Each site was reviewed against the alternatives to determine if right-of-way acquisition would be required within the Section 4(f) resource boundary. Once this step was completed, a list of Section 4(f) resources potentially used by the alternatives was compiled and further evaluated. The following paragraphs provide a summary of results for Step 1.

Identification of Section 4(f) Resources in the Project Area- As a result of the identification step, 9 Section 4(f) resources were identified within the project study area. As shown in Table 1, 5 properties are either determined to be on or eligible for listing on the National Register of Historic Places, 3 are multi-use properties with a portion of the property used for public recreation purposes, and 1 property is a public recreation water trail. The Section 4(f) Resources are shown on Figures IV-1A-C. There are no wildlife or waterfowl refuges located in the project area.

Table 1
Section 4(f) Resources in the Project Area

Section 4(f) Property	Section 4(f) Applicability
Delaware Canal, PA	National Historic Landmark/Parkland
Elm Lowne House, PA	Eligible Historic Resource
Delaware and Raritan Canal, NJ	National Register/Parkland
NJ State Police Headquarters, NJ	Eligible Historic Resource
Charles S. Maddock House, NJ	Eligible Historic Resource
Afton Elementary School, PA	Public school with recreation land open to public
Quarry Hill Elementary School, PA	Public school with recreation land open to public
Snipes Tract – Athletic Fields, PA	Public multi-use property with recreation land open to public
Delaware River Water Trail, PA/NJ	Public recreation water trail

- 1 Elm Loam
- 2 Spruce Tract
- 3 Alton Elementary School Buildings
- 4 Quarry Hill Elementary School Buildings
- 5 Delaware Canal
- 6 Delaware River Water Trail

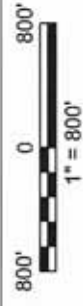


I-95, Scudder Falls Bridge Improvement Project

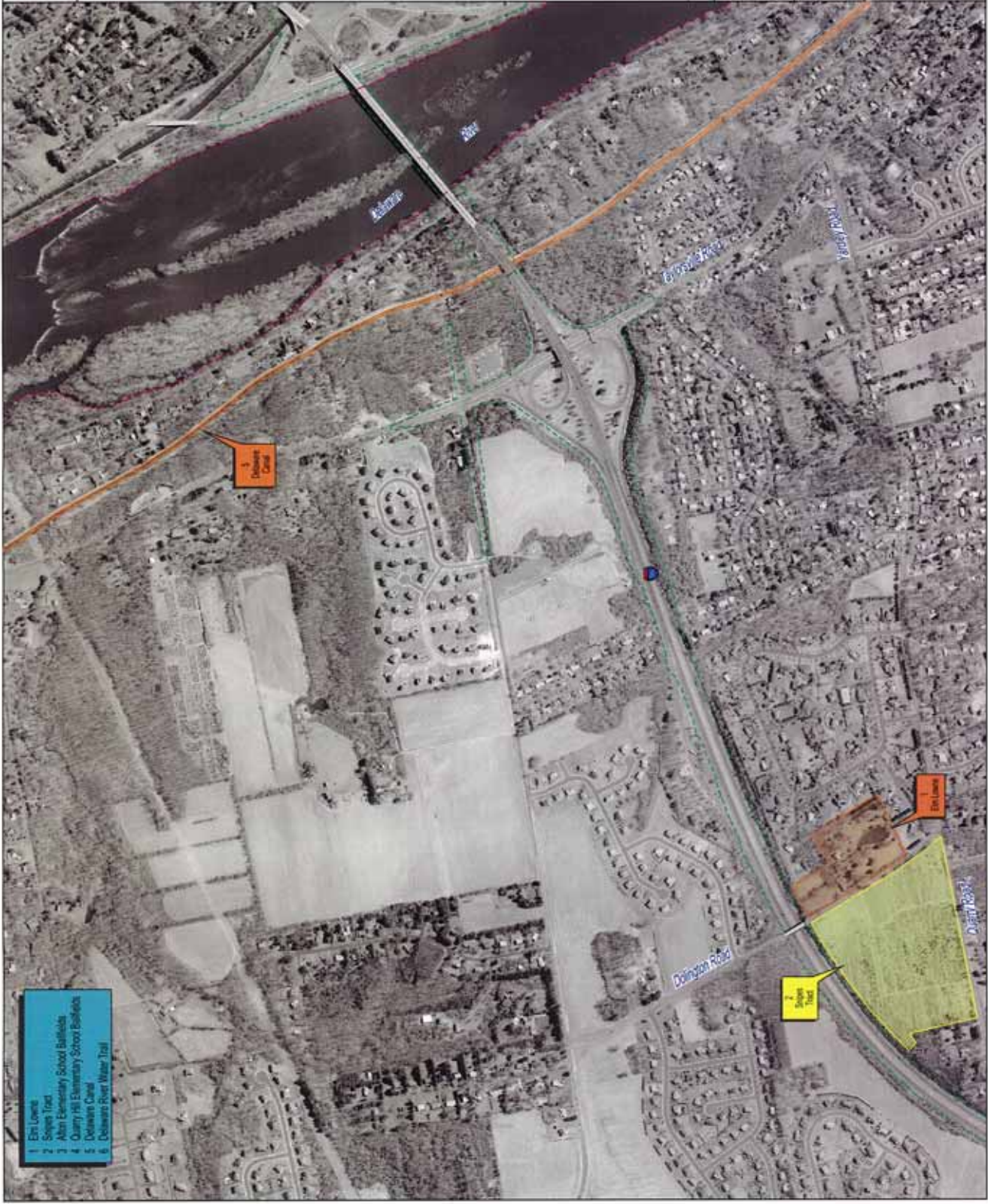
Legend

- Eligible or listed on the National Register of Historic Places
- Public multi-use properties with public recreation
- Public Recreation Water Trail
- Project Area (Limit of Disturbance)

Figure IV-1A
Section 4(f) Resources



1. Elm Lane
2. Spring Trail
3. Adams Elementary School Building
4. Quarry Hill Elementary School Building
5. Delaware Canal
6. Delaware River Water Trail



**I-95, Scudder Falls
Bridge Improvement Project**

Legend

- Eligible or listed on the National Register of Historic Places
- Public multi-use properties with public recreation
- Public Recreation Water Trail
- Project Area (Limit of Disturbance)

**Figure IV-1B
Section 4(f) Resources**



**I-95, Scudder Falls
Bridge Improvement Project**

Legend



Eligible or listed on
the National Register
of Historic Places



Public multi-use properties
with public recreation

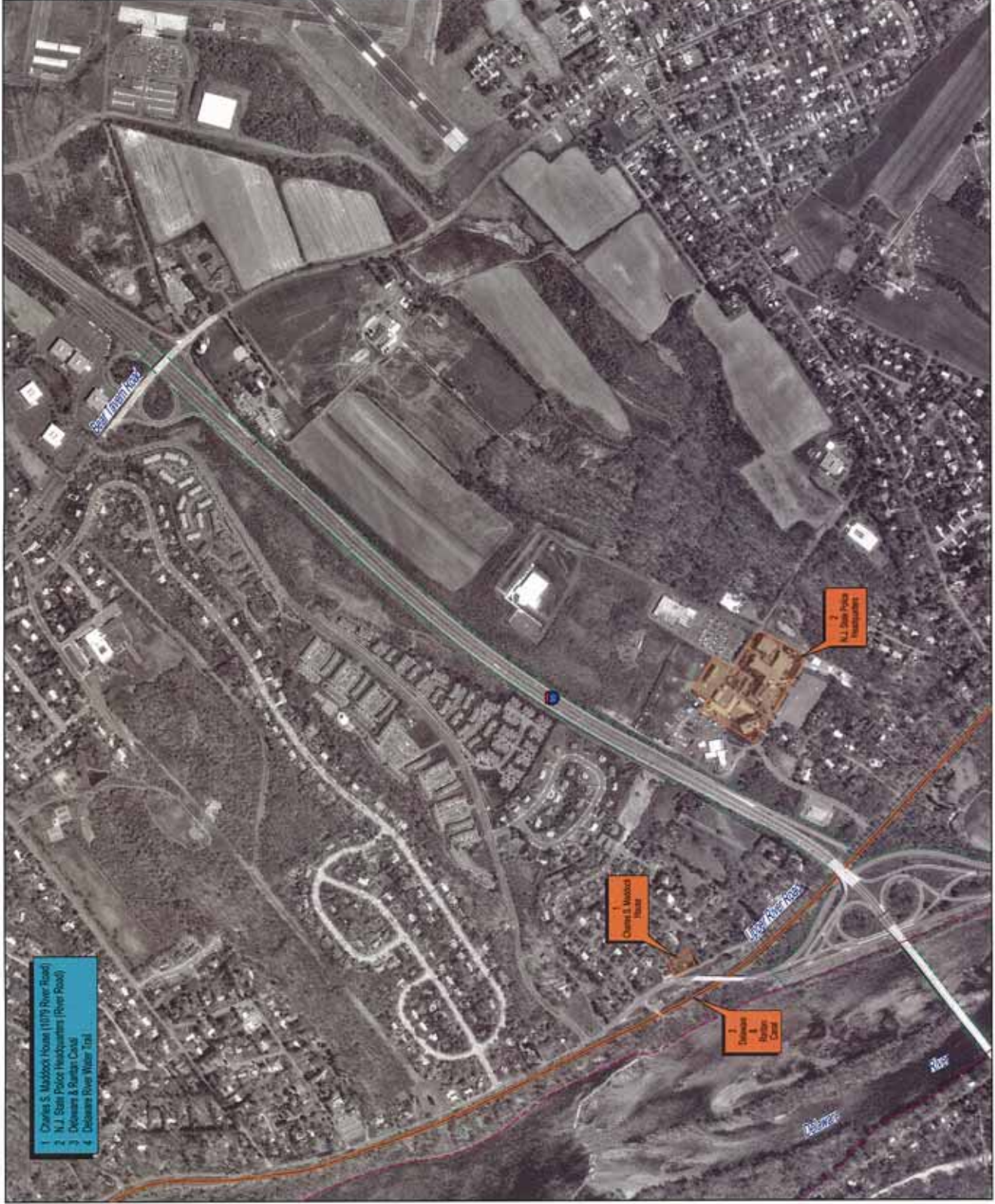


Public Recreation
Water Trail



Project Area
(Limit of Disturbance)

**Figure IV-1C
Section 4(f) Resources**



A. Historic Resources

Historic resources were identified in the project study area during the historic structures survey conducted for the project. The Section 4(f) Resources summary descriptions are contained below.

1. *Delaware Canal (also known as the Delaware Division of the Pennsylvania Canal)*

The Delaware Canal, constructed in the late 1820s, extends 60 miles in Pennsylvania from a point near Easton, Lehigh County to Bristol Borough in Bucks County. The Delaware Canal links with the Lehigh Navigation Canal at Easton. In the project area the I-95/Scudder Falls Bridge crosses over the Delaware Canal. The Delaware Canal is part of the Delaware Canal State Park and is owned by the Commonwealth of Pennsylvania and maintained by the Pennsylvania Department of Conservation and Natural Resources (PADCNR).

The alignment of the Delaware Canal generally follows the path of the Delaware River. The typical section of the Delaware Canal is approximately 69 feet in width; this width consists of the channel prism; berms along both sides, including a towpath on one of the berms; and at some locations locks and other structures associated with the Canal. The Delaware Canal consists of approximately 550 acres.



Delaware Canal looking west. I-95 Bridge over Delaware Canal. Delaware Canal Towpath in the foreground.

Throughout the nineteenth century, the Delaware Canal became an important transportation linkage in bringing coal, lumber, cement and other goods from northeastern Pennsylvania to Philadelphia, New York and other markets along the east coast. The Delaware Canal remained in operation as an important route to transport anthracite coal for over a century. The Delaware Canal continued in operation until 1931, becoming the longest-lived canal in the United States.

During the late 1930's the Pennsylvania Legislature approved a bill that authorized the Secretary of the Department of Forests and Parks to acquire, by donation, the canal property for use as a public park. In October 1940, the Commonwealth of Pennsylvania became the owners of the Delaware Canal and designated it a State Park. Within the study area, the Canal property consists of the canal, towpath, and a stone retaining wall. This resource is used for canoeing, biking, hiking, fishing and other forms of active and passive recreation. The Delaware Canal is adjacent to public roadway throughout the system. Access to the Delaware Canal is available at numerous locations including off of the public roadways.

On October 29, 1974, the Department of the Interior, National Park Service, listed the Delaware Canal in the National Register of Historic Places under Criterion A (historical significance) and C (architectural significance). In 1976 the Delaware

Canal was declared a National Historic Landmark, and in 1988 Congress officially recognized the Canal's importance and established the Delaware and Lehigh National Heritage Corridor. The Delaware Canal has been designated as a National Historic Landmark.

The historic boundary of the Delaware Canal in the project area is 72 feet in width with the exception of the area of the stone retaining wall where the width is approximately 90 feet encompassing the stone retaining wall. The historic boundary of the Delaware Canal also represents the park boundary. It was determined by PennDOT that the I-95 legal right-of-way extends through the area of the canal crossing.

Project coordination with officials with jurisdiction over the canal has included discussions with the National Park Service and the Delaware and Lehigh National Heritage Corridor Commission. A field walkover on October 20, 2005 was attended by the Delaware Canal State Park manager, the PA DCNR, the PHMC, FHWA, PennDOT, and DRJTBC. Features of the Delaware Canal identified in the project area include a stone retaining wall that was constructed on the north (back) side of the towpath embankment. Reconstruction using stone originally excavated during canal construction was common after the initial canal construction to reinforce the towpath embankments that were subject to washouts during flood events.

2. Elm Lowne

The Elm Lowne property is located on Dolington Road and is adjacent to I-95 in Lower Makefield Township, Bucks County, Pennsylvania. The property includes a late eighteenth/early nineteenth century farmhouse with a number of early nineteenth century outbuildings, including a bank barn, carriage house, springhouse and corncrib. The farmhouse building consists of a stone Georgian structure built around 1750 with some additions. The Elm Lowne property was determined eligible for the NRHP under Criterion C (architectural significance). The property is historically significant for its association with the early colonial settlement of Bucks County. The property was part of an original William Penn land grant. The property is approximately 10 acres. The historic boundary is defined as the property line.



Delaware and Raritan Canal looking east.
I-95 Bridge over Delaware and Raritan Canal.
Delaware and Raritan Canal in foreground.

3. Delaware and Raritan Canal

The Delaware and Raritan Canal is located in New Jersey and consists of two components. The Feeder Canal runs along the Delaware River between Bulls Island and the City of Trenton. The Main Canal extends northeast and connects Trenton to New Brunswick. The Delaware and Raritan Canal was built as a transportation facility to provide safe and efficient movement of goods between New York and Philadelphia. Much of the original Delaware and Raritan Canal still remains intact



with 36 miles of the Main Canal and 22 miles of the Feeder Canal. The I-95/Scudder Falls Bridge crosses over the Delaware and Raritan Feeder Canal.

The Delaware and Raritan Canal in the project area is approximately 100 feet in width encompassing the channel prism, embankment on both sides of the channel, and the towpath on one side. The Delaware and Raritan Canal is approximately 450 acres.

Construction of the Delaware and Raritan Canal started in 1830, and the canal was completed in 1834 under a joint venture of the Canal and Railroad Companies. The primary purpose of the Delaware and Raritan Canal was to haul coal from northeastern Pennsylvania to New York. In 1840, a cableway was constructed across the Delaware River between New Hope, Pennsylvania and Lambertville, New Jersey to allow for passage of barges from the Delaware Canal and the Delaware and Raritan Canal. Each canal included outlet locks to permit barges access to the waterways. This connection allowed for increased shipment of coal from northeastern Pennsylvania to New York. The Delaware and Raritan Canal was one of the factors for economic and population growth for eastern New Jersey and Pennsylvania. The Delaware and Raritan Canal also provided waterpower for New Brunswick's textile, paper mills, and rubber factories.

In 1871 the Pennsylvania and Reading Railroad Company acquired the 999-year lease on the Delaware and Raritan Canal. However, the canals in the United States were competing with the more profitable railroad system. In the mid-1800s, the Belvedere-Delaware Railroad constructed a rail line on the towpath to supplement the transport of coal. The rail line has since been decommissioned and the rail bed and tracks were removed. The Belvedere-Delaware rail line is a contributing element to the Delaware and Raritan Canal. The Delaware and Raritan Canal goods transport operations ceased by the mid-1930s. The Belvedere-Delaware (B&D) Railroad was constructed around 1854 next to the canal. The B&D was determined to not be individually eligible for the National Register, but is a contributing element to the Delaware and Raritan Canal Historic District under Criterion A. There are no features of the B&D railroad line present in the project area.

In 1937, the State of New Jersey officially took over ownership of the Delaware and Raritan Canal. The State used the Canal for water supply at the time it was acquired. In 1975, New Jersey also acquired the adjacent Railroad Right-of-Way that is considered part of the Delaware and Raritan Canal Property. In 1973, the Delaware and Raritan Canal District was listed on the NRHP under Criterion A and C for historical significance associated with commerce, engineering, and transportation. The historic boundary of the Canal includes an area 300 feet wide from the centerline of the Canal, thereby creating a 600-foot corridor.

In 1974, 60 miles of the Delaware and Raritan Canal was designated as a State Park. This Canal corridor is used for canoeing, biking, hiking, fishing, bird watching and other passive and active recreational uses. The Scudder Falls Recreation Area is located to the north of I-95 and adjacent to the Canal and provides parking and access to both the Delaware and Raritan Canal and the Delaware River. The Scudder Falls Recreation Area is also located within the Delaware and Raritan Canal boundary. This resource is used for a variety of other recreational purposes including fishing, bird watching and other forms of passive recreation.



The Delaware and Raritan Canal Commission was formed when the Park was established to review actions by the State in the Park, undertake planning for Park development, and administrate the land use regulatory program to protect the Park. The Delaware and Raritan Canal Commission also has oversight of the Scudder Falls Recreation Area. The New Jersey State Park Service within the New Jersey Water Supply Authority operates and maintains the Delaware and Raritan Canal as a water supply. In 1992, the Canal towpath on the former railroad embankment was designated a National Recreation Trail.

Coordination with state officials included a site walkover on May 24, 2005 that was attended by the NJHPO, the New Jersey Division of Parks and Forestry, the Delaware and Raritan Canal Commission, the NJWSA, and NJDOT.

4. NJ State Police Headquarters

The NJ State Police Headquarters historic property is located in Ewing Township, Mercer County, New Jersey just north of the NJ Route 29/I-95 interchange. The historic area contains 13 buildings, constructed at various times between 1924 and 1958. Eight of these buildings are located along a courtyard, seven of which were constructed sometime in the 1920's. There is a log dormitory on this property constructed in the Adirondack Style around 1934 as part of a Civilian Works Administration project. This property was determined eligible for listing on the NHRP under Criterion A, B, and C for its association with early development of the New Jersey State Police, involvement of a historic notable person, H. Norman Schwarzkopf, and architecture. The historic boundary of this resource encompasses the area of land that contains a concentration of buildings from the period of significance 1924-1955 and is approximately 12 acres.

5. Charles S. Maddock House

The Charles S. Maddock House property is located on River Road in Ewing Township, Mercer County, New Jersey. The property consists of a two-story, wood-frame clapboard structure that was originally constructed in the early nineteenth century. During the late nineteenth and early twentieth centuries the structure was renovated in a subtype of the Queen Anne style. The Maddock family was known for the development of the pottery industry in New Jersey that produced fine dinnerware and crockery. This property was determined eligible for listing on the NRHP under Criterion C for architecture. The property is approximately 2 acres, and the historic boundary is defined as the property line.

B. Archaeological Resources

A Phase I Archaeology investigation was performed in PA and NJ. The investigations were undertaken in two stages. The Phase IA investigation included background research and review of prior regional studies for the purposes of identifying high and low sensitive areas. The Phase IA also included geoarchaeological investigations to characterize landforms in the study area, which focused on the landforms and terraces adjoining the Delaware River.



Several landforms in the study area were identified, and a Phase IB Archaeological investigation was conducted. The Phase IB Archaeological investigation consisted of field tests. These included areas near the Delaware River (historic Delaware River Terraces), and the NJ 29 and the Taylorsville Road interchanges. The results of the Phase IB Archaeological investigation noted that site-36Bu379 (near the Scudder Falls Bridge) is eligible for inclusion in the National Register of Historic Places. A Phase III data recovery will be conducted at this site along with site-28Me360West.

Further archaeological investigations include NJ 29 Interchange infield area and possibly Park Island due to a proposed causeway needed during construction. The Archaeological Report was reviewed and concurred by the Pennsylvania Historical and Museum Commission and the New Jersey Department of Environmental Protection Historic Preservation Office. The archaeological resources in the project area do not constitute a Section 4(f) use involvement because the resources are unlikely to yield information that would warrant preservation in place.

C. Multi-Use Properties

There are 3 multi-use, publicly-owned properties in the project study area that have a portion of the lands designated for significant recreation purposes and are open for public use. All 3 are located in Lower Makefield, Pennsylvania, and they include Afton Elementary School, the Quarry Hill Elementary School, and the Snipes Tract – Lower Makefield Athletic Fields.

The Afton Elementary School Property is located adjacent to the I-95 right-of-way while Quarry Hill Elementary School is adjacent to the Afton Elementary School along Quarry Road. Principal access to both schools is provided from Quarry Road. The Afton Elementary School is comprised of approximately 11 acres and is primarily used for education purposes. The site includes education building facilities, parking lots, and a playground. The Section 4(f) resource portion of the site includes a ball field and playground of approximately 2 acres located at the back of the school property adjacent to The Ridings residential development and an open space area that are open to the public.

The Quarry Hill Elementary School is comprised of approximately 16 acres and is primarily used for education purposes. The site includes education building facilities, parking lots, and a playground. The Section 4(f) resource portion of the site includes a ball field, playground, and soccer field of approximately 3 acres located at the back of the school property adjacent to Creamy Road and an open space area that are open to the public.

The 34-acre Snipes Tract is located at the intersection of Quarry and Dolington Roads. The Snipes Tract property is owned by Lower Makefield Township. The Snipes Tract property will have multiple land uses. Ten acres of the site will be devoted to a new fire station. There are plans to construct athletic fields on part of the site that are open to the public. This is the area of the Snipes Tract that is designated as a Section 4(f) resource



D. Public Recreation Water Trail

The Delaware River from Hancock, New York to Trenton, New Jersey was designated a public recreation water trail in 2007. A water trail is a public recreational boat route suitable for canoes, kayaks, and other small motorized watercraft. Similar to conventional land trails, water trails are recreation corridors between specific points. The Delaware River is owned by the Commonwealth of Pennsylvania and the State of New Jersey. The geographic centerline of the Delaware River is the state boundary. The Delaware River is a jointly managed by the Pennsylvania Fish and Boat Commission and the New Jersey Department of Environmental Protection. The National Park Service, the Delaware River Basin Commission, the Pennsylvania Department of Conservation and Natural Resources, and the Delaware and Raritan Canal Commission are also involved with various planning, programs, and regulatory aspects for the Delaware River. The Delaware River Greenway Partnership comprised of private and public entities was formed to sponsor development and implement programs and projects for the recreation corridor.

The Delaware River Water Trail corridor is divided in 3 parts, Upper, Middle, and Lower Delaware. The I-95 Scudder Bridge Improvement Project is located in the Lower Delaware River section. This section of the water trail runs approximately 76 miles just south of the Delaware Water Gap area to Trenton, New Jersey and Morrisville, Pennsylvania. The Delaware River Water Trail within the project area is generally bounded by the top of the river bank and is approximately 1,300 feet in width. In the project area the Delaware River is a freshwater, non-tidal waterway that does not accommodate deep draft vessels due to its shallow depths.

The majority of the land abutting this section of the Delaware River is privately owned including Park Island which is partially located in the project area. The land abutting the Delaware River in the project area is publicly owned.

Recreational uses on the lower Delaware River Water Trail include tubing, kayaks, canoes, personal watercrafts, and fishing. Recreational activity is heavy during the summer months.

Project coordination with officials having jurisdiction over the Delaware River Water Trail includes the Pennsylvania Fish and Boat Commission and New Jersey Department of Environmental Protection. Agency coordination also included the National Park Service, the Delaware and Lehigh National Heritage Corridor Commission, Delaware and Raritan Canal Commission. Special agency coordination meetings and field views were also conducted. A detailed description of project agency coordination and public involvement is included in the Environmental Assessment.

V. IDENTIFICATION OF SECTION 4(f) RESOURCES WHICH ARE POTENTIALLY USED BY THE ALTERNATIVES OF THE PROJECT

Step 2 was undertaken to determine which of the Section 4(f) resources would potentially be used by the alternatives of the project through right-of-way acquisition or another actual use. Each site was reviewed against the alternatives to determine if right-of-way acquisition would be required within the Section 4(f) resource boundary. The results indicate that of the 9 Section 4(f) resources identified, the project alternatives would have potential use on two Section 4(f) resources, the Delaware and Raritan Canal and the Delaware River Water Trail. As noted in Table 2, right-of-way acquisition within the historic boundary of the Delaware



and Raritan Canal is proposed and the temporary occupancy of the Delaware River Water Trail during construction will result in a use.

Table 2
Section 4(f) Resources Potentially Used by the Alternatives

Section 4(f) Property	Section 4(f) Applicability	Potential Section 4(f) Use
Delaware Canal, PA	National Historic Landmark/ Parkland	None
Elm Lowne House, PA	Eligible Historic Resource	None
Delaware and Raritan Canal, NJ	National Register/Parkland	Potential Right-of-Way acquisition within historic boundary (approx. 0.10 ac)
NJ State Police Headquarters, NJ	Eligible Historic Resource	None
Charles S. Maddock, NJ	Eligible Historic Resource	None
Afton Elementary School, PA	Public school with recreation land open to public	None
Quarry Hill Element. School, PA	Public school with recreation land open to public	None
Snipes Tract – Athletic Fields, PA	Public multi-use property with recreation land open to public	None
Delaware River Water Trail	Public Recreation	Potential temporary occupancy during construction

The Section 4(f) resources were assessed for proximity impacts under constructive use. The project will not result in proximity impacts on the Section 4(f) resources (Appendix A Proximity Impacts Assessment Summary).

VI. ALTERNATIVES ANALYSIS

A. Avoidance Alternatives

Approach

An Alternatives Analysis with respect to Section 4(f) was conducted to identify and evaluate alternatives to avoid a Section 4(f) use. Alternatives identified and assessed are described and shown in figures in the Environmental Assessment. The avoidance alternatives included the No-Build Alternative and two Build Alternatives. Each avoidance alternative was evaluated for feasibility and prudence. This was accomplished considering the following factors: engineering, safety, traffic operations, and impacts to other environmental resources.

The I-95 Scudder Falls Bridge Improvement Project will require the temporary occupancy of the Delaware River Water Trail during construction. The temporary occupancy will be in areas of the river to construct the new bridge and to demolish the existing bridge. The temporary occupancy will occur at various construction stages for



the entire project construction duration of 4 years. The project meets the requirements under the de minimis use as described in Section VI.D – Assessment of Least Harm of this document.

Avoidance alternatives included the following:

1. No-Build
2. I-95 Realignment
3. Reconstruct I-95/Scudder Falls Bridge and Taylorsville Road Interchange

1. No-Build Alternative

Under the No-Build Alternative, no reconstruction or major rehabilitation would occur on the I-95/Scudder Falls Bridge, I-95 mainline, and the interchanges at Taylorsville Road and NJ Route 29. The Delaware River Joint Toll Bridge Commission would continue routine maintenance on I-95/Scudder Falls Bridge. Also, PennDOT and NJDOT would continue maintenance functions on I-95 and the interchanges under their respective jurisdictions.

The No-Build Alternative would not result in a Section 4(f) use. The purpose of the project is to alleviate current and future (2030) year traffic congestion and to improve safety, as well as upgrade traffic operational conditions on I-95/Scudder Falls Bridge and the adjoining segments of I-95. However, the No-Build Alternative does not meet the project purpose and needs. The No-Build Alternative does not address the need to:

- Provide an inside and outside shoulder width on the I-95/Scudder Falls Bridge that meets current design criteria. This would also allow for adequate emergency pull over areas.
- Improve load ratings for the I-95/Scudder Falls Bridge.
- Improve overall condition of the I-95/Scudder Falls Bridge, such as the replacement of deteriorated structural elements and the concrete deck.
- Improve roadway capacity to alleviate traffic congestion and provide acceptable existing and future traffic operations during peak travel periods.
- Provide for acceleration and deceleration lane lengths that meet current design criteria at the interchanges.
- Provide adequate spacing of ramp merges to improve traffic flow and safety for merging of traffic from NJ Route 29 and Taylorsville Road onto I-95.
- Improve interchange ramp configurations that would meet current design criteria for lane and shoulder widths and sight distances.

The No-Build Alternative does not meet the project purpose and needs and is therefore not a prudent and feasible alternative.

2. I-95 Realignment Alternative

The Delaware and Raritan Canal is a linear Section 4(f) resource that is approximately 58 miles in length. This Canal covers a geographic area from



Trenton to New Brunswick, New Jersey. The Delaware Canal is also a linear resource which is approximately 60 miles in length and runs adjacent to the Delaware River covering a geographic area from Bristol to Easton, Pennsylvania. Any realignment of I-95, whether in the general project area or vicinity, would require the crossing of the Delaware Canal and Delaware and Raritan Canal. A new river crossing would require right-of-way acquisition within the historic boundaries of the Delaware and Raritan Canal due to the 600 feet width of the historic boundary and limited legal right-of-way associated with the public roadway system. In addition, the project area of Bucks County, Pennsylvania and Mercer County, New Jersey includes numerous historical properties in the vicinity of the Canals. There is not a feasible and prudent highway realignment that could be designed to avoid all Section 4(f) resources and meet the project purpose and needs.

3. I-95/Scudder Falls Bridge and Taylorsville Road Interchange Reconstruction Alternative

This alternative would involve the replacement of the I-95/Scudder Falls Bridge and the reconstruction of I-95 mainline in Pennsylvania and the Taylorsville Road Interchange. The NJ Route 29 interchange would not be reconstructed but would be rehabilitated. In New Jersey, I-95 mainline would be rehabilitated. The I-95/Scudder Falls Bridge would be replaced and widened about the centerline. The Bridge would have five 12-foot travel lanes northbound and four 12-foot travel lanes southbound with inside and outside shoulders. Interstate 95 in Pennsylvania would be widened to accommodate three 12-foot travel lanes in each direction with inside and outside shoulders. The Taylorsville Road Interchange would be re-configured to meet design criteria and capacity needs. The single span replacement bridge over the Delaware Canal would be designed with the abutments outside the historic boundaries of the Delaware Canal. The NJ Route 29 Interchange existing configuration would not change. The NJ Route 29 Interchange ramps would tie into I-95 within the Legal Right-of-Way at existing location. The NJ Route 29 Interchange and I-95 mainline improvements would include pavement reconstruction, drainage improvements, and rehabilitation and/or replacement of the ramps in the existing location. Interstate 95 mainline in New Jersey would be rehabilitated.

The I-95/Scudder Falls Bridge and Taylorsville Road Interchange Reconstruction Alternative would not result in a Section 4(f) use on the Delaware and Raritan Canal. The existing structure over the Delaware and Raritan Canal would be replaced on its existing location. The piers would be placed at the existing location and within the Legal Right-of-Way.

The purpose of the project is to alleviate traffic congestion and improve safety and traffic operational conditions on I-95/Scudder Falls Bridge and on the segment of I-95 between PA route 332 and Bear Tavern Road. However, the I-95/Scudder Falls Bridge and Taylorsville Road Interchange Reconstruction Alternative does not fully address the project purpose and needs. This Alternative does not address the needs associated with one of the major components of the project – the NJ Route 29 Interchange. The following project needs would not be addressed with this Alternative:



- The need to provide an acceleration lane at the on-ramp from NJ Route 29 to I-95 southbound would not be addressed. The lack of an acceleration lane requires vehicles to come to a complete stop at a stop sign at the end of the ramp, before merging directly into I-95 mainline traffic. This situation creates traffic operation and safety issues on I-95 mainline and the NJ Route 29 Interchange.
- The need to improve the existing configuration of the NJ Route 29 Interchange to minimize merges, intersections, and the scissors ramps layout. The current interchange includes about 19 ramp merges and 7 at-grade intersections. Although the scissors ramps configuration was intended to provide access and egress from I-95 and NJ Route 29 with as many free-flow conditions as possible, without signalized intersection, this current condition is a cause for driver confusion and safety concerns.
- The need to reconfigure the NJ Route 29 Interchange to improve horizontal sight distance, ramp lane and shoulder widths, and ramp radii that would meet current design criteria.

The I-95/Scudder Falls Bridge and Taylorsville Road Interchange Reconstruction Alternative does not address the project purpose and needs and is therefore not a prudent and feasible alternative.

B. Alternatives that Use Section 4(f) Properties that were Studied in Detail

The I-95/Scudder Falls Bridge Improvement Project was initiated to alleviate traffic congestion and improve traffic operations and safety on the I-95/Scudder Falls Bridge and on the segment of I-95 between PA Route 332 and Bear Tavern Road including the Taylorsville Road and NJ Route 29 Interchanges. This reconstruction and rehabilitation project would occur on the existing transportation facility. All improvements would occur on the existing roadway alignment. The vast majority of the improvements would occur within the existing Legal Right-of-Way.

Alternatives identified and assessed are described and shown in figures in the Environmental Assessment. Alternatives were identified and analyzed based on addressing the project purpose and needs and other parameters such as community resources, cultural resources, Section 4(f) properties, and natural resources. An *Alternatives Screening Report (Technical Memorandum No. 26)* was prepared for the project. The purpose of the Alternatives Screening Report was to document in detail the alternatives analysis and screening process for the range of Build Alternatives and Design Options that were evaluated to address existing traffic safety, operational, and geometric deficiencies within the I-95 project area and to accommodate the forecasted traffic growth. The Alternatives Screening Report also contains detailed figures depicting each alternative and design option.

The following sections summarize the alternatives considered for the project including Transportation Systems Management/Transportation Demand Management and build alternatives with design options.



1. Transportation Systems Management/Transportation Demand Management

The alternatives considered for the project included Transportation Systems Management/Transportation Demand Management (TSM/TDM). These include:

- Intelligent Transportation Systems/Incident Management. (The Conceptual ITS Study includes recommendations for ITS implementation and an Incident Management Plan, which will both require coordination with PennDOT and NJDOT which own the majority of highway right-of-way.)
- Incorporation of 14-foot inside shoulders for possible future use as bus lanes by the Route 1 Bus Rapid Transit (which have been incorporated into proposed concept designs).
- Pedestrian/bicycle access on the I-95/Scudder Falls Bridge (which will be evaluated further).
- Continued coordination with the Bucks and Mercer County Transportation Management Associations and large local employers.

The results of the evaluation indicated that the TSM/TDM Alternatives would not meet the project purpose and needs as a stand alone proposed actions. This alternative would not provide for adequate acceleration and deceleration lanes at the adjoining interchanges and adequate spacing of ramp merges, to improve traffic flow and enhance safety for merging of traffic from NJ Route 29 and Taylorsville Road. The TSM/TDM would not provide for adequate roadway capacity to allow for acceptable levels of service. Also, this alternative would not improve the interchange configurations that do not meet current design criteria. Further planning and evaluation of appropriate TSM/TDM measures will continue during the final design phase of the project.

2. Build Alternatives

A range of Build Alternatives and Design Options were considered for the project area. The 4.4-mile project area is divided into four project segments for the purpose of identifying and evaluating Design Options for each project segment. These project segments, from west to east, are:

- a. Pennsylvania I-95 Mainline Segment from the PA 332 Interchange to the Taylorsville Road Interchange
 - Outside Widening
 - Inside Widening
- b. Taylorsville Road Interchange
 - Design Options 1, 2, 3, and 4
- c. I-95/Scudder Falls Bridge and Approaches, including I-95 mainline in New Jersey to the Bear Tavern Road Interchange
 - Bridge Rehabilitation with Widening
 - Bridge Replacement



- Double-deck Bridge
- Contra-flow Lane
- Standard Lane Additions
- Collector/Distributor Roadway
- New Bridge on Centerline Alignment, Upstream Alignment, and Downstream Alignment

d. NJ 29 Interchange

- Design Options 1a, 1b, 1c (modified), and 2

e. Pedestrian/Bicycle Facility

Opportunities to provide a connection across the Delaware River between the towpaths within the Delaware Canal State Park and Delaware and Raritan Canal State Park were evaluated as part of the project. If implemented, a pedestrian/bicycle facility would be provided on the north side of the new I-95 Scudder Falls Bridge over the Delaware River. Landings at each end of the bridge would be constructed to provide access down to the towpaths. The pedestrian/bicycle facility would not result in a Section 4(f) use on the Delaware Canal and Delaware and Raritan Canal. Two design options for the landing areas were evaluated. On the Pennsylvania side, the preferred design would provide a landing extending through property owned by the Delaware River Joint Toll Bridge Commission and follow a path along Woodside Road. No adverse effects are expected on the Delaware Canal historic features. The pedestrian/bicycle path would need to tie into the towpath; therefore, minor grading would be needed. No right-of-way acquisition would be required; the work would be completed under agreement with PA-DCNR. On the New Jersey side, the pedestrian/bicycle path landing area would connect to Delaware and Raritan Canal towpath. Minor grading would be required for this tie in along with the construction of a retaining wall. No right-of-way acquisition would be required; the work is expected to be performed under an agreement with the Delaware and Raritan Canal Commission. A final decision on the inclusion for this facility in the project will be made during final design.

For each project segment, several Design Options were developed to meet the project goal of providing a Level of Service D, which is considered to be acceptable LOS for urban areas. The design options were also developed to improve safety and highway geometrics to meet applicable AASHTO, PennDOT, and NJDOT design criteria. Design Options for each project segment were then combined to formulate Build Alternatives for the entire 4.4-mile project area. Overall the Design Options addressed the project purpose and needs; however, the analysis revealed that some Design Options provide better solutions and/or advantages in engineering and minimization and avoidance of impacts on the environment. In total, 19 Design Options and three Build Alternatives were considered. These proposed design options and evaluation results are summarized below.

2.a. Pennsylvania I-95 Mainline Segment Design Options

Two Design Options for the I-95 mainline project segment in Pennsylvania were considered (See Environmental Assessment Figures III-7 and 13). Both would



provide for a third travel lane in each direction along with improvements to existing shoulders to meet current design criteria. The two design options considered for this segment of I-95 are:

- Outside Widening (i.e., on the right side of each travel direction)
- Inside Widening (i.e., on the left (median) side of each travel direction)

Travel lane additions, both to the inside and outside of the Pennsylvania I-95 mainline, were considered. The Pennsylvania I-95 widening would accommodate the need for additional 12-foot travel lanes and inside and outside shoulder widths that would meet current design criteria. Thereby, I-95 in this segment would have 3 travel lanes in each direction. The difference between these design options lies in the location of the lane additions. Under the inside widening option, the lane additions would be accommodated within the existing median, i.e., on the left side of the existing travel lanes. Under the outside widening option, lane additions would extend to the right side of the existing travel lanes, outside of the existing pavement but within the Legal Right-of-Way. In both cases, widening would occur equally about the existing highway centerline.

The results of the analysis indicated that from a traffic operational standpoint, both design options would provide acceptable LOS C operation. The outside widening option provides the desirable (per AASHTO design criteria) 60-foot median between the northbound and southbound I-95 travel lanes in the wide median areas. This compares to an acceptable (per AASHTO design criteria) 36-foot median, with concrete barrier, between the northbound and southbound travel lanes in wide median areas under the inside widening option.

Minor right-of-way acquisition would be required for the outside widening, but none would be required for the inside widening. The outside widening option would involve additional clearing of wooded roadside buffer within the highway right-of-way.

No Section 4(f) use would occur as a result of the design options. Environmental impacts assessed included the differences in noise impacts to adjoining properties. In the future Build conditions, noise levels are anticipated to increase by 2 to 4 dBA over existing levels and would be 1 to 3 dBA over the No Build Alternative. Differences in noise levels between the inside and outside widening options would be approximately 0 to 1 dBA and would not be perceptible. No historical or archaeological resources would be affected under either the inside or outside widening options.

The outside widening option would involve slightly greater impacts on natural resources. The outside widening would involve an additional impact to a wetland and stream. The outside widening would affect 0.07 acre of wetland at an unnamed tributary to Buck Creek south of I-95, and 20 linear feet and 600 square feet of an unnamed tributary stream to the Delaware Canal, whereas the inside widening option would not affect these resources.



While both the inside and outside widening options meet the project purpose and needs, the inside widening design option results in less environmental resources impacts. The inside widening option was the recommended improvement.

2.b. Taylorsville Road Interchange Design Options

The four Design Options (See Environmental Assessment Figures III-8 and 15) considered for the Taylorsville Road Interchange are:

- Design Option 1 - Retains all ramps (two southbound off-ramps and two northbound on-ramps) similar to the existing configuration
- Design Option 2 - Eliminates eastern southbound off-ramp and combines it with the western southbound off-ramp; retains two northbound on-ramps
- Design Option 3 - Eliminates eastern northbound on-ramp and combines it with the western northbound on-ramp; retains two southbound off-ramps
- Design Option 4 - Eliminates both the eastern southbound off-ramp and eastern northbound on-ramp and combines each with the respective western southbound off-ramp and northbound on-ramp; retains one southbound off-ramp and one northbound on-ramp.

Each of the Design Options addresses overall the project purpose and needs. Under Design Options 2 and 4, elimination of the eastern I-95 southbound off-ramp would remove the undesirable traffic weave that currently exists between this ramp and Woodside Road. Design Options 1 and 2 each retain the two existing northbound on-ramps onto I-95. These interchange design options would ease northbound Taylorsville Road traffic congestion by reducing queuing lengths at I-95 ramp approaches.

Under Design Options 3 and 4, the existing single northbound lane on Taylorsville Road would require widening over a longer section of Taylorsville Road to the south to accommodate greater queuing northbound. On Taylorsville Road southbound, an undesirable weave between the I-95 southbound off-ramp and the I-95 northbound on-ramp would result. In addition, an undesirable two-lane right-turn from Taylorsville Road southbound onto the I-95 northbound on-ramp would result.

Design Options 1 and 3 would introduce one new traffic signal at the northbound on-/off-ramp, and Design Options 2 and 4 would each introduce two new traffic signals at the southbound on-/off-ramp and northbound on-/off-ramp.

None of the Design Options resulted in use of Section 4(f) resources. The I-95 bridge over the Delaware Canal will not involve a Section 4(f) use. The bridge abutments will be located outside the historic boundary of the canal. No historic properties would be affected under these Design Options. With Design Options 1 and 2, portions of two residential properties on Woodside Road and a portion of one residential property on Taylorsville Road would be affected; however no residences would be displaced. With Design Options 3 and 4, two residences on Taylorsville Road would be displaced, and portions of two other residential properties on Woodside Road would be affected. In addition, a portion of one undeveloped parcel on Woodside Road would be affected by all design options.



Under all of the interchange design options, improvements are proposed at the Taylorsville Road intersection with Woodside Road. These improvements would involve minor roadway widening that would affect preserved farmland northwest of the interchange. Each design option would require right-of-way acquisition and disturb approximately 1.39 acres of a property known as Clearview Farm, which is owned by the Lower Makefield Farmland Preservation Corporation. Design Option 2 would avoid two residential displacements, which would be necessary under Design Options 3 and 4.

Design Options 1 and 2 would involve greater impacts to an unnamed tributary to the Delaware Canal, with 400 more linear feet of impact and 2,800 square feet of additional impact compared to Design Options 3 and 4.

The results of this analysis determined that Design Option 2 provides the overall best solution for the Taylorsville Road Interchange from a traffic operational and safety standpoint. Design Option 2 is the preferred option for several reasons: 1) it would remove the southbound I-95 off-ramp and thus would eliminate the undesirable weave between this ramp and Woodside Road; 2) it would provide two northbound ramps, easing northbound Taylorsville Road congestion; 3) it would avoid the need for an undesirable two-lane right turn movement from Taylorsville Road southbound onto the I-95 northbound on-ramp; and, 4) it would avoid creation of an undesirable weaving section southbound along Taylorsville Road between I-95 ramps.

Design Option 2 would provide better traffic operations and enhancement to traffic safety, would have lesser property impacts, and would generally have comparable or lesser impact to natural resources. Therefore, Design Option 2 was recommended as the proposed improvement as part of the project-wide alternatives.

2.c. I-95/Scudder Falls Bridge and Approaches Design Option

Design options for the I-95/Scudder Falls Bridge and approaches are described and shown on Figures III-2-4 in the Environmental Assessment. None of the I-95/Scudder Falls Bridge options would result in a Section 4(f) use on the Section 4(f) resources due to right of way acquisitions. However the temporary occupation of the Delaware Water Trail during construction will result in a de minimis use. (See Section VI.D - Assessment of Least Harm.)

2.d I-95/Scudder Falls Bridge Alignment Design Options

Three options for alignment of the I-95/Scudder Falls Bridge were evaluated, and these include: Centerline Alignment, Upstream Alignment, and Downstream Alignment. The I-95/Scudder Falls Bridge would be a single bridge structure with the standard lane additions.

The basic lane configuration of the bridge would be the same under all options (i.e., five lanes northbound and four lanes southbound on the Scudder Falls Bridge), but the bridge alignment over the Delaware River and the mainline approaches would be shifted, with the new bridge overlapping the footprint of the existing bridge. The bridge widening upstream or downstream would be from the



existing outside bridge fascia beam. Therefore, the alignments are shifts from the present location and not re-alignments from the bridge's present location.

Under the Centerline Design Option the new, wider bridge would be centered on the centerline of the existing bridge. Under the Upstream Alignment Design Option, the new, wider bridge would be constructed upstream of, or north of, the existing bridge, with the new bridge extending north from the southern edge of the existing bridge. Under the Downstream Alignment Design Option, the new, wider bridge would be constructed downstream of, or south of, the existing bridge, with the new bridge extending south from the northern edge of the existing bridge.

For an equitable comparison of the three different alignment design options, each incorporates the same design options for other project segments. These are the Standard Lane Additions for the I-95/Scudder Falls Bridge, Design Option 2 for Taylorsville Road Interchange, Design Option 1a for the NJ Route 29 Interchange, and Inside Widening for the PA I-95 Mainline.

Each of the Design Options addresses the project purpose and needs. From a constructability standpoint, the Upstream and Downstream Alignment options would provide more travel lanes during the various phases of construction (a minimum of two lanes would be provided at all times during construction).

The Centerline Alignment Design Option would require displacement of two residences, one on the north side and one on the south side of the existing bridge. The Upstream and Downstream Alignments would each require displacement of one residence, one on the north side or one on the south side of the existing bridge, respectively.

The Upstream Alignment Design Option would involve overall lesser impacts to public and private properties than the Centerline or Downstream Alignment options. With the Upstream Alignment Design Option, 2.22 acres of public land would be affected, compared to 2.61 and 2.96 acres of public land affected by the Centerline and Downstream Alignments, respectively. The public land is former farmland property owned by Lower Makefield Township. The property is not a Section 4(f) resource. Excluding residential displacement, the Upstream Alignment would affect 0.81 acres of private property, compared to 1.0 acre and 1.6 acres affected by the Centerline and Downstream Alignments.

All three alignment options would have the same Section 4(f) use on the Delaware and Raritan Canal due to NJ Route 29 new ramp piers and an abutment. No Section 4(f) use would occur on the Delaware Canal. No right-of-way acquisition would be needed from the Delaware Canal. Under the three alignment options the I-95 Bridge would span the Delaware Canal.

Impacts to natural resources are comparable for all three alignment options. However, the Downstream Alignment would involve the greatest impacts on streams by approximately 0.30 acres, whereas the Upstream and the Centerline alignments would result in approximately 0.20 acres of impact each. These streams are not located within the historic boundaries of the canals. The Downstream Alignment would have the greatest impact on the USACOE flood overflow structure at the Delaware Canal south of I-95. The USACOE concrete flood overflow structure



is not a contributing feature of the Delaware Canal (Appendix B, Agency Coordination). The Downstream Alignment would have fewer wetland impacts.

For floodplains, the Centerline Alignment would have the greatest impacts (0.77 acre more than the Upstream Alignment and 0.47 acre more than the Downstream Alignment).

For the reasons described, the Downstream and Centerline Alignments were determined not prudent because these alignments have the same impacts on the Section 4(f) resource, Delaware and Raritan Canal, but have greater impact on other environmental resources. The Upstream Alignment Design Option was advanced for further consideration.

2.e NJ 29 Interchange Design Options

The four Design Options considered for the NJ 29 Interchange are:

- Design Option 1a – Folded diamond interchange that realigns NJ Route 29 to the southbound NJ 29 travel lanes (west side) with signalized intersections and eliminates the existing bypass around the interchange.
- Design Option 1b – Folded diamond interchange that realigns NJ Route 29 to the southbound NJ Route 29 travel lanes (west side) with signalized intersections and retains the bypass around the interchange (east side) for northbound traffic.
- Design Option 1c – Folded diamond interchange with two roundabouts for traffic traveling between NJ 29 and I-95, and bypasses for NJ 29 through traffic. Design Option 1c was proposed by NJDOT for consideration. It is a variation of Design Option 1b replacing signalized intersections with roundabouts at the I-95 ramp termini. As the design for this option was further developed and evaluated in consultation with NJDOT, refinements were made and the resultant option is called Design Option 1c Modified.
- Design Option 2 - Folded diamond interchange that realigns the southbound NJ Route 29 travel lanes to the northbound NJ Route 29 travel lanes (east side) with one signalized intersection and one unsignalized intersection.

All of the design options eliminate the existing northbound on-ramp from NJ Route 175 (Upper River Road). This movement would be accommodated within the NJ Route 29 interchange. The discontinued northbound on-ramp currently provides direct access to I-95 northbound from the adjoining NJ State Police facility. State Police emergency access would be retained via an exclusive-use ramp along the same alignment as the existing northbound on-ramp from NJ Route 175. Approvals for NJ State Police access will be considered during final design.

The Level of Service analysis shows that all key locations within the interchange options would operate at LOS C or better under all design options. Design Option 1c Modified would accommodate free-flow on the roundabouts north and south of the interchange. Under Design Option 1c Modified, there would be no stops for I-95 ramp traffic passing through the interchange. Design Option 1c Modified would also provide a one-lane bypass around the interchange area in each direction for NJ Route 29 traffic. Design Option 1c Modified is viewed as the superior option



from a safety perspective at the roundabout intersections.

Design Option 1a would provide a conventional folded diamond interchange with signalized "T" intersections at the ramp termini. It would eliminate the existing bypasses around the interchange for NJ Route 29 through traffic. Design Option 1b would be similar to Design Option 1a in all respects except that it would retain the existing northbound bypass for NJ Route 29 traffic. Under Design Options 1a and 1b, there would be two new signalized ramp intersections, which would operate at LOS A (to the north) and LOS B (to the south) for both design options. Under Design Option 2, there would be one signalized intersection (operating at LOS C) to the north and one unsignalized intersection (operating at LOS A) to the south.

Design Option 2 would involve greater property and environmental impacts than Design Options 1a, 1b, and 1c. Impacts to natural resources and property associated with Design Options 1a, 1b, and 1c are generally comparable, and none of the design options would result in property displacements. Design Option 2 would involve the greatest impact at the edges of the Villa Victoria Academy property, a private school, with the limit of disturbance affecting 0.75 acres adjacent to a recreation field (Villa Victoria Academy private recreation field). Under Option 2, NJ Route 29 ramps crossing the Canal would be more consolidated with I-95 mainline, spanning less area of the canal. However, there would be less spacing between the ramps and the mainline, which has the potential to create greater obstruction of light on the canal and towpath below.

Design Option 2 would also involve greater impacts to natural resources, affecting 0.90 acres at six wetland areas. Design Options 1a, 1b, and 1c each would affect a total area of between 0.77 and 0.78 acre in size at five wetland areas. Design Option 2 would also affect approximately 340 linear feet and 3,400 square feet of Reeders Creek and would involve the largest alteration of 100-year floodplain. Design Option 2 would affect a total of 8.53 acres of 100-year floodplain, compared to 7.78 acres alteration under Design Option 1a and 7.19 acres of alteration under both Design Options 1b and 1c.

Retention of the northbound bypass road or widening of this bypass road to accommodate one or both directions of NJ 29 traffic is viewed by the environmental resource and regulatory agencies as an unfavorable feature of Design Options 1b, 1c, and 2, due to its adjacency to the Delaware and Raritan Canal. Option 2 would require widening of the bypass roadway whereas Options 1b and 1c modified would narrow this roadway. Design Options 1a, 1c, and 2 would not affect the NJ Route 29 Bridge over the canal. Design Options 1b would require the reconstruction of NJ Route 29 Bridge over the canal.

All Design Options would result in a Section 4(f) use on the Delaware and Raritan Canal. The wider spans over the canal would require longer abutments and the piers for the ramps. The foundations for the abutments and piers would be partially located outside the legal right-of-way. This would be the legal right-of-way area of I-95 as it crosses over the canal. The Section 4(f) use would apply to the pier and the abutment foundations located outside the legal right-of-way but within the historic boundary. Section 4(f) does not apply to the areas spanned by these structures. Design Options 1a, 1b, and 1c have a Section 4(f) use on the Delaware and Raritan Canal due to pier foundations located outside the legal right-of-way.



Interstate 95 southbound and northbound ramps to NJ Route 29 under Design Options 1a, 1b, and 1c have similar layout over the canal resulting in the Section 4(f) use being similar. Design Options 1a, 1b, and 1c would each have Section 4(f) use area of approximately 0.10 acres. Under Design Option 2, I-95 mainline structure and the ramps have a smaller area configuration that would require additional right-of-way to account for foundations being partially outside the legal. Therefore under Design Option 2 the Section 4(f) use would be approximately 0.05 acres.

Options 1a, 1b, and 2 would introduce traffic signals, which were viewed as undesirable by NJDOT from operations and safety perspectives. NJDOT preference is to implement roundabout intersections where appropriate and feasible. For operational and safety concerns, as well as reasons cited above, Option 1c (modified) was identified as part of the proposed action.

2.f I-95 Scudder Falls Bridge Improvement Alternative

The I-95 Scudder Falls Bridge Improvement alternative was identified based on the analysis and screening of the Alternatives and Design Options. This alternative addresses the project purpose and needs. The following elements comprise the I-95 Scudder Falls Bridge Improvement alternative (Figure VI-1A-E):

- Standard Lane Additions – 5 lanes northbound/4 lanes southbound on the I-95 Scudder Falls Bridge
- Replace I-95 Scudder Falls Bridge on Upstream Alignment
- I-95 PA Mainline Inside Widening
- Taylorsville Road Interchange Option 2
- NJ Route 29 Interchange Option 1c (modified)
- Pedestrian/Bicycle Facility (decision to include as part of the project will be made during final design)
- Transportation Systems Management/Transportation Demand Management

The I-95 Scudder Falls Bridge Improvement Alternative was identified as the Proposed Action. This Alternative will result in having a Section 4(f) use on the Delaware and Raritan Canal. Pier foundation areas for the Interstate 95 mainline north abutment for the southbound off-ramp and northbound on-ramp will be located outside the legal right-of-way but within the historic boundary of the Delaware and Raritan Canal.

The Section 4(f) use is applicable since a portion of the piers and the abutment foundations would be located outside the legal right-of-way but within the historic boundary of the Delaware and Raritan Canal. Section 4(f) does not apply to the areas of the Section 4(f) resource spanned by the structures. Interstate 95 southbound off-ramp and northbound on-ramp consists of a single 12-foot lane with 4-foot inside shoulder and 8-foot outside shoulder. The area (Figure VI-2) required for these structural elements including portions of the foundations would be approximately 4,600 square feet (0.10 acres). The project will not involve the placement of piers and abutments within the canal prism and towpath. The two



existing piers located within the canal prism will be removed. Land acquisition from the Delaware and Raritan Canal would require NJDEP Green Acres approval for encroachments.

The abutment and ramps are located along north embankment areas. These areas would be temporarily disturbed during construction to build the foundations, abutment, and piers. Temporary encroachment onto areas of the towpath may be necessary for pouring and curing of the foundations prior to backfilling for a period of up to approximately 30 days. Also, there will be temporary closure of the towpath for safety while structural girders are placed. Otherwise, full use of the towpaths will be maintained during construction.

The existing traffic noise levels at the Delaware and Raritan Canal is 66 dBA and is expected to increase 1 dBA as a result of the project. Since this increase is not substantial, no noise barriers are proposed. The project will not result in access changes to the Delaware and Raritan Canal.

Since the project will introduce new features within the historic boundary of the Delaware and Raritan Canal, the undertaken will have an Adverse Effect on the Delaware and Raritan Canal. Coordination was conducted with the Delaware and Raritan Canal Commission, NJ Historic Preservation Office, NJDEP Green Acres, and canal special interests groups. This coordination activity will continue during final design and construction.

C. Temporary Construction Easements

Construction work activity will be required in the areas of the Delaware Canal and the Delaware and Raritan Canal. Temporary construction easements will be required within the Section 4(f) boundary of the Delaware Canal and the Delaware and Raritan Canal. Construction activities in the areas of the canals will be temporary and are described as following:

Delaware Canal - the existing I-95 bridge over the canal will be replaced. This structure will carry I-95 mainline and the northbound acceleration ramp over the canal. This replacement structure will span over the Section 4(f) boundary of the canal. The abutments will be located outside the Section 4(f) boundary of the canal. Temporary occupation of the canal towpath area may be necessary for the pouring and curing of the concrete foundations for the abutment walls prior to backfilling for a period of up to 30 days. However, during these activities, the towpath will be open and available for use.

For safety reasons during construction, there will be the need to temporarily close the towpaths during the placement of the I-95 bridge girders. These will be short duration closures, which could be scheduled at night, when towpath usage is minimal.

The proposed pedestrian/bicycle facility across the Delaware River will connect to the canal towpath. This transition area will require minor grading adjustments. This construction activity will be minor. The towpath will remain open during this activity.



Delaware and Raritan Canal – activity in the area of the canal will consist of: the construction of the I-95 mainline bridge over the canal; building the northbound and southbound I-95 ramp structures over the canal; and improvements to the existing NJ Route 29 bypass. These structures will span over the canal towpath and channel. The piers and abutments will not be located on the canal towpath nor in the channel. Temporary occupation of the canal towpath area may be necessary for the pouring and curing of the concrete foundations for the piers prior to backfilling for a period of up to 30 days along with construction activity required for improving the existing NJ Route 29 bypass. However, during these activities, the towpath will be open and available for use.

For safety reasons during construction, there will be the need to temporarily close the towpaths during the placement of the bridge girders. These will be short duration closures, which could be scheduled at night, when towpath usage is minimal.

The proposed pedestrian/bicycle facility across the Delaware River will connect to the canal towpath. This transition area will require minor grading adjustments and will include the construction of a retaining wall. The towpath will remain open during this activity.

Temporary Occupancy of Land Finding

The Temporary Construction Easements for the Delaware Canal and the Delaware and Raritan Canal areas do not constitute a “use” under Section 4(f) because:

- The temporary occupation of the canal areas will be less than the overall project construction duration. The project construction duration will be approximately 4 years. The construction work in the area of the canals will be less than 4 years.
- The project will not result in change of ownership of the Delaware Canal and the Delaware and Raritan Canal.
- The project will not result in changes to the features of the canals. As compared to the magnitude and the scope of the project, the placement of the structural girders, piers, and abutments in canal areas but, outside the Section 4(f) boundary are not considered significant construction activity.
- There are no permanent, adverse physical impacts anticipated as a result of the project. There will be no permanent interference with the activities, features, or attributes of the Delaware Canal and the Delaware and Raritan Canal.
- All areas of the canals that are occupied for temporary construction activity will be restored to a condition equal to or better than that which existed prior to the project.
- Coordination was conducted with officials having jurisdiction over the Delaware Canal and the Delaware and Raritan Canal (See Appendix C). Coordination was conducted with the Pennsylvania Historical and



Museum Commission, the Pennsylvania Department of Conservation and Natural Resources, the NJ State Historic Preservation Office, and the Delaware and Raritan Canal Commission. The Pennsylvania Historical and Museum Commission concurred that the project will result in No Adverse Effect on the Delaware Canal. The NJ State Historic Preservation Office concurred with the Adverse Effect finding for the Delaware and Raritan Canal due to the construction of a new replacement bridge that is wider than the existing and the 2 new structures for the I-95 northbound and southbound ramps. Mitigations measures described in Section VI. D of this document will be implemented as part of the project. Coordination with the officials having jurisdiction will continue during final design and construction.



*I-95, Scudder Falls
Bridge Improvement Project*

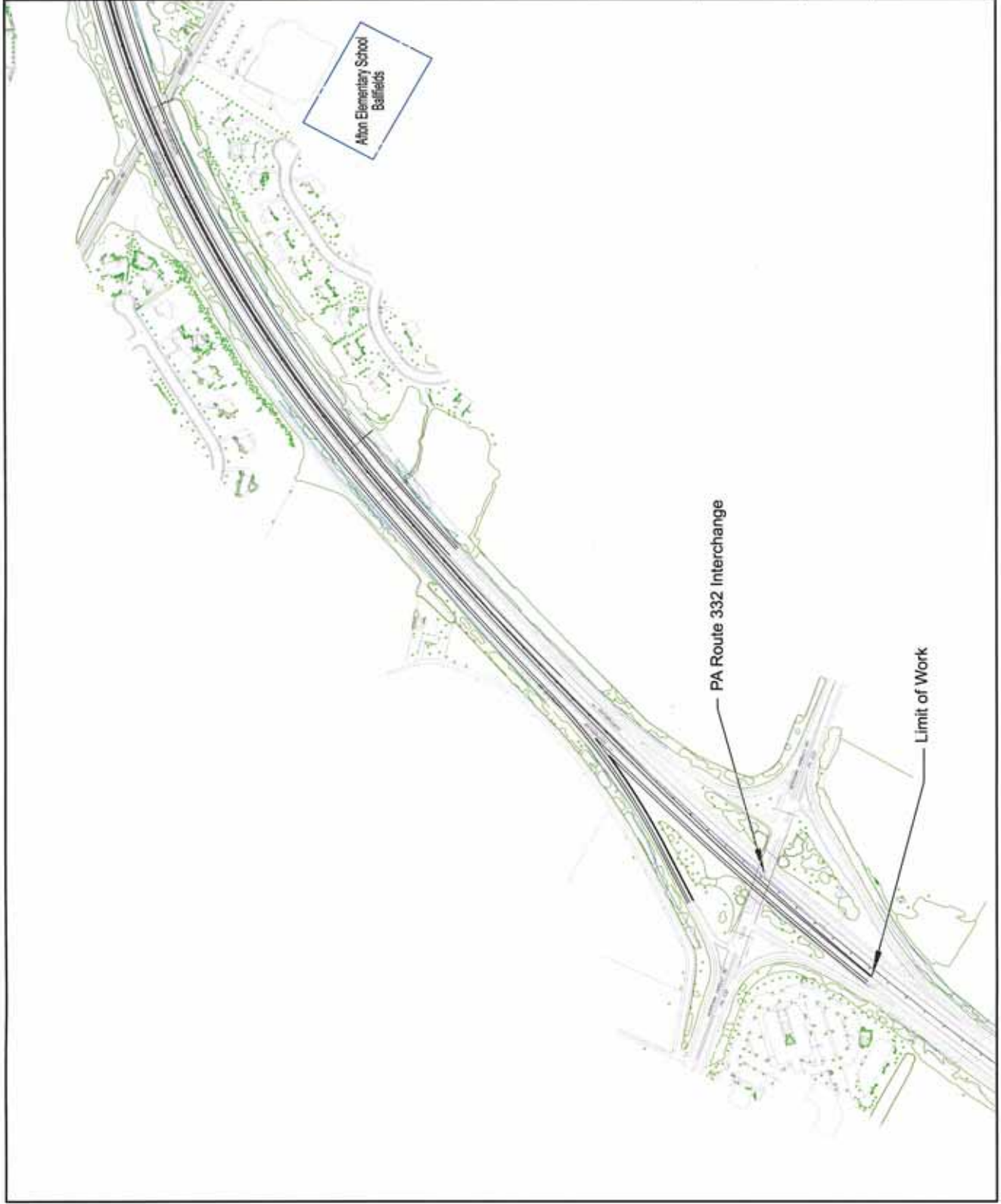
Legend

Standard Lane Additions
on Upstream Alignment
Improvements

Section 4(f) Resources



Figure VI-1A
Standard Lane Additions
on Upstream Alignment



Legend

Standard Lane Additions
on Upstream Alignment
Improvements

Section 4(f) Resources



Figure VI-1B
Standard Lane Additions
on Upstream Alignment



Legend

Standard Lane Additions
on Upstream Alignment
Improvements



Section 4(f) Resources

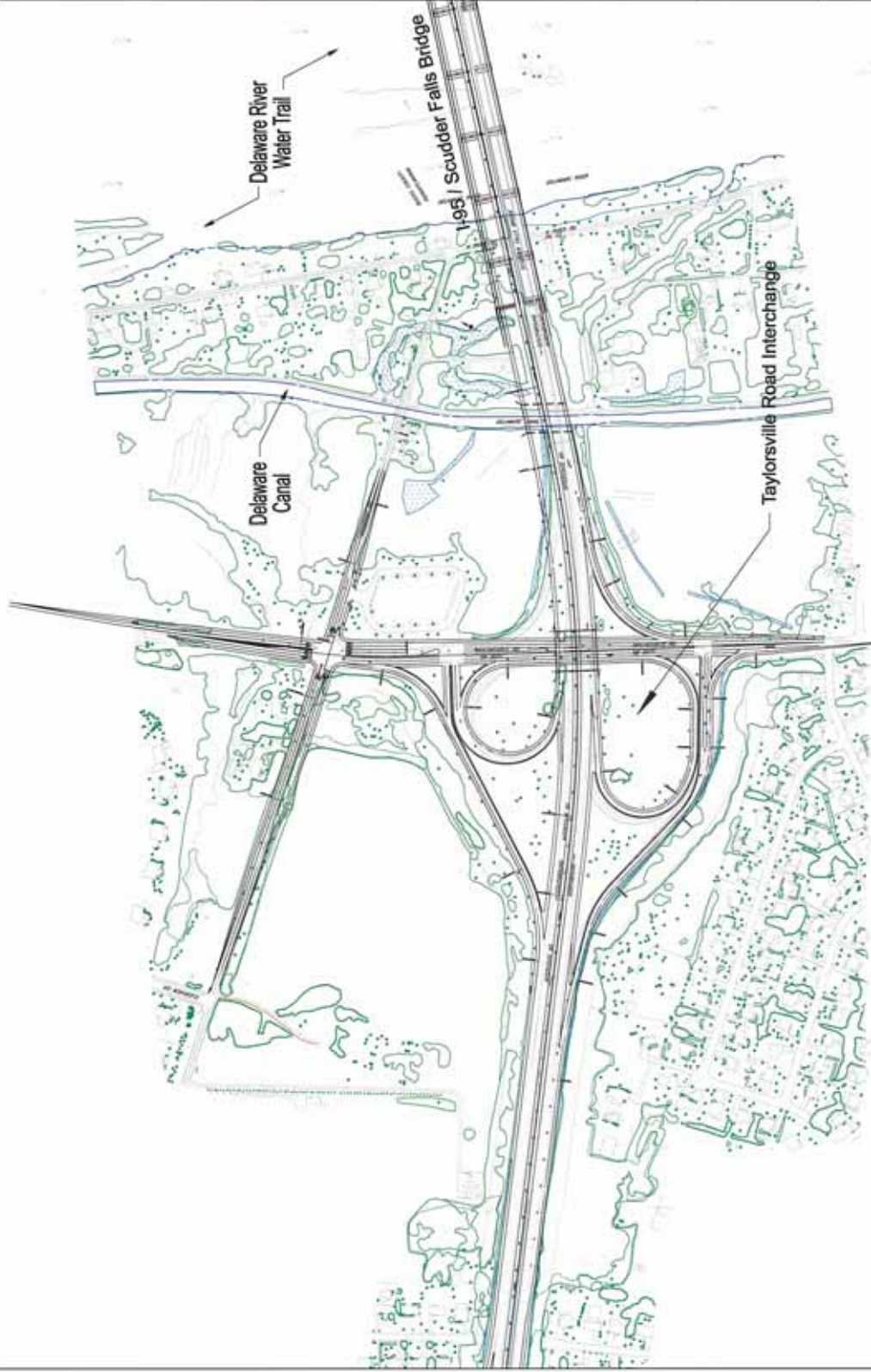


Figure VI-1C
Standard Lane Additions
on Upstream Alignment



*I-95, Scudder Falls
Bridge Improvement Project*

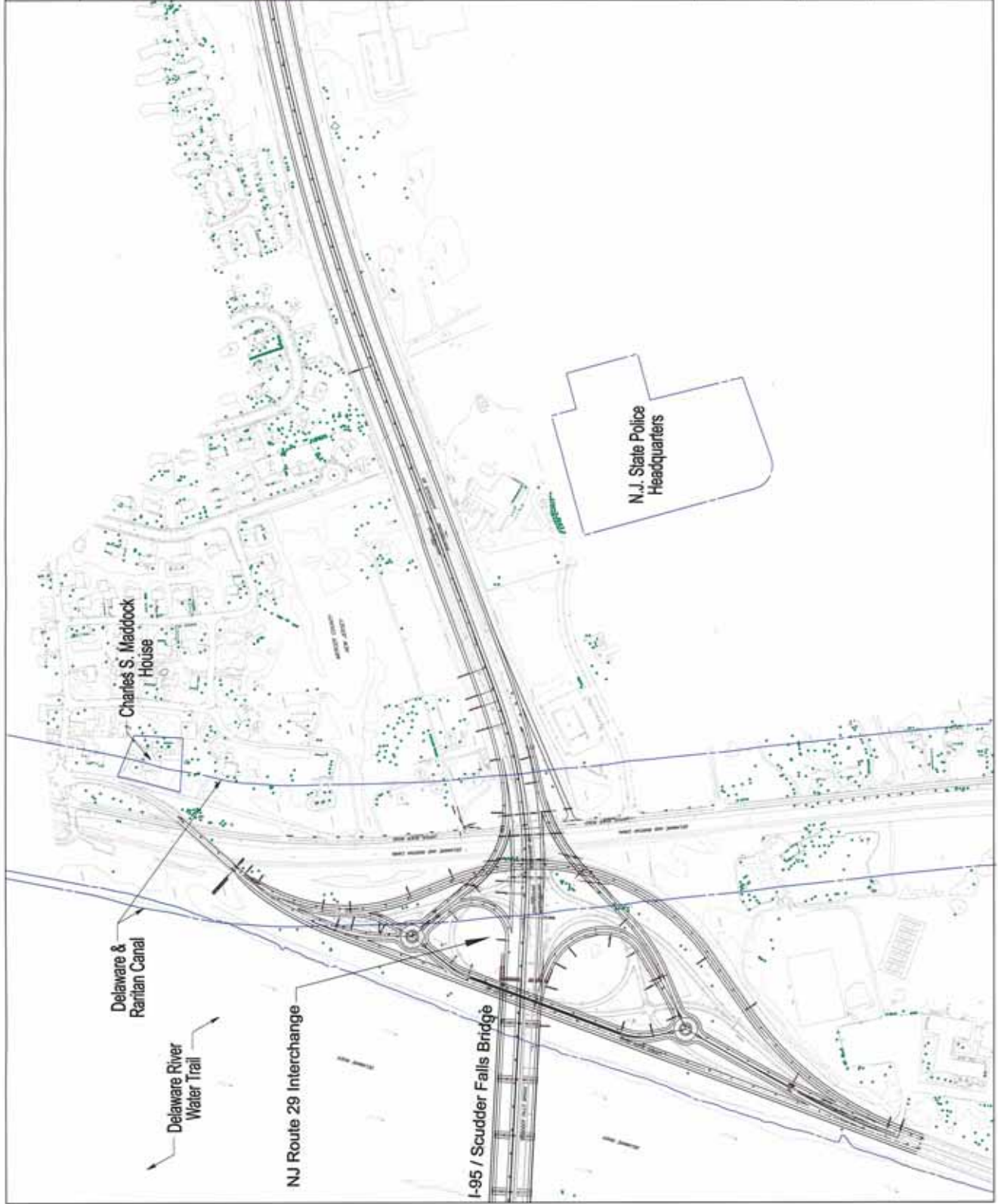
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Standard Lane Additions
on Upstream Alignment
Improvements

Section 4(f) Resources



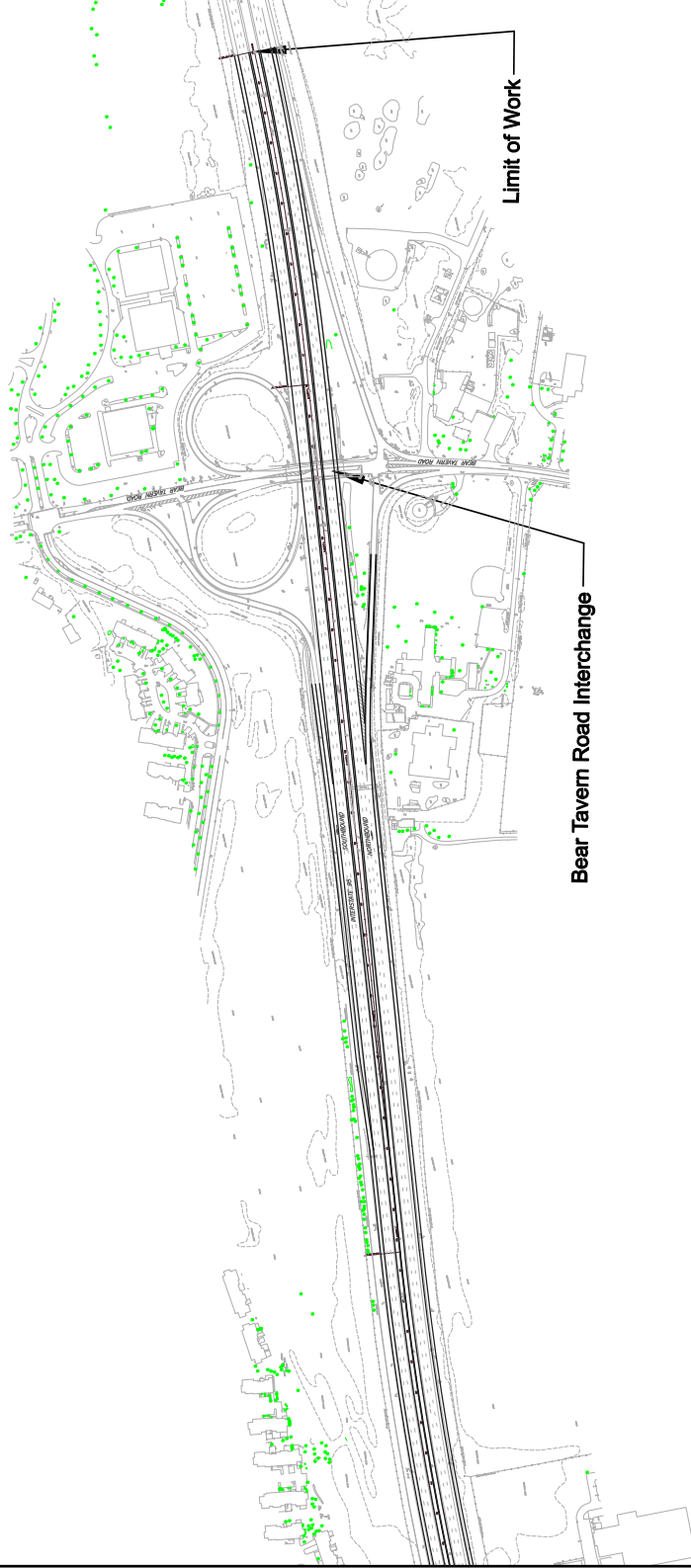
Figure VI-1D
Standard Lane Additions
on Upstream Alignment



Legend

Standard Lane Additions
on Upstream Alignment
Improvements

Figure VI-1E
Standard Lane Additions
on Upstream Alignment

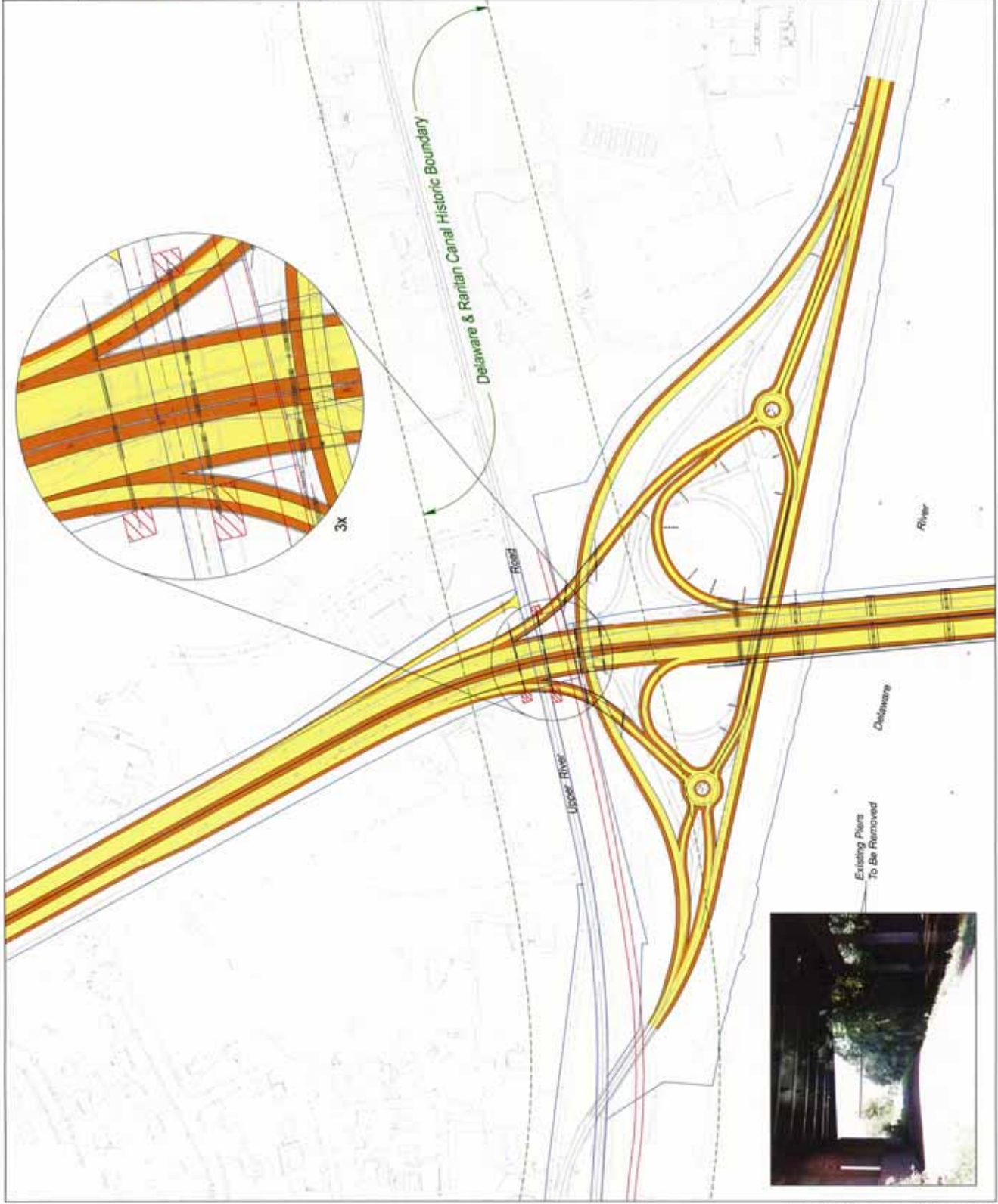
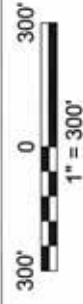


**I-95, Scudder Falls
Bridge Improvement Project**

Legend

-  Roadway
-  Shoulder
-  Pier (I-95 Southbound Off-Ramp)
-  Delaware & Raritan Canal Historic Boundary
-  Section 4(f) Use
-  Legal Right-of-Way

**Figure VI-2
Delaware & Raritan Canal
Potential Section 4(f) Use**



**Existing Piers
To Be Removed**



D. Assessment of Least Harm

The assessment of least harm was evaluated for the Section 4(f) use on the Delaware and Raritan Canal and the de minimis use on Delaware River Water Trail as a result of the temporary occupancy during construction.

Delaware and Raritan Canal

Design modifications that would result in minimizing the Section 4(f) use on the Delaware and Raritan Canal are extremely limited due to the type of the existing facility, location, and the proposed improvement. The area of the proposed improvement for I-95 southbound and northbound access to NJ Route 29 is currently on structure and crosses over the Delaware and Raritan Canal, primarily due to the elevation differences of I-95 and the Delaware River. The proposed action includes keeping the I-95 southbound access to NJ Route 29 on structure. As shown on previous figures, the Delaware and Raritan Canal has linear historical/park boundaries for which any location to provide access to NJ Route 29 from I-95 southbound and northbound would require crossing over the Delaware and Raritan Canal; therefore, there are no options to shift the roadway. The Delaware and Raritan Canal historic and park boundary is 300 feet in width from the centerline of the canal. There is extensive existing legal right-of-way for I-95 and NJ Route 29 interchange. The majority of the project improvements, including I-95 and NJ Route 29 interchange area, would occur within the legal right-of-way.

The following section describes potential Design Options identified and evaluated for an assessment of either avoiding and/or minimizing the Section 4(f) use on the Delaware and Raritan Canal:

Eliminate the Piers and Totally Span the Canal

This Design Option would involve eliminating the I-95 southbound ramp Pier #1 and the northbound ramp Pier #2 (both are located adjacent to Upper River Road); thereby, the I-95 southbound and northbound ramps would be a single span at their respective locations. This would require spanning over Upper River Road and the Delaware and Raritan Canal. This would result in no piers located outside the legal right-of-way and would be an avoidance of the Section 4(f) use on the Delaware and Raritan Canal. However, this would require curved girder spans of over 200 feet for both the southbound and northbound ramp areas. The girder beam depth would encroach on the required vertical clearance for Upper River Road and possibly NJ Route 29. This Design Option does not meet project purpose and needs with regard to addressing design criteria. Accordingly, an elimination of I-95 southbound ramp Pier #1 and northbound ramp Pier #2 would not be a prudent and feasible alternative.

Reduce Pier Width

I-95 southbound ramp Pier #1 is approximately 42 feet in length, with about 30 feet of this length located outside the Legal Right-of-Way. The I-95 northbound ramp Pier #2 is approximately 45 feet in length, with about 10 feet located outside the legal right-of-way. Interchange geometry and traffic operations determine the ramp locations along with meeting the required current design



criteria. Ramp width is determined by current design criteria and traffic capacity. The typical section for the ramp according to current design requires that the ramp have a 12-foot travel lane with 4-foot inside shoulder and 8-foot outside shoulder. This ramp width and horizontal and vertical geometry establishes the required pier width. This width is required to provide sufficient horizontal sight distance and provide adequate pullover areas for emergencies. A reduction of the ramp typical section does not meet the project purpose and need to improve traffic operations, capacity, and safety. Accordingly, a reduction in the pier width would not be a prudent and feasible alternative.

Delaware River Water Trail

The I-95 Scudder Falls Bridge Improvement Project will require temporary occupancy of the Delaware River Water Trail during construction. Construction will involve the placement of the new bridge upstream but adjacent to the existing bridge and the demolition of the existing bridge. There are 7 existing piers in the river while the new bridge will have 5 piers located in the river. The construction of the new bridge and the demolition of the existing piers within the Delaware River will occur within cofferdams to allow pier and foundation construction to occur in the dry. The river access will be provided by the use of a trestle causeway.

The project will require two primary phases with a total construction time duration of approximately 4 years. The first construction phase would construct the upstream, or northern, side of the bridge. The second phase of bridge construction would demolish the existing bridge and construct the downstream, or southern side of the bridge. Construction access to the Delaware River will be from publicly owned lands (Non-Section 4(f) property) and roadway right-of-way. No right-of-way acquisition will be required for construction access.

The temporary occupancy of the Delaware River Water Trail during construction will constitute a Section 4(f) use since the duration of the occupancy will involve the entire 4 year construction time frame of the project. The Section 4(f) *De minimis Use* is applicable.

It is anticipated that construction access within the Delaware River will be done in four stages (two stages for each primarily construction phase) of the temporary causeways. A trestle type causeway would be used during construction. The causeway limit for each stage will be approximately 400 to 600 feet in length from the river shoreline. Construction of a temporary causeway would involve construction of short spans of approximately 25 feet with pile bents (row of plies connected by pile caps at the top to support a load) and progressive construction from the shoreline. The trestle causeway is, in effect a narrow temporary bridge. The trestle would be constructed in 4 stages. Approximately 22 to 36 pile bents would be required for each causeway stage. Each pile bent would be driven into the river bottom, and would disturb approximately 10 square feet of river bottom. The 22 to 36 pile bents for each causeway stage correspond to approximately 210 to 300 square feet of river bottom disturbance at any one time. Conceptual plan views and elevations of the temporary trestle causeway are shown in the Environmental Assessment Section III. E. Construction.



During the removal of each trestle causeway stage, the bents would be removed to a depth of 3 feet, and the river bottom restored to its pre-construction condition.

Demolition of the existing bridge will be accomplished from the trestle causeway. Shielding and other common methods will be used to protect the workers and prevent debris from falling into the river.

Public use of the Delaware River Water Trail will be maintained during construction with some restrictions. For safety reasons during construction, there will be the need to temporarily close the Delaware River in the project area to river traffic during demolition activity and during the placement of the bridge girders, deck construction and demolition activity. These activities are anticipated to short duration closures with some of the work occurring during off-peak hours when public use of the river is minimal. The project will involve further coordination with the PAFBC, NJDEP, and the Delaware River Greenway Partnership on project actions regarding the public recreational activities on the Delaware River Water Trail. In addition to the PADEP Chapter 105 and US ACE Section 404 permits, the project will require the PAFBC "Permit to Install Floating Structures and Private Aids to Navigation".

The I-95 Scudder Falls Bridge Improvement project meets the criteria for a de minimis use of the Delaware River Water Trail:

The temporary occupancy use of the Delaware River Water Trail will not adversely affect river activities, features, and other attributes that qualify the resource for protection under Section 4(f);

Coordination with the public was conducted during the development of the project and will continue during final design and construction. The public meetings afforded opportunity for public comment. The EA/Section 4(f) circulation and public hearing will afford further review and comment concerning the affect of the project on the Delaware River Water Trail; and

Coordination with the officials with jurisdiction over the Delaware River Water Trail was conducted regarding the use of the Delaware River Water Trail. The officials with jurisdiction will receive a copy of the Environmental Assessment and Draft Section 4(f) Evaluation document for review and comment. The officials with jurisdiction will be informed of public comments prior to the FHWA seeking written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the Delaware River Water Trail for protection under Section 4(f).

The project will include measures to minimize harm to the Delaware River Water Trail. The project will require permits from PADEP, NJDEP, USACE, and PAFBC. These permits will specify standard and special conditions during construction to minimize harm to the river.



E. Measures to Minimize Harm to the Section 4(f) Resources

Delaware and Raritan Canal

A Programmatic Agreement (Appendix B) was prepared to stipulate the mitigation measures to be undertaken and to address further archaeological investigations. The following are proposed measures to minimize harm:

- To minimize visual impacts to the Delaware and Raritan Canal, the DRJTBC will design the piers of the I-95/Scudder Falls Bridge and NJ Route 29 interchange bridges to be the smallest size allowed by engineering design. The piers will be treated with an aesthetic finish to be agreed upon in coordination with the NJSHPO and consulting parties during the final design phase of the Project. Test panels will be constructed by the contractor for review and approval by representatives of the NJSHPO, D&RCC, and Delaware and Raritan State Park.
- To preserve openness along the Delaware and Raritan Canal under the bridges, the DRJTBC will use pier configurations that will accommodate concerns of openness and are consistent with FHWA and NJDOT design standards.
- To minimize impacts to the earthen embankment adjacent to the Delaware and Raritan Canal along Upper River Road beneath the proposed I-95/Scudder Falls Bridge, the DRJTBC will design the Project to consider methods to reduce erosion of the embankment.
- To minimize runoff of water into the Delaware and Raritan Canal, the DRJTBC will design the drainage system for the new roadways to divert water flow away from the canal prism to the maximum extent possible.
- To minimize effects on the Delaware and Raritan Canal, the proposed action will eliminate public use of the existing ramp from River Road (NJ Route 175) to I-95 northbound. The ramp will be gated for use by the NJ State Police.
- To avoid project-related construction damage, the DRJTBC, in consultation with FHWA, the PASHPO, the NJSHPO, the D&RCC, the Delaware Canal State Park and the Delaware and Raritan Canal State Park, will develop a construction protection plan for work along the Delaware Canal in Pennsylvania and the Delaware and Raritan Canal in New Jersey. The plan will set forth specific measures that will protect the canal prisms, towpaths, and any related features during the construction period. The construction protection plan will include measures to protect the dry-laid stone wall along the eastern side of the Delaware Canal prism and towpath, immediately north of the existing I-95/Scudder Falls Bridge. The protection plan will provide measures for minimizing direct impacts to the canal prisms and towpaths during the removal of the piers of the existing I-95/Scudder Falls Bridge. In addition, to the extent possible, the plan will indicate that construction areas will be located outside the canal prism and towpath features and will be separated for the safety of towpath users.



Delaware River Water Trail

- The proposed project has been designed to minimize the number of piers in the Delaware River. This will reduce the number of bridge structural features thereby providing more river trail open space.
- Erosion and sedimentation plan will be implemented and maintained during construction to avoid and minimize soil erosion and sediment concerns during construction. The National Pollutant Discharge Elimination System Post-Construction Stormwater Management Plan will be prepared during final design and submitted to the PADEP and NJDEP for approvals. Best Management Practices will be developed and implemented during and after construction. In addition, a Spill Prevention Control and Countermeasure Plan (SPCP) will be developed to prevent spills from entering the river during and after construction.
- Major turbidity problems are not expected because the river bed in the project area consists of clean coarse and granular type material. However, construction specifications will include turbidity barriers to mitigate this potential concern. Prior to the placement of the causeway and cofferdams, turbidity screens will be installed to contain siltation. These will be maintained until the causeway and cofferdams are in place, at which time they will be removed.
- Individual pier construction and the removal of the existing piers will be accessed from the trestle causeway, but all dewatering will occur within the localized cofferdams. Groundwater that may seep into the causeways will be dewatered through pumps and hoses. The hoses will outlet into sediment filter bags and traps before reentering the river environment.

VII. SECTION 4(f) COORDINATION

Coordination was conducted in compliance with Section 4(f) of the United States Department of Transportation Act of 1966 (49 USC 303) and Section 138 of the Federal-Aid Highway Act of 1968. As part of early agency coordination efforts for this project, numerous agencies with jurisdiction over Section 4(f) resources were contacted to identify resources and areas of concern. Early coordination letters, meetings, and field visits were conducted throughout this phase of the project. Agencies contacted included Pennsylvania and New Jersey SHPO, Pennsylvania and New Jersey Department of Environmental Protection, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, Delaware and Raritan Canal Commission, local government agencies, and local school officials.

Coordination regarding archaeological and historical properties began with the development of an inventory including sites listed on the National Register of Historic Places, sites previously found eligible, and sites determined eligible as part of this project. The Historic Resource Survey and Determination of Eligibility investigation was performed and coordinated with the PA and NJ SHPO. Coordination efforts also included confirmation of the historic boundaries of the Delaware Canal and Delaware and Raritan Canal. A field view and meeting was conducted with the officials having jurisdiction to present the project alternatives, discuss potential impacts, and address concerns. Coordination activity with the



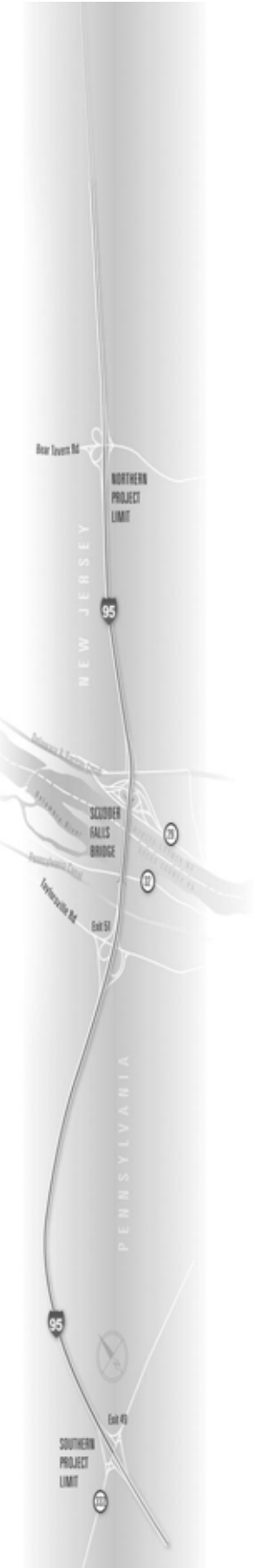
officials having jurisdiction will continue throughout the design and construction phases of the project. A detailed description of the project agency and public involvement program is included in the Environmental Assessment. Agency correspondence is included in **Appendix C**.

Meetings were held with the local officials for Lower Makefield and Ewing Townships. The purpose of these meetings was to present the project purpose and needs, alternatives and design options considered, potential impacts, obtain input, community concerns, and to gain a better understanding as to the significance and use of public recreation and park areas. Project plans, cross-sections, aerials, and other exhibit boards were utilized to facilitate the meetings and discussions. General public open meetings were also held to provide project information to the communities along with obtaining input from the residents, and identifying areas of concern. A detailed description of the project agency and public involvement program is included in the Environmental Assessment. Minutes of these meetings and related correspondence are provided in **Appendix D**.





APPENDICES





APPENDIX A

PROXIMITY IMPACT ASSESSMENT SUMMARY



Proximity Impact Assessment Summary

A constructive use of a Section 4(f) property occurs: when the proximity impacts of a transportation project on a Section 4(f) resource, without acquisition of property from the Section 4(f) resources, are so great that the characteristics which qualify the resources as a Section 4(f) property are substantially impaired. Proximity impacts including traffic noise, resources features, access, drainage, and visual change were considered. For the consideration of traffic noise levels and mitigation, the FHWA, PennDOT, and the NJDOT criteria and guidelines are used. The environmental and engineering studies (i.e., Alternatives Screening Report and Traffic Noise Report) were used to assist with the Proximity Impact Assessment. The following are the results of the proximity impact assessment.

Delaware Canal – The project will result in a No Adverse Effect on the Delaware Canal. The visual change in the area would be due to the replacement of the existing bridge over the Delaware Canal being wider than the existing structure. The new I-95 mainline bridge will be approximately 85 to 90 feet wider at the canal crossing. The new bridge abutment walls will be placed outside the historical boundary which includes the towpath and associated retaining wall. The project will not result in right-of-way acquisition from the historical property. The proposed abutment on the east side of the resource will be located approximately 10-30 feet to the east of the historic boundary. The abutment on the west side of the resource will be located approximately 5-10 feet to the west of the historic boundary. Aside from the removal of the existing abutments, no direct impacts will occur to the canal prism, towpath, and retaining wall. The concrete surfaces of the new abutment walls will be treated with form liners to mimic stone texture to better fit the natural setting of the area.

Traffic noise analysis indicates that the existing noise level 66dBA and future noise level 69dBA exceed the Noise Abatement Criteria (NAC). It is also noted that a 3dBA increase in noise level is not perceptible. Noise abatement was considered and found not reasonable. The traffic noise levels will not impact the historic characteristics of the Delaware Canal. The recreational uses (pedestrians and bicyclists) along the Canal would not be impaired. There is an existing rock-lined drainage ditch that is owned and maintained by PennDOT. This drainage ditch outfalls in the Delaware Canal. The drainage ditch exhibits some erosion. The proposed project will include relining the drainage ditch with rocks to eliminate erosion. The proposed project will not increase roadway drainage to this ditch. The proposed project will involve the replacement of the existing bridge structure over the Delaware Canal.

The construction of the new foundations for the bridge abutment walls and the placement of the superstructure beams will require a temporary closure of the Delaware Canal towpath in this area while this activity is occurring. The duration of the activity will be less than the overall construction period for the proposed project. This work will not result in permanent physical impact on the Delaware Canal nor will this work result in changes to the historic and parkland characteristics. The proposed project will not result in permanent changes to access to the Delaware Canal.

The proposed project was coordinated and discussed with DCNR and the PA-SHPO at a field meeting on October 20, 2005 (See Appendix B). Coordination will continue with the DCNR and PA-SHPO through the design and construction phases of the project. The

results of the assessment indicate that the proposed project alternatives will not impair the use of the Delaware Canal.

Elm Lowne Property – Traffic noise analysis indicates that there would be no differences between the existing and future noise levels for the area. The noise level 61dBA does not approach the NAC and is not considered a noise impact. This property is adjacent to an area that does exceed the NAC, and consideration of noise abatement was determined to be feasible and reasonable. The Elm Lowne property will receive noise abatement benefit from the noise wall to be constructed along I-95. The proposed project will have No Effect on the Elm Lowne property. The area between this property and I-95 is densely vegetated and provides a visual buffer. The results of the assessment indicate that the proposed project alternatives will not impair the use of the Elm Lowne property.

NJ State Police Headquarters – Traffic noise analysis indicates that the area is comprised of commercial properties and reviewed as Land Use Category C, and the NAC is 72dBA, exterior. While the exterior noise levels at this area approach the NAC, there are no frequent exterior activities and the interior noise levels are expected to be below the exterior levels. Based on federal and state guidelines, no traffic noise abatement is warranted. Due to the elevation differences and vegetation, the NJ State Police Headquarters historic site does not have a view of I-95. There are no proposed roadway improvements in the vicinity of the NJ State Police Headquarters historic site. The proposed project will have No Effect on the NJ State Police Headquarters. The results of the assessment indicate that the proposed project alternatives will not impair the use of the NJ State Police Headquarters.

Charles S. Maddock Property – Traffic noise analysis indicates that the existing and future noise levels, 66dBA, approach the NAC. This property is located several hundred feet from I-95 along Upper River Road but near the NJ Route 29 interchange. Noise abatement will be provided along I-95 in this area. The visual setting for this area is not expected to change. The proposed project will have No Effect on the Charles S. Maddock Property. The results of the assessment indicate that the proposed project alternatives will not impair the use of the Charles S. Maddock Property.

Afton Elementary School Ball Fields – Traffic noise analysis indicates that the existing noise levels are around 57dBA and future is predicted at 58dBA, not warranting consideration of noise abatement. The school property ball fields are located behind a residential community that is adjacent to I-95. Consideration of noise abatement for this community was warranted and noise abatement was determined to be feasible and reasonable. The school ball fields, although not impacted by traffic noise, may receive some benefit. The visual setting will not change. There is no line of sight from the school property to I-95. There are no roadway improvements proposed adjacent to the school property. The results of the assessment indicate that the proposed project alternatives will not impair the use of the Afton Elementary School Ball Fields.

Quarry Hill Elementary School Ball Fields – Traffic noise analysis indicates that the existing noise levels are approximately 57dBA and future is predicted at 58dBA, not warranting consideration of noise abatement. The school property ball fields are located behind a residential community that is adjacent to I-95. Consideration of noise abatement for this community was warranted and found to be feasible and reasonable. Since the school ball fields are located approximately 1,000 feet from I-95, benefit from

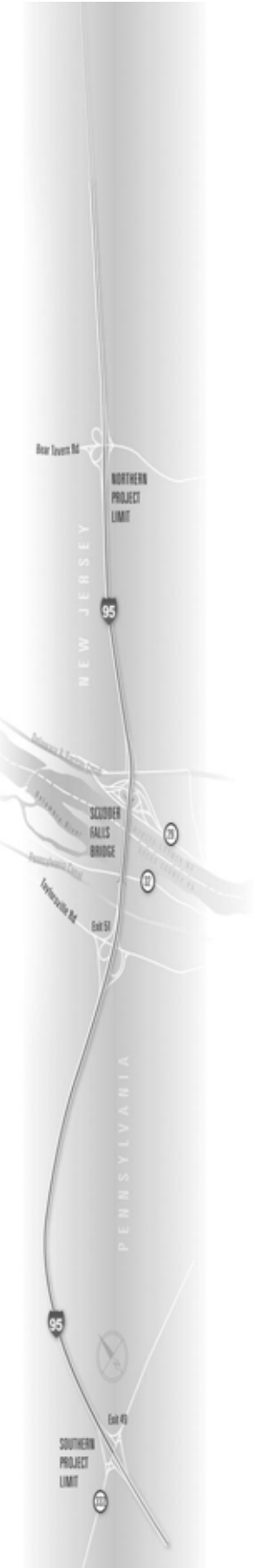
the noise barrier is not expected. The visual setting will not change. There is no line of sight from the school property to I-95. There are no roadway improvements proposed adjacent to the school property. The results of the assessment indicate that the proposed project alternatives will not impair the use of the Quarry Hill Elementary School Ball Fields.

Snipes Tract Athletic Fields – Traffic noise analysis indicates that the existing noise levels are approximately 60dBA and predicted levels are expected to be 63dBA. These noise levels do not approach the NAC. Noise barriers will be constructed along I-95 in this area for which the athletic fields will receive noise abatement benefit. The athletic fields are in the planning and conceptual design stage and are approved under the Lower Makefield Township Master Plan. There is a densely wooded area between I-95 and the Snipes Tract. The visual setting is not expected to change. No project improvements would impact and change drainage and access on the property. The results of the assessment indicate that the proposed project alternatives will not impair the use of the Snipes Tract Athletic Fields.



APPENDIX B

PROGRAMMATIC AGREEMENT



PROGRAMMATIC AGREEMENT (PA)
AMONG THE FEDERAL HIGHWAY ADMINISTRATION (FHWA),
THE PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICER
(PASHPO), AND
THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICER (NJSHPO)
PURSUANT TO 36 CFR SECTION 800.6(b)(1)
REGARDING THE
I-95/SCUDDER FALLS BRIDGE IMPROVEMENT PROJECT
LOWER MAKEFIELD TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA AND
EWING TOWNSHIP, MERCER COUNTY, NEW JERSEY

WHEREAS, the Delaware River Joint Toll Bridge Commission (DRJTBC) is proposing to construct the I-95/Scudder Falls Bridge Improvement Project (Project) in Lower Makefield Township, Bucks County, Pennsylvania and Ewing Township, Mercer County, New Jersey, described as the Proposed Action in Chapter III, Section D of the Environmental Assessment (EA) entitled “I-95/Scudder Falls Bridge Improvement Project Environmental Assessment” and dated October 2009; and

WHEREAS, the DRJTBC is the Project sponsor and the Federal Highway Administration (FHWA) is serving as the Project lead federal agency pursuant to the National Environmental Policy Act (NEPA, codified as 42 USC 4321 *et seq.*), and is the federal agency responsible for compliance with Section 106 of the National Historic Preservation Act (codified at 16 USC § 470f, and herein “Section 106”); and

WHEREAS the FHWA and the DRJTBC have established the Project’s area of potential effect (APE), as defined at 36 CFR Part 800.16(d), as shown in Figure II-4 of the EA (Attachment 1); and

WHEREAS, the FHWA and the DRJTBC, pursuant to 36 CFR Part 800.4(c), have determined in consultation with the PASHPO that the following properties in Pennsylvania are eligible for the National Register of Historic Places (NRHP): Elm Lowne, as described in the Determination of Effect Report, dated September 2008, and the archaeological site 36Bu379, as described in the Phase I Archaeology Report, dated January 2008; and

WHEREAS, the FHWA and the DRJTBC, pursuant to 36 CFR Part 800.4(c), have determined in consultation with the PASHPO that the following property in Pennsylvania is a National Historic Landmark (NHL): the Delaware Canal, as described in the Determination of Effect Report, dated September 2008; and

WHEREAS, pursuant to 36 CFR Part 800.5(a) the FHWA and the DRJTBC have determined in consultation with the PASHPO that the Project will have no adverse effect on Elm Lowne and a conditional no adverse effect on the Delaware Canal, contingent on a review of related Project plans, photographs, architectural drawings, and specifications and their conformance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties; and

WHEREAS, pursuant to 36 CFR Part 800.5(a), as a result of Phase I studies conducted for the project, the FHWA and the DRJTBC have determined in consultation with the PASHPO that there is an eligible site, 36Bu379, a Phase III data recovery plan will be conducted at Site 36Bu379; and

WHEREAS, pursuant to 36 CFR Part 800.5(a), the FHWA and the DRJTBC in consultation with the PASHPO have determined that archaeological survey will occur in the area of causeway construction across the southern portion of Park Island in the Delaware River to determine the presence of intact cultural resources and the NRHP eligibility of any such resources. If resources are present and are deemed potentially eligible, a Phase III data recovery plan will be implemented at this location if the resources cannot be avoided or preserved in place; and

WHEREAS, the FHWA and the DRJTBC, pursuant to 36 CFR Part 800.4(c), have determined in consultation with the NJSHPO that the following properties in New Jersey are eligible for the NRHP: the Charles S. Maddock House; and the New Jersey State Police Headquarters Historic District (NJSPHQ), as described in the Historic Structures Survey, Determination of Eligibility and Determination of Effect Report, dated September 2008; and

WHEREAS, the FHWA and the DRJTBC, pursuant to 36 CFR Part 800.4(c), have determined in consultation with the NJSHPO that archaeological site 28Me360, as described in the Phase I Archaeology Report, dated January 2008, requires further testing to assess significance of the site; and

WHEREAS, the FHWA and the DRJTBC, pursuant to 36 CFR Part 800.4(c), have determined in consultation with the NJSHPO that the following property in New Jersey was listed in the NRHP on May 11, 1973: the Delaware and Raritan Canal; and

WHEREAS, pursuant to 36 CFR Part 800.5(a) the FHWA and the DRJTBC have determined in consultation with the NJSHPO that the Project will have no adverse effect on the Charles S. Maddock House and the New Jersey State Police Headquarters Historic District (NJSPHQ); and

WHEREAS, pursuant to 36 CFR Part 800.5(a), the FHWA and the DRJTBC have determined in consultation with the NJSHPO that the Project will have an adverse effect on the Delaware and Raritan Canal; and

WHEREAS, pursuant to 36 CFR Part 800.5(a), the FHWA and the DRJTBC in consultation with the NJSHPO have determined that for areas previously inaccessible for archaeological testing that will be affected by the project, including any detention or retention basin(s) is to be located in the southern loop of the NJ Route 29 interchange with I-95, preliminary archaeological investigations will be conducted to determine the presence or absence of intact cultural resources and the NRHP eligibility of any such resources. If resources are present and deemed eligible, a Phase III data recovery plan will be implemented at this location. Further, if piers are placed within or in the immediate vicinity of the Trenton Water Power Channel, preliminary archaeological investigations will be conducted to expose and record construction features including channel profile; and

WHEREAS, pursuant to 36 CFR Part 800.6(a), the FHWA and the DRJTBC have consulted with the NJSHPO to resolve the adverse effect of the Project on historic properties; and

WHEREAS, pursuant to 36 CFR Part 800.6(a), the FHWA and the DRJTBC have determined in consultation with the PASHPO and the NJSHPO that it is necessary to develop protection measures to protect the Delaware Canal and the Delaware and Raritan Canal, respectively during construction activities; and

WHEREAS, pursuant to 36 CFR Part 800.6(a), the FHWA has invited the Advisory Council on Historic Preservation (ACHP) to participate in the Section 106 process for the I-95/Scudder Falls Bridge Improvement Project; and in a response letter dated July 29, 2009, the ACHP has declined to be a signatory to this PA; and

WHEREAS, pursuant to 36 CFR Part 800.6(a), the FHWA has consulted with the PASHPO, NJSHPO, U.S. Army Corps of Engineers (USACE) – Philadelphia District, the Delaware Canal State Park, the Friends of the Delaware Canal, the Elm Lowne Preservation Committee, the Society for Pennsylvania Archaeology, the Lower Makefield Township Board of Supervisors, State Representative Honorable David J. Steil, and the Pennsylvania Archaeological Council in Pennsylvania; and Ewing Township, the Delaware and Raritan Canal Commission (D&RCC), Mercer County, New Jersey Green Acres Program and the Division of Parks and Forestry in New Jersey to resolve the adverse effects of the Project on historic properties; and

WHEREAS, pursuant to 36 CFR Part 800.6(c), the FHWA has also invited the PASHPO, NJSHPO, DRJTBC, the Pennsylvania Department of Transportation (PennDOT), the New Jersey Department of Transportation (NJDOT), and federally recognized Indian Tribes (Tribes) that may attach religious and/or cultural significance to any affected property within the APE pursuant to 36 CFR Part 800.3(f)(2), namely the Absentee-Shawnee Tribe of Oklahoma, the Delaware Nation, and the Shawnee Tribe, to participate in the consultation and to concur in this PA; and

WHEREAS, pursuant to 36 CFR Part 800.6(c), the DRJTBC, PennDOT, and NJDOT have agreed to be concurring parties in this PA; and

WHEREAS, the FHWA has involved, and will continue to involve the public, the Tribes, and historic interest groups, as stipulated under the NEPA of 1969, as amended, and the National Historic Preservation Act (NHPA) as amended [16 U.S.C. § 470], and its implementing regulations (36 CFR Part 800) in a manner consistent with PennDOT's and NJDOT's Public Involvement Procedures and PennDOT's procedures for Native American Coordination and Consultation;

NOW, THEREFORE, the FHWA, the PASHPO, and the NJSHPO agree that upon FHWA's decision to proceed with the Project, FHWA shall ensure that the following stipulations are implemented in order to take into account the adverse effect of the undertaking on historic properties.

STIPULATIONS

All parties to this PA have reviewed the Project with regard to historic resource mitigation, interpretation and acquisition issues, and as a consequence of the same, the DRJTBC agrees to the following stipulations. The FHWA shall ensure that the following stipulations are implemented by the DRJTBC.

I. Archaeological Resources

- A. The DRJTBC will undertake geoarchaeological assessment investigations at the southern loop of the NJ Route 29 interchange with I-95 if a detention or retention basin is placed in this loop. Such investigations will be followed by archaeological investigations and/or data recovery investigations if the geoarchaeological assessment indicates such approaches are warranted.
- B. The DRJTBC will conduct a geomorphological assessment of the area of the causeway construction across the southern end of Park Island in the Delaware River followed by Phase I archaeological testing if warranted. If archaeological resources are identified in this area, Phase II testing will be conducted to evaluate these resources and determine if they are eligible for listing in the NHRP. If eligible archaeological resources are present and cannot be avoided by construction or preserved in place, Phase III data recovery will be conducted.
- C. The DRJTBC will implement Phase I archaeological testing in an area of high potential in the T2 Terrace in Pennsylvania that is adjacent to and possibly associated with 36Bu379 (see Stipulation I.G) and has not yet been surveyed because access to the property has been limited. If archaeological resources are identified in this area, Phase II testing will be conducted to evaluate these resources and determine if they are eligible for listing in the NRHP. If these resources are determined to be eligible for the NRHP, a Data Recovery Workplan will be prepared. The workplan will include research, fieldwork, analysis, report preparation, and public outreach. The Data Recovery Workplan will be developed by the FHWA and the DRJTBC in consultation with the PASHPO.
- D. The DRJTBC will implement a Phase II excavation at 28Me360 with the purpose of assessing the NRHP eligibility of the site. If the site is determined eligible and if the FHWA and the DRJTBC in consultation with the NJSHPO determine that a sufficient portion of the site remains to warrant further excavation, a Data Recovery Workplan will be prepared. The workplan will include research, fieldwork, analysis, report preparation, and public outreach. The Data Recovery Workplan will be developed by the FHWA and the DRJTBC in consultation with the NJSHPO.

- E. If, during final design, the NJDOT, in consultation with the NJHPO, determines that the Trenton Water Power Channel will be impacted by the project, FHWA and the DRJTBC will develop a plan for the archaeological recordation of construction features related to the Trenton Water Power Channel. This plan shall be submitted to the NJHPO for review and approval. Such approval will not be unreasonably withheld.
- F. The DRJTBC will undertake preliminary archaeological investigations to record construction features including the channel profile related to the Trenton Water Power Channel under the Scudder Falls Bridge in New Jersey in accordance with the approved plan for archaeological recordation referenced above, if it is determined by the NJHPO during final design that the proposed bridge pier construction will impact the location of the channel.
- G. The DRJTBC will implement a Data Recovery Workplan for 36Bu379 including research, fieldwork, analysis, report preparation, and public outreach, or an alternative mitigation program. The Data Recovery Workplan or alternative mitigation program will be developed by the FHWA and the DRJTBC in consultation with the PASHPO.
- H. If any human remains and grave-associated artifacts are encountered during the archaeological investigations, FHWA will bring this to the attention of the PASHPO and NJSHPO, as appropriate, and any federally recognized Tribes that may attach religious and/or cultural significance to the affected property within 24 hours of the discovery. No activities that might disturb or damage the remains will be conducted until all parties have determined whether excavation is necessary and or/desirable. All procedures will follow the guidance outlined in the National Park Service Publication *National Register Bulletin 41: Guidelines for Evaluating and Registering Cemeteries and Burial Places*, the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601), as appropriate, and the PASHPO's *Policy for the Treatment of Burials and Human Remains* (1993) and/or NJSHPO's *Archaeology and Ethnology Guidelines* (2005), as appropriate.
- I. The DRJTBC or their consultant will prepare reports on the data recovery excavations for review and comment by the FHWA, the PASHPO, and NJSHPO, as appropriate, and any interested federally recognized Tribes. The report shall meet professional standards set forth by the Department of the Interior's *Format Standards for Final Reports of Data Recovery Program* (42 FR 5377-79) and will be consistent with the Bureau for Historic Preservation/Pennsylvania Historical and Museum Commission's *Cultural Resource Management in Pennsylvania: Guidelines for Archaeological Investigations* (July 1991) for reports prepared for the PASHPO. Reports prepared for the NJSHPO will be consistent with *Guidelines for Phase I Archaeological Investigations: Identification of Archaeological Resources*, *Guidelines for Preparing Cultural Resources Management Archaeological Report Submitted to the Historic Preservation Office*, and the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, September 29, 1983. A draft report will be completed within one year of the conclusion of fieldwork. Any comments provided by the PASHPO and NJSHPO, as appropriate, or

other consulting parties will be considered in the preparation of the final report. A final report will be completed and submitted within one year of the close of the comment period.

- J. All records and materials resulting from the archaeological investigations that are not privately owned will be curated in accordance with 36 CFR § 79 and the curation guidelines developed by the PASHPO (June 2003) or NJSHPO's Archaeology and Ethnology Guidelines (2005), as appropriate. If the DRJTBC has not purchased the Right-of-Way at the time of the Data Recovery excavations, the DRJTBC shall request that the property owner sign a gift agreement donating the artifacts to the State Museum of Pennsylvania or the New Jersey State Museum, as appropriate. In Pennsylvania, all records and all artifacts not privately owned will be curated by the DRJTBC at the PASHPO in Harrisburg, or its designee, following the policies of that institution. The DRJTBC will be responsible for the curation fee of three hundred-fifty dollars (\$350) per cubic foot. In New Jersey, if the site is determined by the NJSHPO to have statewide or national significance, the DRJTBC will curate all records and all artifacts not privately owned to the NJ State Museum, or if the site is determined to have local significance, to an undetermined designee selected in consultation with the NJSHPO, following the policies of the selected institution. The DRJTBC will be responsible for any related fees at the selected institution. If the final repository of the artifacts recovered in New Jersey is determined to be the NJ State Museum, then the DRJTBC will be responsible for the curation fee of three hundred-fifty dollars (\$350) per Hollinger storage box.

II. Historic Structures

A. The Delaware and Raritan Canal and the Delaware Canal

DRJTBC, in consultation with consulting parties, shall develop an appropriate and compatible design for the replacement structure that is sensitive to historic properties in the immediate vicinity, as per the measures outlined in Stipulations II.A.1, II.B, and II.C.

1. Minimization through Design

- a) To minimize visual impacts to the Delaware and Raritan Canal, the DRJTBC will design the piers of the I-95/Scudder Falls Bridge and NJ Route 29 interchange bridges to be the smallest size allowed by engineering design. The piers will be treated with an aesthetic finish to be agreed upon in consultation with the NJSHPO and consulting parties during the final design phase of the Project. Guidelines for the appearance of the aesthetic finish, including any available photographs and specifications, will be provided to the DRJTBC in advance of the preparation of test panel(s). Test panels will be constructed by the contractor, as many times as are reasonable and necessary, for review and approval by representatives of the NJSHPO, D&RCC, and Delaware and Raritan Canal State Park. Such approval will not be unreasonably withheld.

- b) To preserve openness along the Delaware and Raritan Canal under the bridges, the DRJTBC will use pier configurations that will accommodate concerns of openness and are consistent with FHWA and NJDOT design standards.
- c) To minimize impacts to the earthen embankment adjacent to the Delaware and Raritan Canal along Upper River Road beneath the proposed I-95/Scudder Falls Bridge, the DRJTBC will design the Project to consider methods to reduce erosion of the embankment.
- d) To minimize runoff of water into the Delaware and Raritan Canal, the DRJTBC will design the drainage system for the new roadways to divert water flow away from the canal prism to the maximum extent possible.
- e) To minimize effects on the Delaware and Raritan Canal, the proposed action will eliminate public use of the existing ramp from River Road (NJ Route 175) to I-95 northbound. The ramp will be gated for use by the NJ State Police.

2. Interpretation and Acquisitions

To mitigate for adverse effects of the project on the Delaware and Raritan Canal, including the acquisition of a portion of the NRHP boundary, and to satisfy New Jersey Green Acres requirements and Section 106 mitigation requirements, prior to commencement of project construction in proximity to the Delaware and Raritan Canal, the DRJTBC shall make a one-time deposit of \$2 million in a fund established to foster and support the interpretation of historic resources along the Delaware and Raritan Canal and to acquire such property as is deemed necessary by the Green Acres Program. The fund will be administered by D&RCC. The DRJTBC has completed consultation with the NJHPO, D&RCC, the Delaware and Raritan Canal State Park, and the Green Acres Program regarding this stipulation and other than as a consequence of unanticipated discoveries as set forth in Section III(B) of this PA, no additional funds shall be required from DRJTBC.

B. Consultation Relative to Design Elements

The DRJTBC will consult with the NJSHPO, PASHPO, D&RCC, Delaware Canal State Park, and the Delaware and Raritan Canal State Park, as applicable, concerning the design of the bridge, noise walls, and pedestrian/bicycle facility along the Delaware Canal in Pennsylvania and the Delaware and Raritan Canal in New Jersey.

C. Construction Protection Plan

To avoid project-related construction damage, the DRJTBC, in consultation with FHWA, the PASHPO, the NJSHPO, the D&RCC, the Delaware Canal State Park and the Delaware and Raritan Canal State Park, will develop for the approval of the PASHPO, NJSHPO, the D&RCC, and the Delaware Canal State Park a construction protection plan for work along the Delaware Canal in Pennsylvania and the Delaware and Raritan Canal in New Jersey prior to any destructive construction activity in the immediate vicinity of the canals. The plan will set forth specific measures that will protect the canal prisms, towpaths, and any related features during the construction period. The construction protection plan will include measures to protect the dry-laid stone wall along the eastern side of the Delaware Canal prism and towpath, immediately north of the existing I-95/Scudder Falls Bridge. The protection plan will provide measures for minimizing direct impacts to the canal prisms and towpaths during the removal of the piers of the existing I-95/Scudder Falls Bridge. In addition, to the extent possible, the plan will indicate that construction areas will be located outside the canal prism and towpath features and will be separated for the safety of towpath users. All areas of known archaeological sensitivity shall be marked on/or referenced in the plans and specifications.

III. Administrative Stipulations

A. Personnel Qualifications

All archaeological work carried out pursuant to this agreement will be by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards for Archaeology* and Historic Preservation and all historic preservation work carried out pursuant to this agreement will be by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (61 CFR Appendix A).. All work shall conform with the *Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation*, and the New Jersey Historic Preservation Office Guidelines and Pennsylvania guidelines.

B. Late Discoveries

If any unanticipated discoveries of archaeological sites or historic properties are encountered during the implementation of this undertaking, DRJTBC shall suspend work in the area of the discovery, and FHWA shall comply with 36 CFR Part 800.13 by consulting with the PASHPO or NJSHPO, as appropriate, and, if applicable, federally recognized Tribes that attach religious and/or cultural significance to the affected property. The FHWA will notify the PASHPO or NJSHPO, as appropriate, and, if applicable, any such federally recognized Tribes within one working day of the

discovery. The FHWA, DRJTBC, the PASHPO or NJSHPO, as appropriate, and, if applicable, any such federally recognized Tribes will meet at the location of the discovery within seventy-two (72) hours of the initial notification to determine appropriate treatment of the discovery prior to the resumption of construction activities within the area of discovery.

C. Review Periods

The review period for all submissions will be thirty (30) calendar days from receipt of submission for review. The review of test panels will be accomplished within an immediate and reasonable response time, not to exceed seven (7) days from the date of notification for review.

D. Amendments

Any party to this PA may propose to FHWA that this agreement be amended, whereupon FHWA shall consult with the other parties to this PA to consider such an amendment. 36 CFR Part 800.6(c)(7) shall govern the execution of any such amendment.

E. Resolving Objections

1. Should any party to this PA object in writing to FHWA regarding any action carried out or proposed with respect to the Project or implementation of this PA, FHWA shall consult with the objecting party to resolve the objection. If after initiating such consultation FHWA determines that the objection cannot be resolved through consultation, FHWA shall forward all documentation relevant to the objection to the ACHP, including FHWA's proposed response to the objection. Within thirty (30) days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:
 - a) Advise FHWA that the ACHP concurs in FHWA's proposed response to the objection, whereupon FHWA shall respond to the objection accordingly;
 - b) Provide FHWA with recommendations, which FHWA shall take into account in reaching a final decision regarding its response to the objection; or
 - c) Notify FHWA that the objection will be referred to comment pursuant to 36 CFR Part 800.7, and proceed to refer the objection and comment. The resulting comment shall be taken into account by FHWA in accordance with 36 CFR Part 800.7(c) (4) and Part 110(1) of NHPA.
2. Should the ACHP not exercise one of the above options within thirty (30) days after receipt of all pertinent documentation, FHWA may assume the ACHP's concurrence in its proposed response to the objection.

3. FHWA shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; FHWA's responsibility to carry out all actions under this PA that are not the subjects of the objection shall remain unchanged.

F. Objection Resolution Provision

If the DRJTBC, NJSHPO, and PASHPO or any invited signatory to this PA should object in writing to any measures or their manner of implementation, then FHWA shall notify the parties of this PA and take the objection into account, consulting with the objector and, should the objector so request, with any of the parties to this PA to resolve the objection.

G. Review of Implementation

If the stipulations have not been initiated within five (5) years after the execution of this PA, the parties to this agreement shall review the PA to determine whether revisions are needed. If revisions are needed, the parties to this PA shall consult in accordance with 36 CFR Part 800 to make such revisions.

H. Sunsetting Duration

If the terms of this PA have not been implemented by ten (10) years from the date of the signed PA, this PA shall be considered null and void. In such event, FHWA shall notify the parties to this PA, and if FHWA chooses to continue with the Project, shall re-initiate review of the Project in accordance with 36 CFR Part 800.

I. Termination

1. If FHWA determines that it cannot implement the terms of this PA, or the PASHPO or NJSHPO, as appropriate, or the ACHP determines that the PA is not being properly implemented, FHWA or the PASHPO or NJSHPO, as appropriate, or the ACHP may propose to the other parties to this PA that it be terminated.
2. The party proposing to terminate this PA shall so notify all parties to this PA, explaining the reasons for termination and affording them at least thirty (30) days to consult and seek alternatives to termination. The parties shall then consult.
3. Should such consultation fail, FHWA or the ACHP, or the PASHPO or NJSHPO, as appropriate, may terminate the PA by so notifying all parties in writing.
4. Should this PA be terminated, FHWA shall either:
 - a) Consult in accordance with 36 CFR Part 800.6(a)(1) to develop a new PA; or

b) Request the comments of the ACHP pursuant to 36 CFR Part 800.7(a)(1). The ACHP shall have forty-five (45) days to respond with comments.

5. FHWA and the ACHP may conclude the Section 106 process with a PA between them if either the PASHPO or NJSHPO, as appropriate, terminates consultation in accordance with 36 CFR Part 800.7(a)(2).

J. Entire Agreement

This PA represents the entire agreement between the signatories and concurring parties to this PA. Other than the occurrence of unanticipated discoveries as referenced in section III(B) of this PA, all known obligations of the DRJTBC and other signatories and concurring parties concerning historic preservation, mitigation, interpretation and acquisition are set forth in this PA.

Execution of this PA by FHWA, the PASHPO and the NJSHPO, and the implementation of its terms, will be evidence that FHWA has taken into account the effects of the Project on historic properties.

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: _____

PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____

NEW JERSEY STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____

CONCUR:

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

By: _____ Date:




NEW JERSEY DEPARTMENT OF TRANSPORTATION

By: _____ Date:

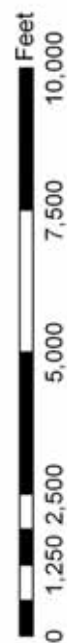
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

By: _____ Date:

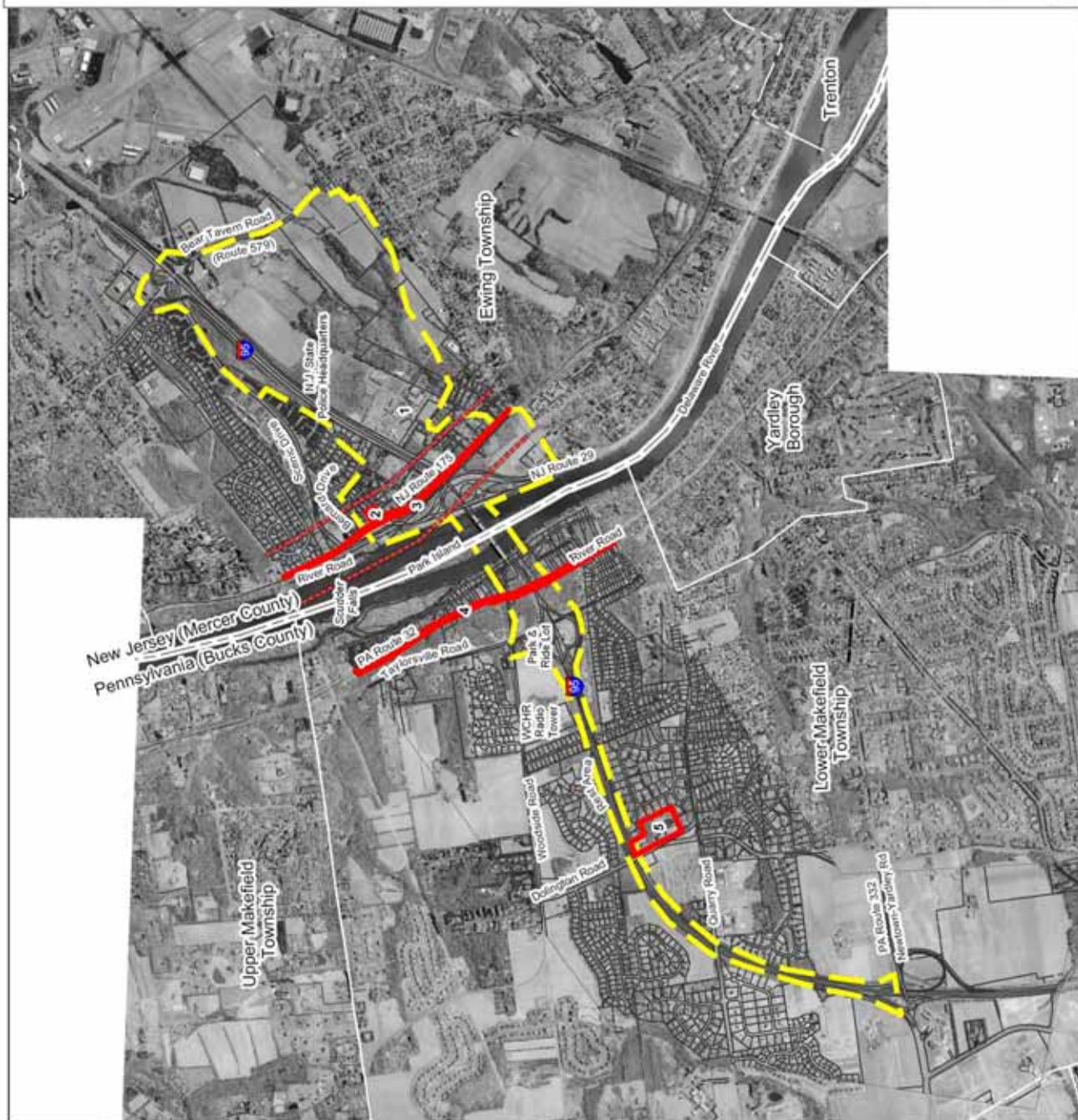
Legend

-  Area of Potential Effect (APE)
-  National Register of Historic Places Listed or Eligible Historic Resources
-  Delaware and Raritan Canal District

1. N.J. State Police Headquarters
2. Charles S. Maddock House
3. Delaware and Raritan Canal
4. Delaware Canal
5. Elm Lowne House



I-95/Scudder Falls
Bridge Improvement Project
Environmental Assessment
Historic Resources Map
Figure II-4



Approved as to Legality and Form (Pennsylvania)

BY _____
for Chief Counsel Date _____

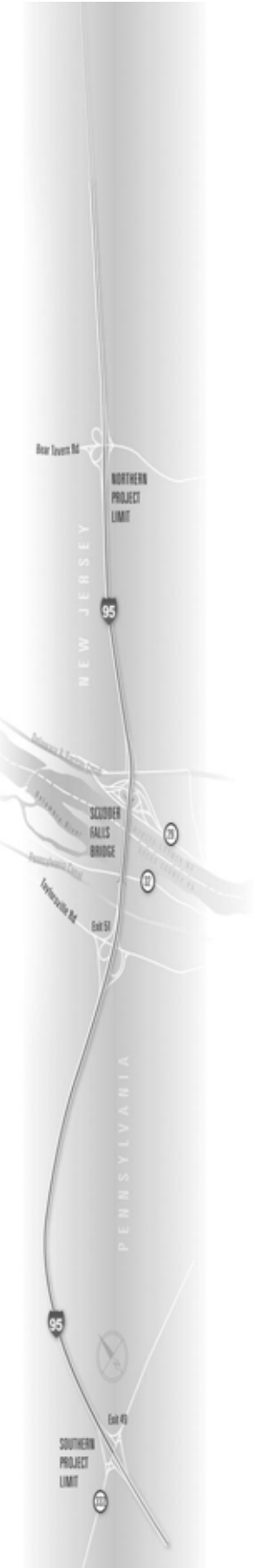
BY _____
Deputy General Counsel Date _____

BY _____
Deputy Attorney General Date _____



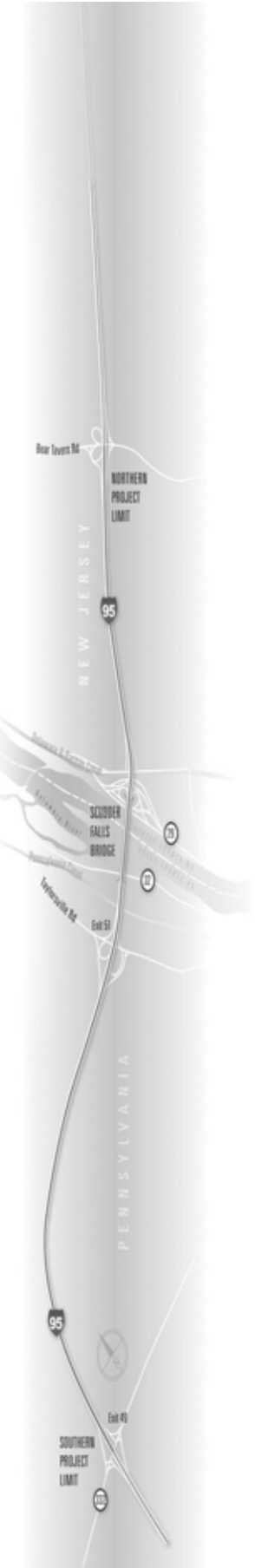
APPENDIX C

AGENCY COORDINATION





PENNSYLVANIA





Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

October 7, 2008

Brian G. Thompson, P.E., Director
Bureau of Design, Dept. of Transportation
P O Box 2966
Harrisburg, PA 17105

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER 04-8011-017-N
FHWA: Scudder Falls Bridge Improvements
S.R. 0095, Section SFB, Lower Makefield Township, Bucks County
Determination of Effect Report for Historic Structures Only

Dear Mr. Thompson:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

The Bureau for Historic Preservation has reviewed the plans and specifications for the above referenced project. We concur with the findings of the agency that the plans for a new bridge and widened will have no adverse effect upon the National Register listed or eligible resource referenced below.

Delaware Division of the Pennsylvania Canal (NHL)

We likewise concur, that the proposed project will have no effect on the National Register eligible resource listed below.

Elm Lowne, Bucks County

Since the report does not address the final design and location of the trail intersection with the Delaware Canal. This portion of project should have no adverse effect upon the canal. However, this finding is conditional upon our review of project plans and specifications and their conformance with the Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Please make

Page 2
B.G. Thompson
Oct. 7, 2008

arrangements to forward photographs, specifications, and architectural drawings or work write-ups to the Bureau for Historic Preservation.

The Determination of Effect Report only addresses potential effects to historic buildings and structures. Since an archaeological site is affected by this project necessitating a Phase III Data Recovery a finding for archaeological effects needs to be submitted before we can concur to a final project effect.

If you need further information regarding archaeological resources, please contact Mark Shaffer at (717) 783-9900. If you need further information concerning historic structures, please contact Susan Zacher at (717) 783-9920.

Sincerely,

A handwritten signature in cursive script that reads "Susan Zacher for".

Douglas C. McLearn, Chief
Division of Archaeology &
Protection

DCM/snz



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

May 12, 2008

Brian G. Thompson, P.E., Director
Bureau of Design, Dept. of Transportation
P O Box 2966
Harrisburg, PA 17105

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER 04-8011-017-M
Bucks County, Lower Makefield Township
S.R. 0095, Section SFB, Scudder Falls Bridge Improvement Project
Determination of Eligibility

Dear Mr. Thompson:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

We concur with the findings of the agency that the following property is eligible for the National Register of Historic Places under Criterion C for its architectural significance. We agree with the boundaries developed for this resource.

Elm Lowne, 1324 Dolington Road, Lower Makefield Twp., Bucks County

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

A handwritten signature in cursive script, reading "Andrea MacDonald".

Andrea MacDonald, Chief
Division of Preservation Services

AM/smz

**PENNDOT Cultural Resources Submission**

DATE: February 20, 2008

SUBJECT:

District: 6-0 County: Bucks MPMS Num: 13573
Municipality: Lower Makefield TownshipSR: 0095 Section: SFB
Project Name: Scudder Falls Bridge Improvement ProjectER Number: 04-8011-017 -I Fed-Aid: Yes Fed Permit: Yes
Contact name: Cathy Spohn Fax: (610) 205-6914TO: Jean H. Cutler, Director
Bureau for Historic Preservation
PA Historical and Museum CommissionFROM: Brian G. Thompson, PE
for Acting Director
Bureau of Design

Enclosed please find a copy of Technical Memorandum No. 32 Final Archaeology Phase I Report, formerly Technical Memorandum No. 14, prepared by A.D. Marble & Company for the above-referenced project. Technical Memorandum No. 14, the Draft Archaeology Phase I Report, was submitted to your office on July 26, 2006. Two Precontact period sites were identified in Pennsylvania (36BU378 and 36BU379), but no formal recommendations regarding the eligibility of these sites were made in that report. Your office concurred with the findings and recommendations of that report on August 25, 2006.

As the result of a meeting held on September 27, 2007 to discuss the outstanding issues concerning the archaeological field studies and findings of the project, the report has been slightly modified to reflect these discussions. Mr. Mark Shaffer from your office attended this meeting. At the meeting Site 36BU378 was recommended not eligible for the National Register of Historic Places while Site 36BU379 was recommended eligible for the National Register because of its potential to reveal new information on the Woodland and possibly Archaic period in the Delaware River Valley. The meeting participants agreed with these recommendations and that a Memorandum of Agreement (MOA) would be required to address the adverse effect of the project on Site 36BU379. The Abstract, Introduction and Conclusion sections and Table IX-1 of the report have been modified to reflect the results of the September 2007 meeting. A Memorandum of Agreement and Data Recovery Workplan will be prepared for the project.

FEB 21 2008

P.H.M.C.
PRESERVATION**Received**

FEB 21 2008

Environmental

Section VIII.D.3 and Table IX-1 of the report have also been slightly modified to reflect comments received from the New Jersey State Historic Preservation Officer. In addition, please note that the Tables and Figures, located in Appendix E of the original Phase I report, have been integrated into the text of the Final Phase I Report.

On behalf of the Federal Highway Administration, we are requesting your concurrence that Site 36BU379 is eligible for the National Register of Historic Places, and that the project will have an adverse effect on this site.

If you have any questions, please contact Cathy Spohn at (610) 205-6711.

Enclosures

4380/CAS/cas

cc: R. Mantione, FHWA, w/enclosure
C.M. Brown, PE, BOD
C. Kula, EQAD, w/enclosure
R. Eppley, Environmental Manager, District 6-0
C.A. Spohn, Qualified Professional, District 6-0
M. Raulerson, Consultant Project Manager, District 6-0

Agreement by: Mark Shaffer

Date: 3/20/08

SR 0095, section SFB

56 38476.20
(Arch)

OS-600

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION**PENNDOT Cultural Resources Submission**

DATE: July 12, 2006

SUBJECT:

District: 6-0 County: Bucks MPMS Num: 13573
Municipality: Lower Makefield Township
SR: 0095 Section: SFB
Project Name: Scudder Falls Bridge Improvement Project
ER Number: 04-8011-017 - H Fed-Aid: Yes Fed Permit: Yes
Contact Name: Cathy Spohn FAX: (610) 205-6914

TO: Jean H. Cutler, Director
Bureau for Historic Preservation
PA Historical and Museum Commission

FROM: R. Scott Christie, PE
Director
Bureau of Design

**HNTB
BOSTON**

NOV 29 2007

RECEIVED

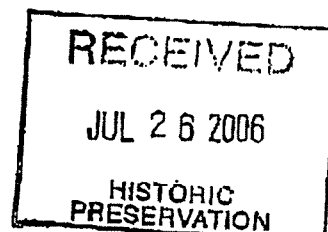
Enclosed please find one (1) copy of the Technical Memorandum No 14 Draft Archaeology Phase I Report prepared by A.D. Marble & Company for the above-referenced project. Phase IA research, which included a geoarchaeological survey of the Area of Potential Effect (APE) in January 2004, evaluated the archaeological potential of the entire APE. Phase IB investigations were conducted in certain portions of the APE. Three Precontact period sites were identified, two in Pennsylvania and the third in the state of New Jersey. Additional archaeological investigations are recommended at one site (36BU379), a Woodland period stratified site on the T-2 Terrace of the Delaware River. Phase I testing is recommended at several locations not yet tested if the project will impact these locations.

On behalf of the Federal Highway Administration, we are requesting your concurrence that with the findings and recommendations of this report.

If you have any questions, please contact Cathy Spohn at (610) 205-6711.

Enclosure

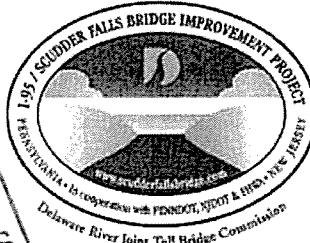
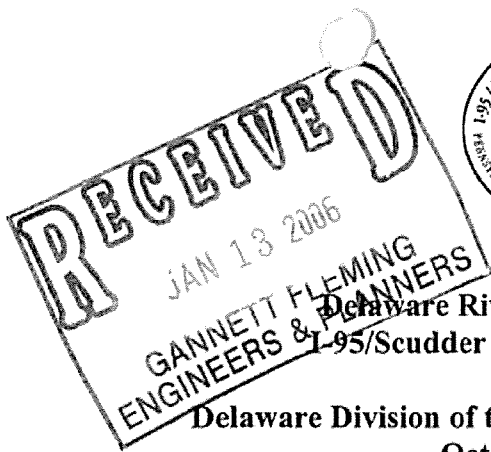
4380/CAS/cas



cc: R. Mantione, FHWA
D. Stewart, BOD
C. Kula, EQAD, w/enclosure
R.J. Keller, Environmental Manager, District 6-0
C.A. Spohn, Qualified Professional, District 6-0
E. Elbich, Project Manager, District 6-0

Agreement by: Mark Shaffer for
Doug C. McLearn, Chief
Archaeology and Compliance Division

Date: 8/25/06



6

**Delaware River Joint Toll Bridge Commission
I-95/Scudder Falls Bridge Improvement Project**

**Delaware Division of the Pennsylvania Canal Field View Meeting
October 20, 2005 – 1:00 p.m.**

Attendees

Amy Fox, Federal Highway Administration
Monica Harrower, PennDOT
Susan Zacher, Pennsylvania Historical and Museum Commission
Rick Dalton, PA Dept. of Conservation and Natural Resources (PA DCNR)
Eric Ihlein, PA DCNR
Roger Sager, Delaware River Joint Toll Bridge Commission
W. Michael Cane, Delaware River Joint Toll Bridge Commission
Dick Baublitz, A.D. Marble and Company
Brooke Blades, A. D. Marble and Company
Esther McGinnis, Gannett Fleming
Jihane Fazio, DMJM Harris
Roger Stanley, DMJM Harris
Joe Grilli, HNTB

Meeting Summary

Joe Grilli made introductions and summarized the meeting agenda as: 1) review of the proposed National Historic Landmark boundary in the project area; 2) evaluation and preliminary acceptance of the boundary by the agencies in the field; 3) presentation of the project alternatives and potential for impact; 4) presentation of options for a potential pedestrian bicycle facility to be considered for the project; and, 5) preliminary discussion of potential temporary construction impacts.

There was discussion clarifying that the lead federal agency is FHWA, not the Corps of Engineers. DRJTBC is following FHWA requirements so that these requirements would be satisfied if federal funding were to be sought for construction. FHWA must approve the Point of Access study and has review authority over improvements to I-95 that are outside of DRJTBC's jurisdiction.

- 1) Review of the proposed National Historic Landmark Boundary &***
- 2) Evaluation and preliminary acceptance of the boundary***

Esther McGinnis located the proposed Section 4(f) boundary (historic/state park boundaries are coincident) and referenced correspondence (attached) of July 28, 2004 and August 27,

2004 between the project team, PHMC, and National Park Service that detailed the proposed boundary in the project area. Plan views and elevations (attached) of the three bridge alignment alternatives including the proposed boundary were distributed. Rick Dalton confirmed the proposed boundary as described is consistent with the typical state park boundary delineation used by DCNR based on past legal cases. It was noted that the project team is considering the stone wall located north of the existing bridge to be within the historic boundary. Susan Zacher noted that the stone wall appears similar to stone walls typically found along the Delaware Canal, and as long as the project was considering the stone wall as a historical feature within the 4(f) boundary, there is no need for further research.

Esther McGinnis noted that the concrete spillway on the south side of the bridge is a modern structure. Susan Zacher agreed this is not a contributing structure. Rick Dalton noted that the Corps of Engineers constructed the structure possibly after the 1955 or 1998 flood. Susan Zacher noted her preliminary agreement with the boundary. Susan Zacher requested that PHMC be sent a revised boundary on a National Register Continuation Form for processing.

3) Presentation of the project alternatives and potential for impact

Jihane Fazio presented the three bridge alignment alternatives in the vicinity of the Canal. All alternatives would provide five lanes in the northbound direction and four lanes in the southbound direction, all with appropriate inside and outside shoulders. The project team had previously staked-out the approximate limits of the proposed bridge. These limits and potential impacts were discussed:

Centerline Alternative – the new bridge would extend approximately 49 feet further on the south side of the existing bridge, and approximately 34 feet further on the north side. This alternative would impact the stream as well as the concrete spillway structure located immediately downstream of the proposed bridge.

Rick Dalton noted that, compared to some other locations along the Canal, the vertical clearance under the Scudder Falls Bridge is more than adequate.

Downstream Alternative – the new bridge would extend approximately 72 feet further on the south side of the existing bridge, while the northerly limit would extend approximately seven feet further north. This alternative would require rerouting the concrete spillway and stream.

Upstream Alternative – the new bridge would extend approximately 81 feet further on the north side of the existing bridge, but the southerly limit would remain as existing. This alternative would not affect the concrete spillway and stream. It was the general consensus during the meeting that this alternative would minimize impacts. Further, DCNR stated that the desired vertical clearance over the canal is a minimum of 10.5 feet.

4) Presentation of options for a potential pedestrian/bicycle facility

Jihane Fazio presented the two options for how a pedestrian/bicycle facility on the bridge, would tie into the existing Canal towpath.

5) Preliminary discussion of potential temporary construction impacts

Roger Stanley discussed the construction issues associated with the three alternatives. He noted that the upstream alternative would be more easily constructed and less disruptive to the Canal towpath. Susan Zacher and Rick Dalton expressed concern with any long duration disruption to the towpath. Staging would be important to maintain passage along the towpath. They also asked whether the Canal itself would need to be temporarily diverted. Susan Zacher stated PHMC would be looking at the surface treatment between the towpath and new abutment.

6) Other

Susan Zacher noted that PHMC has not signed-off on the Area of Potential Effect (APE). The project team noted that a Historic Resources Survey and Determination of Eligibility Report is being prepared.

Amy Fox and Monica Harrower noted that coordination with PHMC should be done through PennDOT. They should be sent all past correspondence between PHMC and the project team through PennDOT's PM, Madeleine Fausto.

We believe these minutes accurately reflect what transpired at the meeting. If these minutes are not in accordance with your understanding, please contact the undersigned promptly; otherwise, we will assume that you concur with the accuracy of the above.

Joe Grilli, Environmental Manager, HNTB Corporation
Tel: (215) 568-6500, fax: (215) 568-4455, e-mail: jgrilli@hntb.com

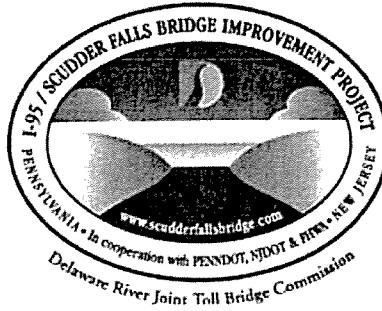
cc: All attendees
George Alexandridis, Delaware River Joint Toll Bridge Commission
Linda Spalinski, Delaware River Joint Toll Bridge Commission
Madeleine Fausto, PennDOT District 6-0
Bob Keller, PennDOT District 6-0
Bijan Pashanamaei, DMJM Harris
Tim Gunner, DMJM Harris
Christine Bishop-Edkins, DMJM Harris

I-95/Scudder Falls Bridge Project
Delaware Canal Field View

October 20, 2005 1:00 pm

SIGN-IN

NAME	ORGANIZATION	PHONE	EMAIL
JOE GRILLI	HNTB	(215) 568-6500	jgrillie@hntb.com
Rogan SAGER	DRJTBCL	267-790-1004	RSAGER@DRJTBCL
Dick Baublitz	A.D. Marble & Co.	717-731-9588	rbaublitz@admarble.com
Jihane Fazio	DMJM	215-735-0832	jihane.fazio@dmjm.com
BROOKE BLADES	AD Marble & Co.	484-533-2515	bblades@admarble.com
Monica Harrower	PennDOT	610-205-6709	mharrower@state.pa.us
Susan Zacher	PA Hist. & Mus. Comm.	717-783-9920	szacher@state.pa.us
Rick Oatton	DCNR	610-982-5560	ROATTON@STATE.PA.US
Amy Fox	FHWA	(215) 568-1054	amy.fox@fhwa.dot.gov
W. MICHAEL CANE	DRJTBCL	(267) 790-1045	wmcanec@drjtbcl.com
ROGER STANLEY	DMJM HARRIS	(215) 735-0832	ROGER.STANLEY@DMJM-HARRIS.COM
Eric Ihlein	DCNR	610-982-5560	eihlein@STATE.PA.US



**Delaware Canal Field View Meeting
With PA Department of Conservation and Natural Resources**

April 22, 2005 – 10:00am

Minutes of Meeting

Attendees:

Esther McGinnis, Gannett Fleming
Brooke Blades, A.D. Marble & Company
Richard Dalton, PA Department of Conservation and Natural Resources

Meeting Location:

Delaware Canal where the I-95 bridge crosses over the canal.

Field View Meeting Purpose:

The purpose of the field view was to reach a consensus on the Delaware Canal boundary within the I-95/Scudder Falls Bridge Improvement Project area (existing I-95 bridge over the Delaware Canal). Correspondence dated July 28, 2004 was sent to the Pennsylvania Historical and Museum Commission (PHMC) and the National Park Service (NPS) requesting a formal opinion of the Delaware Canal boundary in the area of the I-95/Scudder Falls Bridge Improvement Project. The PHMC concurred that Delaware Canal boundaries in most areas include the canal prism, towpath, and berm as reflected in the PADCNR boundaries for the Delaware Canal State Park. However, site (at Delaware Canal and I-95) conditions in the project area do not specifically reflect the topography and Standard Cross Section (PADCNR) of the Delaware Canal.

Meeting Summary:

1. Esther McGinnis presented a drawing of the site area with existing topographic features and contours (1 foot contour). She provided an overview of the existing conditions. Brooke Blades also presented a copy of a c.1831 map (*Map of the Delaware Division of the Pennsylvania*

Canal, by A.W. Kennedy, Bucks County Historical Society) showing the Canal, towpath, Woodside Road , and unnamed roadway.

2. The group discussed the existing topography and the Delaware Division Canal Standard Cross Section. Everyone agreed that the existing site conditions did not match the Standard Cross Section. Richard Dalton noted that the Standard Cross Section is a typical section that may not reflect actual conditions along the Canal in its entirety.
3. The following site conditions were noted:
 - a. The Canal channel under the I-95 bridge appears to be narrower than the Canal channel upstream and downstream. In this area, the group field measured the top of the channel to the face of the east abutment. This length was measured approximately 20 feet.
 - b. The overflow concrete structure was a modern feature and is not part of the historical features of the Canal
 - c. Brooke Blades indicated that the stone wall located along the back slope of the Canal is part of the historical features of the Canal and should be included in the Canal boundary. The distance between the top edge of the Canal channel to the stone wall is approximately 31 feet.
 - d. The area along the Canal eastside is in cut and therefore the area does not have a defined "berm bank" area as noted on the Standard Cross Section.
4. Mr. Dalton indicated that the dimensions shown on the Standard Cross Section should be used to determine the Canal boundaries within the project area. On the Canal towpath side, the boundary will reflect the dimensions shown on the Standard Cross Section. However, the boundary will include the stonewall. On the Canal westside, the boundary dimensions will follow the Standard Cross Section but the top of the berm will continue for a distance of eight (8) feet above the top of the berm. The group noted in the field that this area appears to be delineated by existing rocks.

ACTIONS:

1. Ms. McGinnis indicated that the project team will label the Delaware Canal boundary on the project base mapping. This boundary will be the historic boundary under Section 106 and therefore, will be the Section 4(f) boundary. Also, cross sections of the area will be prepared labeling the boundary.

-
2. Followup information on the Delaware Canal boundary in the project area will be forwarded to the PHMC, PADCNr, and the NPS.

We believe these minutes accurately reflect what transpired at the meeting. If these minutes are not in accordance with your understanding, please contact the undersigned with 5 business day; otherwise, we will assume that you concur with the accuracy of the above.

Sincerely,

GANNETT FLEMING, INC



Esther McGinnis
Vice President
Environmental Manager

Cc: Attendees
George Alexandridis, DRJTBC
Bijan Pashanamaei, DMJM+HARRIS
Joe Grilli, HNTB



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Post Office Box 1026
Harrisburg, Pennsylvania 17108-1026

DELAWARE
TOLL BRIDGE
COMMISSION

2004 AUG 30 PM 2:52

HNTB
BOSTON

SEP 3 2004

August 27, 2004

RECEIVED

Joseph G. Grilli, P.E.
Delaware River Joint Toll Bridge Commission
110 Wood Street
Morrisville, PA 19067

TO EXPEDITE REVIEW USE
BNP REFERENCE NUMBER

Re: ER 04-8011-017-F
Bucks County, Pennsylvania
I-95/Scudder Falls Bridge Improvement Project
Contract No.C-393A, Capital Project No.CP0301A, Acct No.7161-06-012
Delaware Division of the Pennsylvania Canal Boundary

Dear Mr. Grilli:

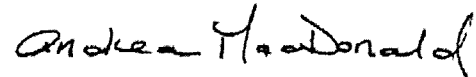
The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

We are in receipt of your letter of July 28, 2004 concerning the boundary of the Delaware Division of the Pennsylvania Canal. We concur with your finding that in most cases the boundary for this resource includes the canal prism, towpath and berm and is reflected correctly in the Pennsylvania Dept. of Conservation and Natural Resources boundaries for the Delaware Canal State Park. The only areas where we would disagree with these boundaries and recognize a larger or different boundary are areas containing these following historic resources associated with the canal: canal basins, dams supplying water to the canal, river walls supporting the canal prism and towpath and adjacent roadways. Areas where these additional historic canal related features are located should be evaluated for boundaries appropriate to include these resources and their physical supports.

Page 2
J. Grilli, P.E.
Aug. 28, 2004

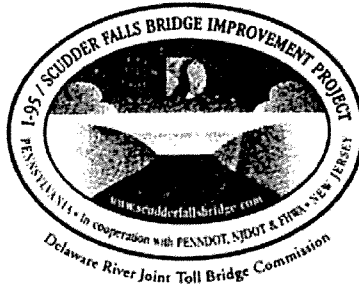
If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

A handwritten signature in cursive script that reads "Andrea MacDonald".

Andrea MacDonald, Chief
Division of Preservation Services

cc: FHWA
D. Schreiber, PDOT, BOD
P. Andrus, National Register of Historic Places
Wm. Bolger, National Park Service
Wm. Mineo, Delaware and Lehigh National Heritage Corridor Commission
R. Keller, PDOT, Dist. 6-0
KWC/smz



A/KC 5/26/04 38476.19
JBB

July 28, 2004

Jean Cutler, Director
Pennsylvania Historical and Museum
Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120-0093

Mr. Bill Mineo
National Park Service
Delaware and Lehigh National
Heritage Corridor Commission
1 South 3rd Street, 8th Floor
Alpha Building
Easton, PA 18042

Mr. William Bolger
National Park Service
National Landmarks Program
200 Chestnut Street
Philadelphia, PA 19106

Re: Delaware River Joint Toll Bridge Commission (DRJTBC)
Contract C-393A, Capital Project No. CP0301A, Account No. 7161-06-012
I-95/Scudder Falls Bridge Improvement Project
Delaware Canal Boundary

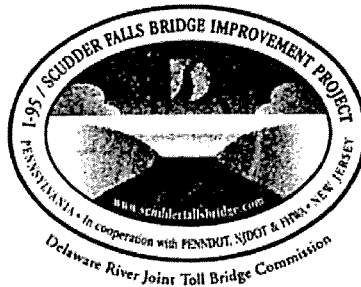
Dear Ms. Cutler and Messrs. Bolger and Mineo:

On behalf of the DRJTBC, we are seeking formal determination (opinion, guidance) of the boundary of that portion of the Delaware Canal in the vicinity of I-95 in Lower Makefield Township, Bucks County. This determination is requested for the I-95/Scudder Falls Bridge Improvement Project, and, more specifically, for the area situated approximately 500 feet north and 500 feet south of the Interstate 95 centerline. This guidance is needed to assist us in preparing Section 106/Section 4(f) Evaluations related to the I-95/Scudder Falls Bridge Improvement Project that is currently being planned by the DRJTBC.

In a meeting held June 23, 2004 with the Delaware Canal State Park manager, Rick Dalton, we were informed that the boundaries of the state park ownership have been established in the Pennsylvania Department of Conservation and Natural Resources (PA DCNR) document entitled "*Legal Aspects of Delaware Canal Ownership*," September 1988 (please see Attachment A). This document cites various legal cases within the Commonwealth that bear upon the question of boundaries for various elements of the Pennsylvania Delaware Canal system. The document (page 4) states, with regards to the Delaware Canal, that court documents "*establish minimum standard dimensions of*



Delaware River Joint Toll Bridge Commission
110 Wood Street, Morrisville, PA 19067
215.295.5061 tel • 215.295.3337 fax • www.drjtb.org



twelve feet for the towpath and eight feet for the berm, plus whatever outer slopes may have been constructed to elevate the banks of the canal."

Preliminary discussions undertaken to date with staff at the Pennsylvania Historical and Museum Commission (PHMC) indicate that PHMC's interpretation of the canal boundary for the purposes of Section 106/Section 4(f) Evaluations are consistent with the PA DCNR boundary definition. A telephone conference call occurred on April 28, 2004, involving Zeph Parmenter of the PHMC, Monica Harrower of PennDOT District 6-0, and Travis Beckwith of A.D. Marble & Company (please see Attachment B). Ms. Parmenter stated that PHMC would traditionally define the Delaware Canal boundary as the towpath and the berm along with associated sideslopes and any other properties that were associated with the canal. This definition essentially agrees with that stated in the attached Pennsylvania Department of Conservation and Natural Resources legal document. The DCNR plans of the canal, showing associated structures, are also attached.

We propose that the definition of the Delaware Canal boundary cited above in the Department of Environmental Resources document be considered the formal boundary of the Delaware Canal property adjacent to I-95 for the purposes of the Section 106/Section 4(f) evaluations. There are, to our knowledge, no other properties associated with the canal in the proposed project area (see attached DCNR canal plans). We are requesting formal recognition of this boundary for the purposes of the Section 106/Section 4(f) evaluations from your agency. Thank you for your attention to this request, and we look forward to your response. Please feel free to contact me with any questions at (215) 568-6500. Written correspondence may be sent to my attention at HNTB Corporation, 8 Penn Center, 7th Floor, 1628 John F. Kennedy Boulevard, Philadelphia, PA 19103.

Very truly yours,

HNTB Corporation

Joseph G. Grilli, PE
Deputy Project Manager, Environmental

Attachments A (DCNR document/canal plans) and B (April 2004 conversation record)

cc: George Alexandridis, DRJTBC
Bijan Pashanamaei, DMJM+HARRIS, Inc.
Brook Blades, A.D. Marble & Company, Inc.
Esther McGinnis, Gannett Fleming, Inc.



Delaware River Joint Toll Bridge Commission
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215.295.5061 tel • 215.295.3337 fax • www.drjtbc.org

DEPARTMENT OF ENVIRONMENTAL RESOURCES
LEGAL ASPECTS OF DELAWARE CANAL OWNERSHIP
SEPTEMBER, 1988

The Delaware Canal originally was but one of several divisions of the Pennsylvania Canal. The construction of the Pennsylvania Canal, by the Commonwealth, was authorized by the Act of February 25, 1826, P.L. 55; the Act of April 9, 1827, P.L. 192; and the Act of April 6, 1830, P.L. 218. The pertinent sections of these statutes provided for the payment of damages to landowners whose land was appropriated for the canal works or temporarily occupied during the construction of the canal. The statutes further provided that upon payment of such damages,

the state shall be seized of such lands as of an absolute estate in perpetuity, or with such less quantity and duration of interest or estate in the same, or subject to such partial or temporary appropriation, use or occupation, as shall be required and described as aforesaid, as if conveyed by the owner or owners....

On several occasions over the years, the Supreme Court of Pennsylvania has been called upon to determine the nature of the rights acquired by the Commonwealth when it constructed the various divisions of the Pennsylvania Canal under these statutes. In 1876 in the case of Wyoming Coal and Transportation Co. v. Price, 81 Pa. 156, the Court pointed out that the nature of the rights acquired by the Commonwealth was determined by the above-mentioned statutes and particularly by the Act of 1826. The Court noted that the statutes made a distinction between "perpetual" and "temporary" use. Citing earlier cases dealing with the question,* the Court concluded that "temporary" use "was designed to apply to the use or possession of that larger portion of land which might be occupied during the construction of the Canal, while perpetual, was restricted to that portion which was permanently occupied by it after its completion." The Court held that such land permanently occupied by the Canal after its completion was acquired by the Commonwealth as an absolute and perpetual estate which would not revert to the original landowner upon the cessation of its use as a canal or upon a subsequent change in the nature of its use and occupancy.

The Court in Wyoming Coal then concluded:

It must, therefore, now be declared as the settled law of this state, that whenever the Commonwealth took land for permanent use under the acts in question, and constructed and operated a canal thereon, she acquired an estate in the lands so taken in perpetuity, and she may dispose of the same in fee.

The determination of the Supreme Court in Wyoming Coal and earlier cases has been uniformly followed by the Pennsylvania courts, in what has been described

*Commonwealth v. McAllister, 2 Watts 190 (Pa. 1834); Haldeman v. Pennsylvania Railroad Co., 425 (1865). See also Robinson v. West Pennsylvania R.R. Co., 72 Pa. 316 (1873).

as "an unbroken line of cases."* Parks v. Pennsylvania R.R. Co., 301 Pa. 475 (1930). In particular, in Commonwealth ex rel. Margiotti v. Delaware Division Canal Co., 45 Dauphin 234, aff'd, 332 Pa. 53 (1938), the title originally acquired by the Commonwealth in the Delaware Canal was characterized as "an absolute fee simple title in perpetuity."

By the Act of April 21, 1858, P.L. 414, the Pennsylvania General Assembly authorized the sale of various divisions of the Pennsylvania Canal, including the Delaware Division, to the Sunbury and Erie Railroad Company. This conveyance was accomplished by deed dated May 19, 1858. The Sunbury and Erie Railroad Company, by deed dated July 10, 1858, conveyed the Delaware Division to the Delaware Division Canal Company.

The Act of June 21, 1939, P.L. 622, authorized the Secretary of Forests and Waters to acquire the entire interest of the then owner of the Delaware Canal and to administer the property so acquired of and for State Park purposes.** The Act of June 21, 1939, P.L. 621, further confirmed the authority of the Secretary of Forests and Waters to utilize canal properties for park purposes. Pursuant to these Acts, the Delaware Division Canal Company, by deed dated October 31, 1940, conveyed the Delaware Canal back to the Commonwealth. The deeds referred to above are all on record in the Bucks County Court House in Doylestown, and in the Northampton County Court House in Easton.

Hence, the fee title conveyed by the Commonwealth in 1858 eventually returned to the Commonwealth in 1940.

The holdings of the Pennsylvania Supreme Court came after the construction of the Canal. For the most part, there were no deeds conveying the property to the Commonwealth. Hence, when the Canal was constructed and for some years afterward, there apparently was confusion in the minds of some of the original landowners as to the rights acquired by the Commonwealth. Thus, when original landowners sold off their land to others, the deed descriptions often included the Canal, or, where the Canal was to form a boundary, extended to the center of the Canal or possibly to some other line on the Canal property. Such descriptions passed down through successive deeds to the present day. Therefore, some adjacent landowners may feel that they own land on the Canal property and some point out that they have been paying taxes on this basis. Unfortunately, the error began with their predecessors in title since the deed descriptions, to the extent they include the Canal property, are a nullity---the original landowner

*See Strattan v. Richards, 25 Pitt. Legal J. 170 (Pa. 1878); Pennsylvania Canal Co. v. Harris, 101 Pa. 80 (1882); Delosier v. Pennsylvania Canal Co., 11 A. 400 (Pa. 1886); Williamsport v. Pennsylvania R.R. Co., 8 Pa. C.C. 350 (Lycoming Co. 1890); Pennsylvania Canal Co. v. Lewisburg, Milton & Watsonstown Passenger Ry. Co., 10 Pa. Super. 413 (1899), aff'd, 203 Pa. 282 (1902); Rochester Borough v. Kennedy, 229 Pa. 251 (1910); Foust v. Dreutlein, 237 Pa. 108 (1912); Parks v. Pennsylvania R.R. Co., 301 Pa. 475 (1930); Seitz v. Tri-County Boat Club, 76 Dauphin 381 (1961).

**A previous statute authorizing the conveyance of the Canal to the Commonwealth was found to be unconstitutional because of the way in which it was drafted. See Act of June 26, 1931, P.L. 1387; Yardley Mills Co., Inc. v. Bogardus, 321 Pa. 581 (1936).

no longer owned that land because the Commonwealth had lawfully acquired it in fee and paid for it as such.

The Supreme Court, in Commonwealth v. McAllister, supra, stated:

The right of property in the land upon which the canal is made, becomes vested by the operation of the Act of 1826, according to its express terms, in the state, so that the owner loses all his former right to it. The intention of the legislature is very clearly manifested by the acts passed on this subject; and it is, that the state shall pay for every foot of land taken by her from the owner, so far as he has not been compensated for it by the advantages which may reasonably be expected to accrue to him by the canal's enhancing the value of the residue of his land.

In Haldeman v. Pennsylvania Railroad Co., supra, the plaintiff claimed ownership by virtue of a deed descending from the original landowner reciting "to the middle of the canal", whereas the railroad company claimed ownership by purchase of the Canal property from the Commonwealth. The Court held that the railroad company owned the land in dispute outright since it had the same fee title in perpetuity as acquired by the Commonwealth in constructing the Canal under the Act of 1826.

It has been asserted that the Commonwealth initially acquired only a right-of-way for canal purposes and that, when the Canal ceased operation as a commercial canal all rights reverted to the adjacent landowners. In the Haldeman case, the portion of the Canal in dispute had actually been abandoned and filled; nevertheless, the Court held that there could be no reversion to the original landowner or his grantees in view of the absolute fee title in the railroad company. In this connection, the Court, in Wyoming Coal and Transportation Co. v. Price, supra, said that the Commonwealth having acquired "an absolute and perpetual estate in the land occupied by the canal, the estate was neither revocable nor reversionary" upon cessation of its use as a canal.

To the extent that adjacent landowners may claim use or occupation rights in Canal property through long adverse use, such rights cannot be had against the Commonwealth, Hostetter v. Commonwealth, 367 Pa. 603 (1951), or against public corporations, such as canal operating companies, Graham & Co. v. Penna. Turnpike Comm., 347 Pa. 622 (1943).

In Pennsylvania Railroad Co. v. Borough of Freeport, 138 Pa. 91 (1890), a portion of the towpath had been used for more than twenty-one years as a means of access to the homes of adjacent landowners. The Court held that the railroad company, which had bought the Canal property from the Commonwealth, could properly lay tracks on what had been the towpath and exclude the adjacent landowners from further use. Specifically, the Court stated:

This use [by the adjacent landowners] of the towing path was certainly acquiesced in by the canal company, and no difference how long such use has continued or how great

it may have been, no rights of absolute user could have accrued either to the public or to the owners or occupiers of the lots [adjacent the Canal property], the property to the canal and its appurtenances being vested in the Commonwealth.

In the Haldeman case the Court noted that it was sometimes the practice of adjacent landowners to follow up any change in the location of the Canal by retaking possession of the part abandoned, and that "This was seldom if ever prevented by the canal board, who from the constant change of its members rarely knew of the encroachments, or if known, it was thought to be a matter of small moment...." Nevertheless, the Court held that: "[no] neglect of the canal commissioners can give title to an intruder, or destroy that of the Commonwealth."

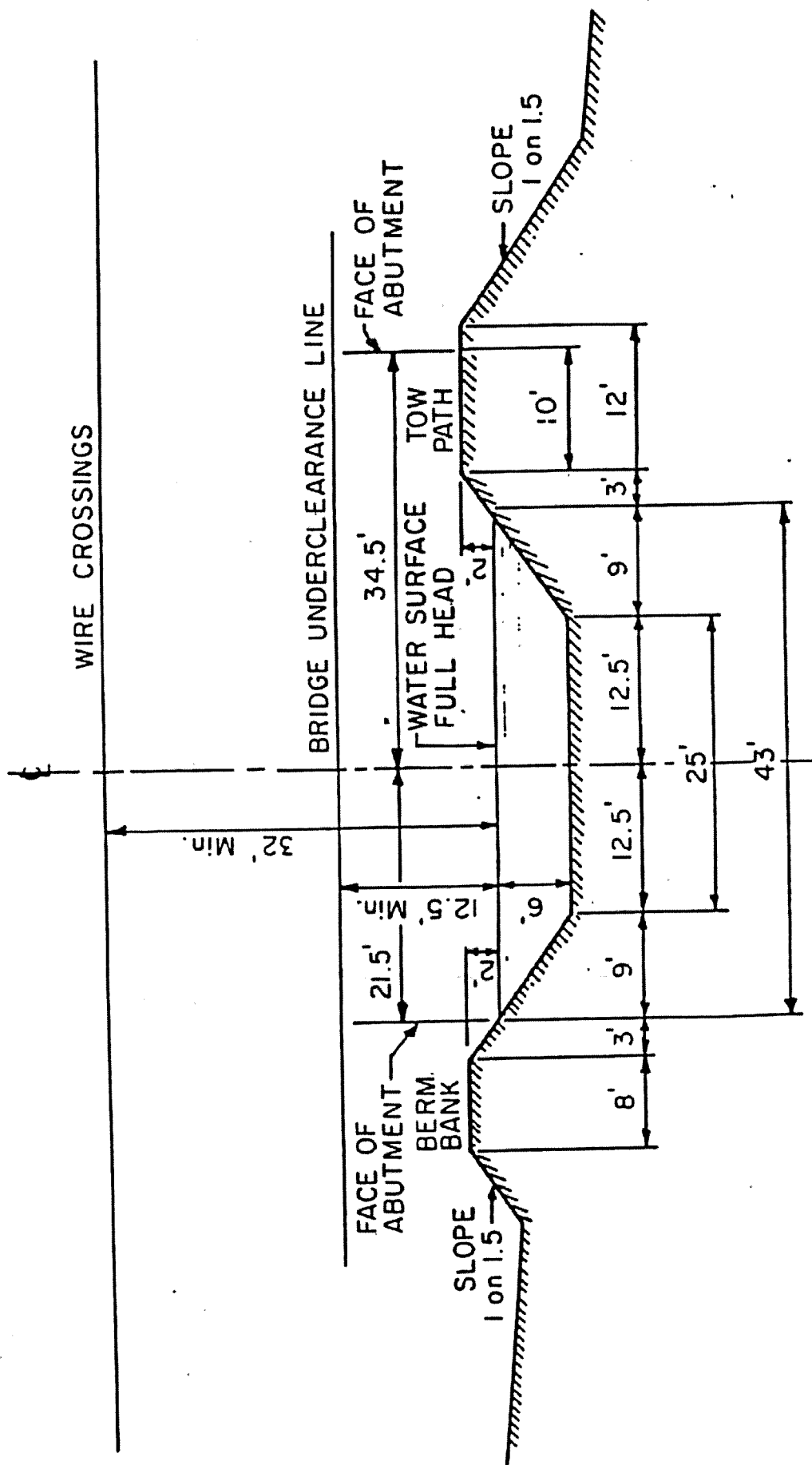
As to the boundaries of the Canal property, no deeds containing descriptions of the land taken by metes and bounds were given by the original landowners to the Commonwealth. No such description was required under Act of April 9, 1827. As stated in Haldeman v. The Pennsylvania Railroad Co., supra:

But when by the Act of 1827 it was provided, that valuations and assessments should not be made until after the completion of the work [of constructing the Canal], the reason for requiring a description of that intended for permanent use ceased. The extent of the property thus appropriated was defined on the ground, and the nature of the interests required was plainly indicated.

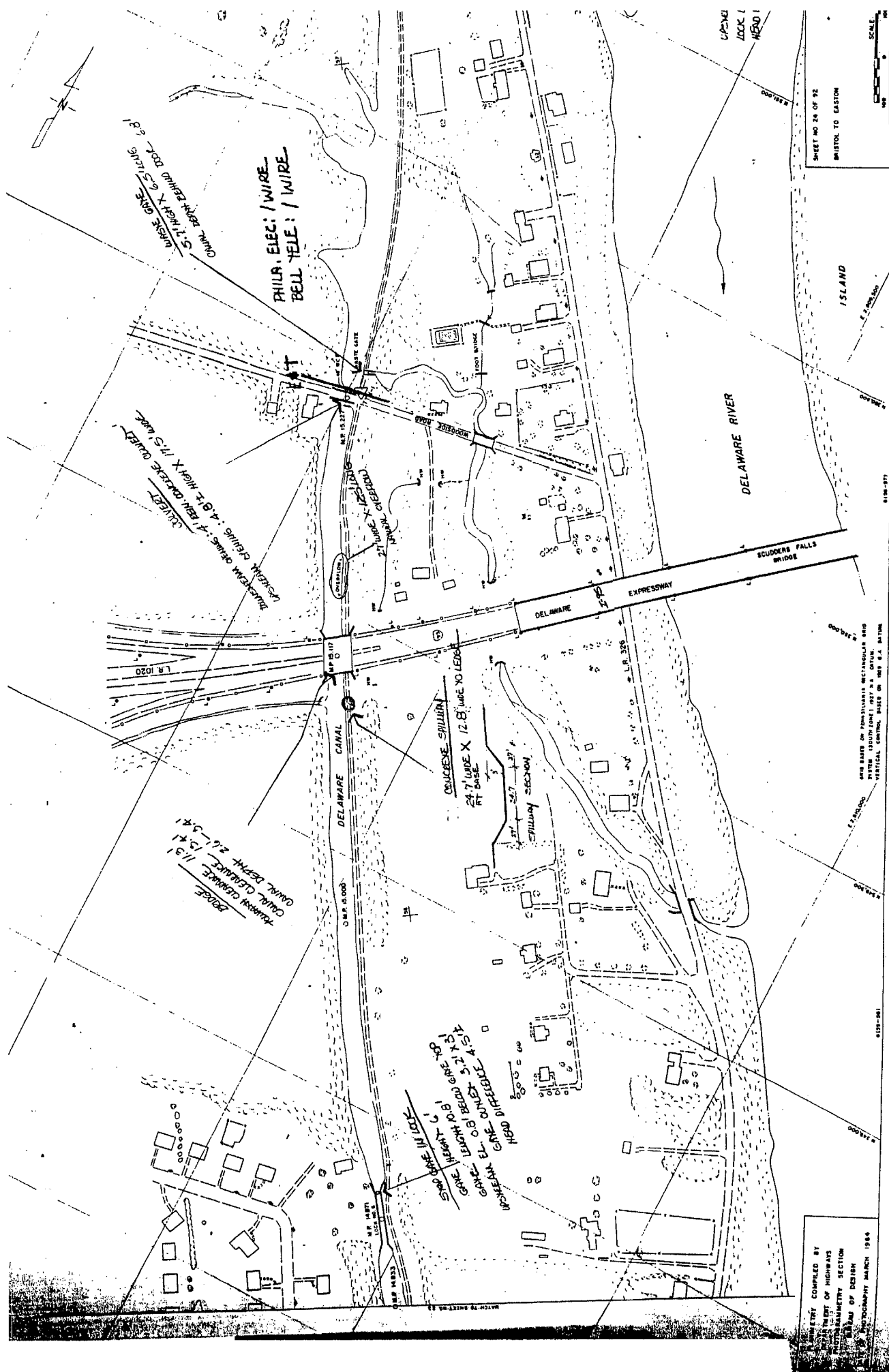
Further, as the Court stated in Pennsylvania Canal Co. v. Harris, 101 Pa. 80 (1882):

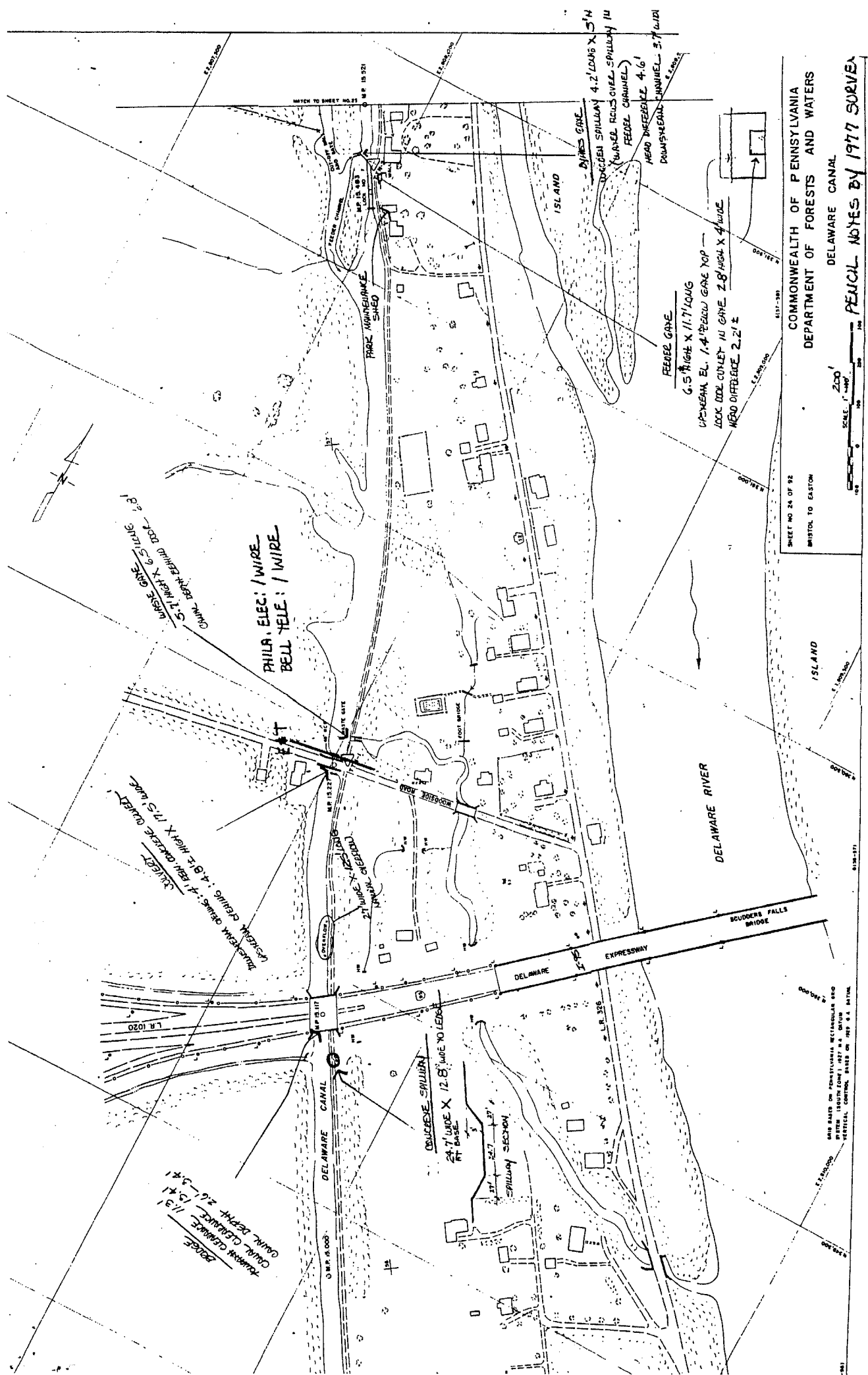
In ascertaining the boundaries of the land taken by the Commonwealth [in constructing the Canal], if satisfactory monuments on the ground cannot be found, regard must be had to the purpose for which the land was to be used, as bearing on the quantity probably taken. The purpose for which the canal was designed, and its practical enjoyment, requires not only the ground covered by water, and banks of sufficient strength to confine the water in place, but also a towing path on one side, on which horses may travel, and a berme bank on the other against which boats may rest, and to which they may be tied.

In determining the precise dimensions of the land taken for the canal works, reference may be made to the terms and specifications of the original contracts for the construction of the Canal. Western Pennsylvania R.R. Co. v. Sharp, 4 Walker 257, 26 Pitt. Legal J. 129 (Pa. 1878). In the case of the Delaware Division, these documents establish minimum standard dimensions of twelve feet for the towpath and eight feet for the berm, plus whatever outer slopes may have been constructed to elevate the banks of the canal. In this connection there is attached a diagram of the standard cross section of the Delaware Canal, reproduced from a plan dated December 29, 1911.



STANDARD CROSS SECTION
DELAWARE DIVISION CANAL
SCALE: 1" = 20'





Record of Telephone Conversation

Project Name: I-95/Scudder Falls Bridge Improvement Project	Project Number: P-717
Recorded by: Travis Beckwith, A.D. Marble	Date: 28 April 04
Conversation with: Monica Harrower/Zeph Parmenter	Telephone: 610-205-6709
Organization: PennDOT District 6.0/Pennsylvania Historical and Museum Commission	Fax:

Summary of Conversation:

Spoke with Monica Harrower of PennDOT concerning the boundary for the Delaware Canal. She will be calling someone from the National Park Service or PHMC in the near future. The issue at hand is that the initial boundary (determined in 1974) is not very accurate, and in some cases is in the middle of the canal. Monica got Zeph Parmenter of PHMC on a conference call to discuss the proposed boundary. Zeph said traditionally they would define the boundary as the towpath and the berm along with any other properties that were associated with the canal. Zeph does not see the need to use a boundary that is any further than the toe of slope or to provide for a buffer for the canal. Since the NPS will be reviewing this we may need to alter the boundary somewhat in the future, however for now we should use the above as a guide.



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093

DEC 04 2003

December 1, 2003

A.D. Marble & Company, Inc.
Attn: Brooke Blades
375 East Elm Street, Suite 200
Conshohocken, PA 19428

TO EXPEDITE THIS CASE
BHP REFERENCE NUMBER

RE: ER# 2004-8011-017-B
FHWA: I-95/Scudder Falls Bridge Improvement
Project, Proposed Geoarchaeological Investigations
Upper Makefield Township, Bucks County

Dear Mr. Blades:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999. Our comments are as follows:

We concur with the proposal dated November 18, 2003 pertaining to the proposed geoarchaeological investigation for this project. It is our understanding that the geomorphological assessment and the related archaeological testing will conform to our guidelines for archaeological investigations. We look forward to reviewing the results of this investigation in the near future.

If you have any questions or comments concerning our review of this project, please contact Mark Shaffer at (717) 783-9900.

Sincerely,

Kurt W. Carr, Chief
Division of Archaeology & Protection

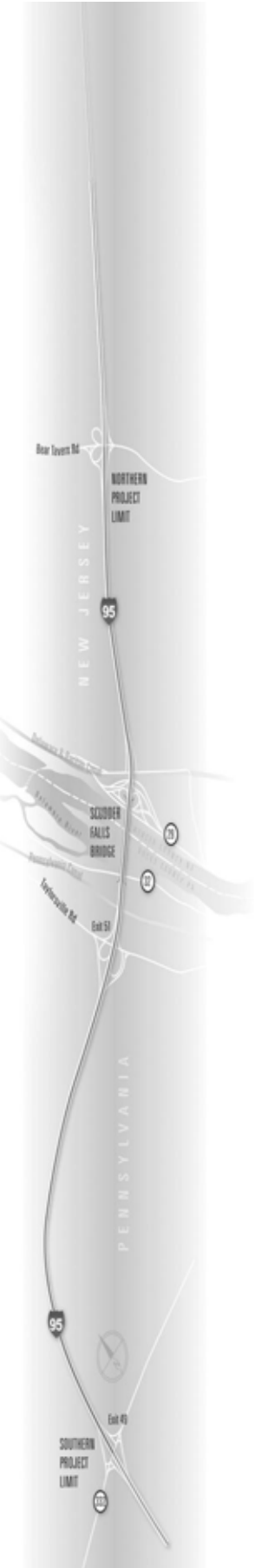
cc: PA FHWA
R. Keller, PDOT, District 6-0

J66 → AYK

FL 38476.20



NEW JERSEY



HPO-L2008-044 PROD
04-0137-12**State of New Jersey****DEPARTMENT OF ENVIRONMENTAL PROTECTION**

NATURAL & HISTORIC RESOURCES, HISTORIC PRESERVATION OFFICE

PO Box 404, Trenton, NJ 08625

TEL: (609) 292-2023 FAX: (609) 984-0578

www.state.nj.us/dep/hpo

JON S. CORZINE

Governor

MARK N. MAURIELLO

Acting Commissioner

December 10, 2008

Kevin M. Skeels, P.E.
Senior Program Manager - System Enhancements
Delaware River Joint Toll Bridge Commission
110 Wood and Grove Streets
Morrisville, PA 19067

Dear Mr. Skeels:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the Federal Register on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40553-40555), I am providing Consultation Comments on the following proposed undertaking:

*Mercer County, Ewing Township
I-95 / Scudder Falls Bridge Improvement Project*

These comments were prepared in response to your request for HPO review and comment on the following report:

*I-95 / Scudder Falls Bridge Improvement Project
Draft Technical Memorandum No. 25
Historic Resources Survey, Determination of Eligibility, and
Determination of Effect Report, Volumes I & II, September 2008
Ewing Township, Mercer County, New Jersey
Contract C-393A, Capital Project No. CP0301A, Account No. 716-06-012
Prepared for Delaware River Joint Toll Bridge Commission in cooperation with
Federal Highway Administration and New Jersey Department of Transportation
Prepared by A.D. Marble & Company*

Summary: The proposed project will have an adverse effect on the previously identified and New Jersey and National Register listed Delaware and Raritan Canal Historic District. Further consultation is required in order to develop mitigation measures appropriate to the nature and magnitude of the adverse effects. New SHPO opinions are being issued for the Charles S. Maddock House and the New Jersey State Police Headquarters Historic District. The Delaware and Raritan Canal Historic District, is being amplified to include previously unidentified contributing resources.

Project Description

The proposed project involves improvements to I-95 and the Scudder Falls Bridge in Ewing Township, New Jersey and Lower Makefield Township, Pennsylvania. The proposed improvements, as detailed in the report, to the I-95 Scudder Falls Bridge over the Delaware River and adjoining sections of I-95 are being undertaken to alleviate traffic congestion and improve operational and safety conditions. The project will take place along approximately 4.4 miles of the I-95 mainline and includes the construction of a replacement bridge over the Delaware River and ancillary improvements at the four interchanges, two of which are on the New Jersey side of the Delaware River, located at Route 29 and Bear Tavern Road. The current I-95 bridge over the Delaware River is a divided four lane bridge consisting of two lanes in each direction with no shoulders. The preferred project alternative will replace the existing bridge with a new wider structure, consisting of five northbound lanes and four southbound lanes as well as a pedestrian/bike pathway. The bridge will be constructed on the same alignment, but due to width expansion will extend further to the north than the current structure.

800.4 Identifying Historic Properties

The above-referenced survey report documented the results of an intensive-level architectural survey of twenty-six properties within the project's Area of Potential Effects (APE).

The HPO concurs with the consultant that the **Charles S. Maddock House (1076 River Road, Block 423.01, Lot 96)** is eligible for listing in the New Jersey and National Registers of Historic Places under Criterion C for architecture as a well preserved example of the Free Classic subtype of the Queen Anne style. The period of significance for the property is circa 1830, the year of the houses construction, to circa 1902, when a major restoration of the house took place. The HPO does not have enough information to provide a finding that the Charles S. Maddock House is eligible under Criterion B. Additional information would be needed to conclude the Criterion B argument. Information placing Charles Maddock in the context of his particular role in the development of pottery and also survey information on those properties associated with him would need to be provided. Since additional information on a Criterion B argument would not change the affects assessment the HPO is not requesting further information at this time.

The HPO concurs with the conclusion of the submitted report that the **New Jersey State Police Headquarters Historic District** is eligible for listing in the New Jersey and National Registers of Historic Places. The headquarters is eligible under Criterion A, B, and C. It is eligible under Criterion A for its association with the development of law enforcement in the State of New Jersey. The property is eligible under Criterion B for its associations with Superintendent H. Norman Schwarzkopf. The New Jersey State Police Headquarters Historic District is eligible under Criterion C as a unique collection of structures that remain in their original orientation and reflects the developing organization, needs, and capabilities of the New Jersey State Police during the second quarter of the twentieth century. The New Jersey State Police Headquarters is located in

HPO-L2008-044 PROD
04-0137-12

West Trenton, Mercer County, on River Road (NJ Route 175) between Interstate 95 and West Upper Ferry Road. The boundaries of the historic district encompass the area of the central courtyard and its surrounding buildings at the northern end of State Police Drive associated with the training facilities that were erected between 1924-1950. The boundaries include the following buildings which are contributing to the historic district:

- Building 2-NJSP Bureau of Identification,
- Building 3 Dormitory and Classroom,
- Building 4 Alfred E. Driscoll Building,
- Building 5 Garage,
- Building 6 (not named),
- Building 7 (not named),
- Building 8 Mess Hall,
- Building 9 Civilian Quarters,
- Building 10 Officer's Quarters,
- Building 11 Superintendent's Quarters,
- Building 12 Gymnasium,
- Building 14 Recruit Dormitory.

The period of significance of the property is currently 1924-1958. At this time the property does not appear to meet Criteria Consideration G, for exceptional significance at this time. However, the HPO believes that the period of significance for this resource could potentially extend into the 1970's when the training center moved from this location to Sea Girt. Therefore, as the fifty year mark changes so will the period of significance of the property. For example, in 2009, the period of significance for the district will be 1924-1959, in 2015 the period of significance would be 1924-1965, etc.

The HPO concurs that one previously identified historic resource, the Delaware and Raritan Canal Historic District (D & R Canal), which is listed on New Jersey and National Registers of Historic Places, is located within the project's (APE). It is my opinion as Deputy State Historic Preservation Officer that the Belvidere and Delaware Railroad, which is located within the New Jersey and National Register boundaries of the Delaware and Raritan Canal Historic District, is a contributing element to the Canal District. The Bel-Del, as its name was abbreviated, is significant under Criterion A for its association with the D & R Canal and its role in transportation. The Bel-Del obtained its charter in 1836 from the New Jersey Legislature to partially employ the canal tow path as its right-of-way. Since the canal's use was limited to when the water was not frozen over, the Bel-Del supplemented the canal's transportation abilities. The Panic of 1837 delayed the construction of the railroad. In 1849, the railroad's construction began after enough money was raised. Both the D & R Canal and the Bel-Del were owned and operated by the same Joint Companies. The Bel-Del was always intended to supplement the D & R Canal's ability to transport goods. The Bel-Del operated until the late 1960's when it was bought by CONRAIL. The tracks in the project area were removed in the 1970s. The Structures and facilities within the D & R Canal Boundaries that comprise the Belvidere and Delaware Railroad contribute to the district. At this time, since survey of the Bel-Del was limited to the area of the project, a boundary description beyond the APE is not available but is anticipated to be at least the length of the railroad adjacent to the canal. Portions of the Bel-Del that are outside the D & R Canal's listed boundaries

HPO-L2008-044 PROD
04-0137-12

would require additional evaluation outside the scope of consultation for this project. The period of significance for the Belvidere and Delaware Railroad is 1849, the year of its construction, until 1933, the year the canal stopped functioning.

The submitted report concludes that the Abner Scudder House (376 West Upper Ferry Road) is individually eligible for listing in the New Jersey and National Register of Historic Places under Criterion A. The HPO respectfully disagrees with this assessment. It does not appear from the information provided that Jasper S. Scudder, or any other Scudder living in the house, was integral to the founding of Ewing as a separate municipality from Trenton. The house is also not eligible under criterion B or C.

800.5 Assessment of Adverse Effects

The project will have an adverse effect on the Delaware and Raritan Canal Historic District. The adverse effect is the result of the construction of a new, significantly wider I-95/Scudder Falls Bridge and the construction of two additional bridges (each 40 feet wide and 120 feet long) for the on and off ramps for the Route 29 interchange, resulting in an increase in the area of overhead structures spanning the Delaware and Raritan Canal Historic District. The construction of a cantilevered pedestrian/bike pathway will also adversely affect the canal due to the additional width over the canal. The construction of a 200 foot retaining wall and the acquisition of a small piece of the historic district's property also contribute the project's adverse effect.

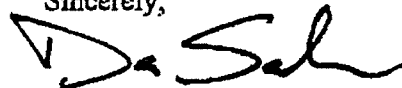
The I-95/Scudder Falls Bridge Improvement project will have no adverse effect to the Charles S. Maddock House and New Jersey State Police Headquarters Historic District.

800.6 Resolution of Adverse Effects

The HPO looks forward to continuing consultation among all consulting parties in accordance with 800.6 in order to develop mitigation measures appropriate to the nature and magnitude of the adverse effects upon the Delaware and Raritan Canal Historic District.

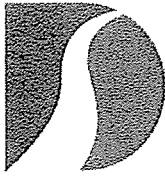
If you have any questions regarding this letter please contact Michelle Hughes at (609) 984-6018. Thank you.

Sincerely,



Daniel D. Saunders
Deputy State Historic
Preservation Officer

CC: Barbara Frederick, A.D. Marble & Co.
Janet Fittipaldi, NJDOT
Jeanette Mar, FHWA
Ernest Hahn, Delaware and Raritan Canal Commission



Delaware River
Joint Toll Bridge
Commission

October 9, 2008

Mr. Ernest P. Hahn, Executive Director
Delaware & Raritan Canal Commission
Route 29, Prallsville Mills
P.O. Box 539
Stockton, New Jersey 08559-0539

Re: Contract No. C-393A, Capital Project 0301A
Preliminary Engineering and Environmental Documentation of the Scudder Falls (I-95)
Toll Supported Bridge Improvements
Delaware & Raritan Canal Commission Coordination

Dear Mr. Hahn:

Thank you for sharing your ideas with us regarding potential mitigation measures associated with the I-95 / Scudder Falls Bridge Improvement Project. I would like to invite you and representatives of the other agencies referenced in your letter of August 5, 2008 to a meeting. The intent of this meeting is to give the agencies, DRJTBC, FHWA, and NJDOT an opportunity to discuss your suggestions, including the proposed construction of a pedestrian swing bridge over the canal at Moore's Station, in greater detail.

We are planning to hold the meeting at the Commissions Capital Program Management Consultant's office in Trenton, New Jersey on Friday October 24, 2008 at 10 AM. I would appreciate it if you and the other agencies copied on this letter could respond to Kevin Skeels of my staff at 215-266-4894 by Wednesday October 15, 2008 at 4:00 PM to confirm that you will be able to attend on the specified date and time. If you have any questions or need any further information from me regarding this meeting, please feel free to contact me at 267-790-1042.

We look forward to the opportunity to discuss your comments and feedback.

Very truly yours,

GEORGE G. ALEXANDRIDIS, P.E.
Chief Engineer

110 Wood and Grove Streets
Morrisville, PA 19067
Phone (215) 295-5061 FAX (215) 295-4436

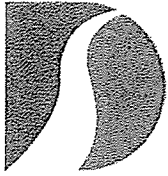
CONTINUATION SHEET

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

GGA/kms

cc: Frank G. McCartney, DRJTBC Executive Director
Andrea Tingey, NJ HPO
Dan Saunders, NJ HPO
Kevin Koslosky, NJDEP Green Acres Program
Judeth Yeaney, NJDEP Green Acres Program
Bill Bogosian, NJ Water Supply Authority
Patricia Kalleser, Delaware and Raritan Canal State Park Superintendant
Al Payne, Division of Parks & Forestry, Office of Resource Development
Tom Carbone, NJDOT Project Planning and Development- South
Mark Rollo, NJDOT Program Manager
Janet Fittipaldi, NJDOT
Jeanette Mar, FHWA Environmental Coordinator

110 Wood and Grove Streets
Morrisville, PA 19067
Phone (215) 295-5061 FAX (215) 295-4436



Delaware River
Joint Toll Bridge
Commission

bcc: Frank J. Tolotta, Deputy Executive Director of Operations
Kevin M. Skeels, P.E., Project Manager
George G. Alexandridis, P.E. Program Area Manager
Bijan Pashanamaei, P.E. DMJM Harris Project Manager
Joseph Grilli, P.E. HNTB Project Manager
Engineering Project File

110 Wood and Grove Streets
Morrisville, PA 19067
Phone (215) 295-5061 FAX (215) 295-4436



DELAWARE AND RARITAN
CANAL COMMISSION
2008 AUG 11 PM 2:15

August 5, 2008

George Alexandridis
Delaware River Joint Toll Bridge Commission
110 Wood Street
Morrisville, PA 19067

Dear Mr. Alexandridis:

Although a formal application for the above-referenced project has not been submitted to the various regulatory agencies, representatives from those agencies have met on several occasions with Joint Toll Bridge Authority staff and their consultants to be briefed on it. The latest briefing took place on June 26, 2008. The state agencies normally involved with the operation and protection of the Delaware and Raritan Canal State Park meet every quarter to discuss upcoming projects, including maintenance, restoration, capital improvements and acquisitions. At the July 9, 2008 D&R Canal State Park quarterly coordination meeting, the following agencies met and informally discussed the proposed project based on the latest information presented at the June 26th meeting:

State Historic Preservation Office
Green Acres Program
NJ Water Supply Authority
Division of Parks and Forestry
Delaware and Raritan Canal Commission
Office of Resource Development

The initial discussions between these agencies concluded that the latest design as presented would result in significant adverse impacts to the historic and recreational resources of the D&R Canal State Park. In addition, the proposed construction would require a conveyance of State-owned parkland property within the Canal Park. The group also concluded that the concept of a pedestrian walkway attached to the interstate highway bridge would also result in significant adverse impacts to the Canal Park, due to the structures or fill necessary to bring the walkway back down to the multi-use path's grade.

The following items are offered as preliminary comments on the proposed project and possible conditions of approval to mitigate for the project's potential impacts:

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Jon Corzine, Governor Lisa P. Jackson, Commissioner

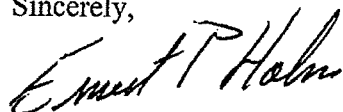
PRALLSVILLE MILLS 33 RISLER STREET P.O. BOX 539 STOCKTON, NJ 08559-0539
609-397-2000 FAX 609-397-1081 www.dandrcanal.com

1. While we support the goal of increasing pedestrian access in the vicinity of the Canal Park, because of the impacts associated with the construction of the pedestrian path we do not support its inclusion in the design of the new bridge.
2. The proposed new spans must not result in any added pilings within the Delaware and Raritan Canal.
3. As part of the mitigation for the project, the existing ramp from River Road must be restricted to emergency vehicles only.
4. The new concrete pilings and retaining walls should be faced in stone using a random ashlar pattern with deeply recessed mortar joints (to mimic dry laid wall). The use of a very dark colored mortar joints will also aid this effect. We recommend that test panels be constructed by the contractor for review and approval by representatives of the Historic Preservation Office, Canal Commission, and State Park Service.
5. All runoff from the roadways must be diverted away from the canal.
6. Measures to preserve openness and improve aesthetics under the bridges should be taken.
7. The earthen embankment along Upper River Road and extending into the canal should be treated with stone facing to reduce erosion. The stone facing should be in a random ashlar pattern, laid up with darkly tinted mortar, and deeply recessed joints.
8. As mitigation for the adverse impacts of this project, and as compensation for the conveyance of State property rights for the project, the agencies recommend the construction of a historically accurate, operating swing bridge at the Moore's Station location in Hopewell Twp. The Commission and SHPO staffs have worked for years with NJDOT for this project's construction. Due to a well publicized lack of funding this project has not proceeded beyond a preliminary engineering study, completed by NJDOT's consultant. The construction of the swing bridge would create a powerful and invaluable historic interpretation site and provide additional pedestrian access to the Park. Both of these benefits relate directly to the potential impacts of this project.

Please note that the above comments are intended to guide the Commission as it finalizes its plans for this project, but should not be interpreted as approval of the project by any of the agencies with regulatory jurisdiction. In particular, it will still be necessary to obtain approvals for the project from the DEP Commissioner and the State House Commission for conveyance of property rights under N.J.S.A. 13:1D-51 et seq., from the State Historic Preservation Office under N.J.S.A. 13:1B-15.128 et. seq., the New Jersey Register of Historic Places Act (Regulations are at N.J.A.C. 7:4) and the Statute for the federal Section 106 Review is: 16 U.S.C. 470s, the National Historic Preservation Act (Regulations are at 36 CFR Part 800) and from the Delaware and Raritan Canal Commission under N.J.S.A. 13:13A-1 et seq.

Feel free to call me to discuss these comments further.

Sincerely,

A handwritten signature in cursive script, reading "Ernest P. Hahn". The signature is written in dark ink and is positioned above the printed name.

Ernest P. Hahn
Executive Director

c: Janet Fittipaldi
Joe Sweger
Tom Carbone
Patricia Kallessen
Al Payne
Andrea Tingey
Kevin Koslosky
Bill Bogosian
Judeth Yeane



File 38476.20

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

Natural and Historic Resources, Historic Preservation Office
PO Box 404, Trenton, NJ 08625
TEL: (609) 292-2023 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

LISA P. JACKSON
Commissioner

April 22, 2008

Janet Fittipaldi
Manager, Bureau of Landscape Architecture and Environmental Solutions
New Jersey Department of Transportation
1035 Parkway Avenue
Post Office Box 600
Trenton, New Jersey 08625-0600

Dear Ms. Fittipaldi,

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the Federal Register on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40553-40555), I am providing Consultation Comments on the following proposed undertaking:

*I-95 / Scudder Falls Bridge Improvement Project
Ewing Township, Mercer County, New Jersey*

These comments were prepared in response to your request for HPO review and comment on the following report:

*I-95 / Scudder Falls Bridge Improvement Project
Draft Technical Memorandum No. 25
Historic Resources Survey, Determination of Eligibility, and
Determination of Effect Report, Volumes I & II, February 2008
Ewing Township, Mercer County, New Jersey
Contract C-393A, Capital Project No. CP0301A, Account No. 716-06-012
Prepared for Delaware River Joint Toll Bridge Commission in cooperation with
Federal Highway Administration and New Jersey Department of Transportation
Prepared by A.D. Marble & Company*

Summary (New SHPO Opinions) – The HPO requests a revised copy of Technical Memorandum No. 25 (architectural survey) that addresses the comments and concerns enumerated in this letter. Once definitive eligibility conclusions have been reached on the Abner Scudder House, Charles S. Maddock House & Maddock Vacation House, and the New Jersey State Police Headquarters Historic District, the project's potential effects on these resources will be assessed. The proposed project will have an adverse effect on the previously identified and New Jersey and National

Register listed Delaware and Raritan Canal Historic District. Further consultation is required in order to develop mitigation measures appropriate to the nature and magnitude of the adverse effects.

Project Description

According to the submitted report, the proposed project involves improvements to I-95 and the Scudder Falls Bridge in Ewing Township, New Jersey and Lower Makefield Township, Pennsylvania. The proposed improvements to the I-95 Scudder Falls Bridge over the Delaware River and adjoining sections of I-95 are being undertaken to alleviate traffic congestion and improve operational and safety conditions. The project will take place along approximately 4.4 miles of the I-95 mainline and includes the construction of a replacement bridge over the Delaware River and ancillary improvements at the four interchanges, two of which are on the New Jersey side of the Delaware River, located at Route 29 and Bear Tavern Road. The current I-95 bridge over the Delaware River is a divided four lane bridge consisting of two lanes in each direction with no shoulders. The preferred project alternative will replace the existing bridge with a new wider structure, consisting of five northbound lanes and four southbound lanes, which will be constructed with the new bridge extending north from the southern edge of the existing bridge.

800.4 Identifying Historic Properties

The above-referenced survey report documented the results of an intensive-level architectural survey of twenty-six properties within the project's Area of Potential Effects. The HPO requests that a revised copy of Technical Memorandum No. 25 be submitted to our office that addresses the following comments and concerns pertaining to the survey of architectural resources:

The HPO concurs that one previously identified historic resource, the **Delaware and Raritan Canal Historic District**, which is listed on New Jersey and National Registers of Historic Places, is located within the project's Area of Potential Effect (APE). The submitted report, however, did not include architectural survey forms for this resource. Even though the Canal is a previously identified and register listed historic resource, the appropriate architectural survey forms documenting the portion of the canal within the APE are still required. Also, the revised report should include a discussion of whether or not the Belvidere and Delaware Railroad, which is located within the New Jersey and National Register boundaries of the Delaware and Raritan Canal Historic District, is a contributing element of the Canal District.

The HPO respectfully disagrees with the eligibility conclusion of the submitted report with regards to the **Peter DeGrave Farmstead**. This property is not eligible for listing in the New Jersey and National Registers of Historic Places under Criterion A. Criterion A requires an association with events that have made a significant contribution to the broad patterns of our history. There is no evidence presented in the submitted report that the Peter DeGrave Farmstead has an important association with one or more

events or trends that are important in the historic context of agriculture in Ewing Township or Mercer County. While some outbuildings still remain, the farmstead does not possess a sufficient level of integrity to relay its early twentieth century function as a dairy farm.

The submitted report concludes that the **Abner Scudder House** (376 West Upper Ferry Road) is eligible for listing in the New Jersey and National Register of Historic Places under Criterion B for its association with the Scudder family. Please note that a finding of eligibility under Criterion B must be for an association with a specific, historically significant individual and cannot be for an association with a family. In order to justify this recommendation of eligibility under Criterion B, the revised report should evaluate how the specific individuals associated with the Abner Scudder House are historically significant to justify New Jersey and National Register eligibility.

The HPO concurs with the conclusion of the submitted report that the **Charles S. Maddock House** is eligible for listing in the New Jersey and National Registers of Historic Places under Criterion C for architecture as a well preserved example of the Free Classic subtype of the Queen Anne style. However, as previously stated, a finding of eligibility under Criterion B must be for an association with a specific, historically significant individual and cannot be for an association with a family. Therefore, the statement of significance must evaluate Charles S. Maddock as a locally significant person, not the Maddock family. If it is determined that the property's association with Charles S. Maddock warrants a conclusion of eligibility under Criterion B, the period of significance for the property may need to be amended to reflect the time period when Charles Maddock was directly linked to the property. Also, the revised report should take into consideration how this period of significance compares with the period of significance under Criterion C. The HPO also has several questions about certain elements of the property. The site map shows an outbuilding to the northeast of the main house, which is not described in the survey forms. The aerial photo delineating the proposed historic resource boundary shows at least two outbuildings and a swimming pool is visible in photo #4. These secondary structures must also be described in the revised architectural survey. While the HPO concurs that the Maddock Vacation House is not individually eligible for listing in the New Jersey and National Registers of Historic Places, it may be eligible as a contributing element of the Charles S. Maddock property. This possibility was not explored in the submitted report. A reevaluation of the Maddock Vacation House as a possible contributing element of the Charles S. Maddock property and an adjustment of the historic resource boundaries should be evaluated in the revised architectural survey report.

The HPO concurs with the conclusion of the submitted report that the **New Jersey State Police Headquarters Historic District** is eligible for listing in the New Jersey and National Registers of Historic Places under Criterion A for its association with the development of law enforcement in the State of New Jersey. However, as a historic district, the New Jersey State Police Headquarters must also be eligible under Criterion C as a unique collection of structures that remains in its original orientation and reflects the developing organization, needs, and capabilities of the New Jersey State Police during the second quarter of the twentieth century. The Historic Preservation Office's *Guidelines for Architectural Survey* define a historic district as "a geographical area which possesses

a significant concentration, linkage, or continuity of sites, buildings, structures, or objects connected historically or aesthetically by plan or physical development. A historic district conveys its importance as a unified entity even though it is often composed of a wide variety of resources." National Register Criterion C refers to historic districts as resources that "represent a significant and distinguishable entity whose components lack individual distinction." Therefore, while the individual structures within the New Jersey State Police Headquarters Historic District may not be individually eligible under Criterion C, they are eligible under Criterion C as a group.

Also, the submitted report states that there are 13 buildings within the proposed boundary that contribute to the historic district, yet Continuation Sheet 1, which contains the site map, lists only twelve contributing buildings. The Eligibility Worksheet for the district states that there are 10 key contributing structures, 3 contributing structures, and 2 non-contributing structures within the boundaries of the district. This is incorrect. Key contributing structures are those that are individually eligible for listing in the New Jersey and National Registers of Historic Places. As none of the structures within the boundaries have been recommended as individually eligible by the consultant, the report should be revised so that the district consists of 12 contributing and 2 non-contributing structures.

800.5 Assessment of Adverse Effects

The HPO respectfully disagrees with the effects assessment of the submitted report with regards to the Delaware and Raritan Canal Historic District. The proposed project will have an **adverse effect on the Delaware and Raritan Canal Historic District**. The adverse effect is the result of the construction of a new, significantly wider I-95/Scudder Falls Bridge and the construction of two additional bridges (Each 40 feet wide and 120 feet long) for the on and off ramps for the Route 29 interchange, resulting in an increase in the area of overhead structures spanning the historic district. The construction of a 200 foot retaining wall and the acquisition of a small piece of the historic district's property also contribute the project's adverse effect.

The effects of the I-95/Scudder Falls Bridge Improvement project upon the **Abner Scudder House, Charles S. Maddock House/Charles S. Maddock Vacation House, and New Jersey State Police Headquarters Historic District** cannot be adequately assessed at this time. While the HPO anticipates that the proposed project will have no effect upon these potentially eligible historic resources, the HPO cannot make a final effects assessment until a definitive eligibility determination has been made for each property.

800.6 Resolution of Adverse Effects

The HPO looks forward to continuing consultation among all consulting parties in accordance with 800.6 in order to develop mitigation measures appropriate to the nature and magnitude of the adverse effects upon the Delaware and Raritan Canal Historic District.

Miscellaneous Report Comments

The following items should also be addressed in the revised report requested by the HPO:

1. The Building Attachment form for 1026 River Road also lists the property name as the "Joseph S. Scudder Farm". This name should also be added to the Base Form for that resource.
2. The HPO requests that the survey forms for 376 West Upper Ferry Road (Fisk Mansion) be revised to include information on any other components of the original Fisk Estate that may be located on the property, should any exist.

If you have any questions regarding this letter, please contact Jonathan Kinney at (609) 984-0141. Thank you.

Sincerely,



Terry Karschner
Acting Administrator &
Deputy State Historic
Preservation Officer

Cc: See Attached List



JON S. CORZINE
Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Natural and Historic Resources, Historic Preservation Office
PO Box 404, Trenton, NJ 08625
TEL: (609) 292-2023 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

LISA P. JACKSON
Commissioner

*File 35476.20
(Arch.)*

March 4, 2008
HPO-C2008-3
Log #04-0137-7

Ms. Janet Fittipaldi
The New Jersey Department of Transportation
P.O. Box 600
Trenton, NJ 08625

Dear Ms. Fittipaldi:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the Federal Register on July 6, 2004 (69 FR 40544-4055), I am providing Consultation Comments for the following proposed undertaking:

**Mercer County, Ewing Township
Proposed I-95/Scudder Falls Bridge Improvements
NJDOT #2200168
Federal Highway Administration**

The following comments are in reply to a letter from you received February 7, 2008 accompanied by the following survey report:

A.D. Marble & Company
January 22, 2008 *I-95/Scudder Falls Bridge Improvement Project, Technical Memorandum No. 32 (Formerly Technical Memorandum No. 14), Final Archaeology Phase I Report. Prepared for the Delaware River Joint Toll Bridge Commission.*

800.4 Identification of Historic Properties

As noted in your letter, the above-referenced revised Phase I archaeological survey report has addressed all of the HPO's previous report comments outlined in our

November 29, 2007 letter. A CD containing copies of the digital images used in the report was submitted to the HPO. In addition, a New Jersey State Museum archaeological registration form for the Reeder's Creek site (28-Mc-360) was included in the revised report. The report is acceptable, as revised.

Additional Comments

Thank you for providing the opportunity to review and comment on the revised Phase I archaeological survey report. The HPO looks forward to continuing consultation on this proposed project. Please do not hesitate to contact Kate Marcopul of my staff at (609) 984-5816 with any questions regarding archaeology.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Karschner", written over the printed name.

Terry Karschner,
Acting Administrator and
Deputy State Historic
Preservation Officer

Km:u:\...\106\NJDOT\0401377_ScudderFallsBridge.doc

Cc: Bruce Hawkinson – NJDOT, Bureau of Environmental Solutions
Thomas Carbone – NJDOT, Project Manager, Planning
Joe Sweger – NJDOT, Bureau of Environmental Solutions
Brooke Blades – A.D. Marble & Company
Canal Society of New Jersey

CANAL SOCIETY OF NEW JERSEY

P.O. Box 737, Morristown, NJ 07963-0737

November 29, 2007

Janet A. Fittipaldi
Supervising Environmental Specialist
Division of Capital Program Support
The New Jersey Department of Transportation
PO Box 600
Trenton, NJ 08625

RE: I-95/Scudders Falls Bridge
Draft Phase I Archeological Survey
Ewing Township
Mercer County
NJDOT#2200168

Dear Janet:

The Canal Society of New Jersey is writing this letter to provide our comments on the above-referenced report and its findings relative to the I-95/Scudders Falls Bridge project. We appreciate this opportunity to express our opinions and concerns about the project.

First, it is our position that the Delaware & Raritan Canal is the major cultural resource of significance within the New Jersey portion of the project area. As such it is surprising that it has only a couple of pages devoted to it within the entire report. Not only is the Delaware & Raritan Canal listed on the New Jersey and National Registers of Historic Places, it is the second most visited State Park in New Jersey as a historic and recreational resource. Furthermore, the Canal Society is familiar with many other historic 19th-century canals in this country. Based on this knowledge we recognize the D&R as one of the most intact (if not the most intact) 19th-century transportation canals in the US. It is a given that the historic construction elements of the D&R – the canal prism, canal bed liner material, the supporting embankments, the towpath (both the original towpath beneath the Belvidere-Delaware Railroad bed and the relocated towpath on the opposite side of the canal), the bridge sites, lock sites, buildings (and their sites) associated with the canal and the other canal-related structures -- are all contributing elements of the canal's historical significance. As such they should be avoided and protected during the course of this project.

We wish to point out that the brief history of the D&R Canal, on page 26 of the report, indicates that there were no locks on the Feeder Canal, although the outlet lock at Lambertville is mentioned. In fact, there were also locks on the Feeder at Raven Rock, Prallsville and Lambertville. In addition, reference is made to canal "barges." Vessels plying the canal were boats, not barges. The canal boats had rudders and could be steered, making them boats. Barges cannot be steered and are guided by being towed.

The cultural landscape associated with the D&R Canal is a very important attribute of the canal historic district and the State Park. This setting has already been compromised by the construction of the existing I-95 bridge, the associated highway and the Route 29 interchange. Much of this construction occurred prior to the historic designation of the D&R Canal and the protective environmental laws of today. It is the Canal Society's position that the new proposed construction should be designed in a more sensitive

manner to restore at least some of the aesthetic attributes of the setting of the Canal. From the cultural resources report it is unclear what alterations are being proposed to the highway and the bridge. If the bridge is to be replaced in its entirety it would be a wonderful opportunity to remove the obtrusive bridge support pier that encroaches on the canal bed. In addition, the existing stark concrete bridge abutment extends very near to the canal and its towpath. Any new abutments should be set back from the canal site and treated in a more aesthetically appropriate manner. Furthermore, careful consideration should be given to ensuring that easily accessible pedestrian and vehicular access is provided to the canal park as part of the highway construction.

In another reference in the report, mention is made of the so called "lower bridge tender's house" and that nothing remains from this structure. We see no clear evidence that the lack of surviving archeological elements of this building or associated cultural deposits was established. We would like to see this issue clarified and perhaps further investigated.

Another statement was made in the report regarding the Belvidere-Delaware Railroad and that its remains were not significant. We would like to point out that the railroad was built on top of the original D&R Canal Feeder's towpath. During the mid-1980s desilting project of the canal there were several opportunities to observe the cross section of this embankment during the installation and removal of temporary invert drains. At that time it was noted that the Belvidere-Delaware Railroad bed consists of about a 2-foot-thick layer of ash and cinder, beneath which is the surface of the original canal towpath and the supporting embankment of the canal beneath that. The overall embankment was widened by about 1/3 to accommodate the rail line. We believe that all of these archeological features are significant and should be protected.

We would also like to state that it is our opinion that the Trenton Waterpower Canal is a feature of great historical significance which made a major contribution to the industrial development of Trenton in the 19th century. As such its physical remains are an important resource. The project area is near the entrance of the waterpower canal and its site is publicly owned as part of the State Park. The report indicates that the waterpower canal is covered with fill at the project site and its archeological sensitivity is rated as low to moderate. We do not understand the basis for this evaluation and would question why the canal prism would not be intact beneath the fill layer (other than where disturbed by any supports from the existing bridge). If the prism of the waterpower canal survives archeologically, it is our opinion that it would constitute a significant cultural resource that should be avoided by this project.

Again we thank you for the opportunity to express our thoughts and opinions on the above-referenced report. It is our sincere hope that all of the interested parties can cooperate together to ensure that the proposed project can be completed in a sensitive manner that will ensure the protection of the Delaware & Raritan Canal State Park and its various historic elements.

Sincerely,

Brian H. Morrell
President

cc. Dorothy Guzzo, NJ State Historic Preservation Office
Ernest Hahn, Delaware & Raritan Canal Commission



State of New Jersey

DEPARTMENT OF TRANSPORTATION

P.O.Box 600

Trenton, New Jersey 08625-0600

JON S. CORZINE
Governor

KRIS KOLLURI, Esq.
Commissioner

I-95/Scudder Falls Bridge
draft Phase I Archeological Survey
Ewing Township
Mercer County
NJDOT # 2200168
Federal #

November 2, 2007

Ms. Dorothy Guzzo
NJ Department of Environmental Protection
Historic Preservation Office
PO Box 404
Trenton, NJ 08625

Attention: Kate Marcopul - Transportation and Planning Group

Dear Ms. Guzzo:

Please find enclosed a copy of the *draft* archeological survey report entitled **I-95/Scudder Falls Bridge Improvement Project, Technical Memorandum No. 14, Draft Archaeology Phase I Report, Contract C-393A, Capital Project No. CPO301A, Account No. 7161-06-012** which was prepared by A.D. Marble & Company (April 6, 2006) for the Delaware River Joint Toll Bridge Commission. The proposed project entails improvements to the I-95 crossing over the Delaware River at Scudder Falls. A portion of the project is under the jurisdiction of the Delaware River Joint Toll Bridge Commission (DRJTBC); however, both Pennsylvania and New Jersey departments of transportation propose work on their respective sides of the Delaware River. The New Jersey Department of Transportation (NJDOT) proposes improvements to I-95 from the Scudder Falls Bridge east to Bear Tavern Road in the Township of Ewing, Mercer County.

Three archeological sites were identified within the project's APE in New Jersey. These sites are within the area that is or will be under the jurisdiction of the DRJTBC; no significant sites were located within the section of NJDOT's proposed improvements. Based on diagnostic artifacts, the sites date from the Woodland Period of occupation; one site may also contain a Late Archaic component. The sites are known as Reeder's Creek West, Reeder's Creek Center, and Reeder's Creek North. They are located on the former course of Reeder's Creek which was shifted and channelized to its present configuration in the 1950s when the Route NJ 29 interchange with I-95 was constructed. Although physically separated by roadway ramps, the sites belong to the same cultural period and, in all probability, represent contemporaneous occupation. The sites are located on the second terrace or T2 of the Delaware River.

Similar cultural materials were found on the Pennsylvania side of the proposed project, once again leading to the opinion that contemporaneous occupation is being reflected in the same geological situation. Further work (Phase II and data recovery) is being proposed for all the sites.

At this time, the in-field area of the current "S Loop" of the Rt. 29 interchange could not be tested due to unknown locations of subsurface utilities; archeological testing of this area, where proposed retention basins will be located, is required and may prove the presence of cultural

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occupation. The latter is based on the loop's location on the T2 and T3 terraces of the Delaware River. A monitoring-during-construction program is being proposed for this area of the project. Project coordination was initiated on April 4, 2004; you approved the Area of Potential Effect (APE) and the list of interested and consulting parties on April 28, 2004 (HPO-D2004-217 Prod; Log # 04-0137-3 AT).

Although a Phase II study has not been undertaken, the Phase I results are leading to a determination of eligibility under Criterion D. Further study of the sites will need to be undertaken, however, if the sites are to be impacted by the construction activities.

All cultural resources work was conducted in compliance with the requirements of Section 106 of the National Historic Preservation Act of 1966 (as amended), implemented by the regulations described in 36CFR800, and in accordance with the provisions of the Programmatic Agreement executed in November 1996.

If you have any questions about the proposed project, please direct your questions to Tom Carbone, Project Manager, at (609) 530-2728. If you have questions regarding the cultural resources of the project, please call me at (609) 530-5462.


To the parties listed below, under Section 106 of the Federal Historic Preservation Act, the Federal Agency, in this case the Federal Highway Administration (FHWA), is required to notify consulting parties and parties who may have an interest in regional history of pending transportation projects in which significant cultural resources may be affected. (A summary of the Section 106 process is enclosed; the Advisory Council on Historic Preservation has prepared this summary.)

As a participant as specified under 36CFR800.2, your review of and comment on the enclosed draft archeological survey is requested. **If you disagree with the findings and conclusions within this letter, please respond to the NJDOT with your comments in 30 days.** Comments can be sent to or emailed to me at the following addresses:

Mail: Janet A. Fittipaldi
The New Jersey Department of Transportation
PO Box 600
Trenton, NJ 08625

E-mail: janet.fittipaldi@dot.state.nj.us

Very truly yours,


Janet A. Fittipaldi
Supervising Environmental Specialist
Division of Capital Program Support

enclosure

c:CRSScudderFalls

cc: Bruce Hawkinson *Bureau of Environmental Solutions*
Thomas Carbone *Project Manager, Planning*
Joe Sweger *Bureau of Environmental Solutions*

w/o enclosure

cc with enclosures:

Ernest Hahn
Delaware and Raritan Canal Commission
Route 29, Prallsville Mills
PO Box 539
Stockton, NJ 08559-0539

Kevin Dougherty
U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, Pa 19107-3390

Stephen Elliot, Clerk
Ewing Township
2 Jake Garzio Drive
Ewing, NJ 08628

Linda Osborne
Mercer County Cultural and Heritage Commission
640 South Broad Street
Trenton, NJ 08650

Sister Lillian Harrington
Villa Victoria Academy
376 West Upper Ferry Road
Ewing, NJ 08628

Ewing Township Historical Preservation Society
27 Federal City Road
Ewing, NJ 08638

National Railway Historical Society
West Jersey Chapter
PO Box 647
Palmyra, NJ 08065

Hopewell Valley Historical Society
PO Box 371
Pennington, NJ 08534

Canal Society of New Jersey
PO Box 737
Morristown, NJ 07963-0737

Ed Buss
New Jersey Water Supply Authority
1851 Highway 31
PO Box 5196
Clinton, NJ 08809-0196

Superintendent Joseph Fuentes
New Jersey State Police
Division Headquarters
PO Box 7068
West Trenton, NJ 08628-0068
Attention: Mark Falzini, Archivist

Gregory Romano, Executive Director
New Jersey Department of Agriculture
State Agriculture Development Committee Staff
PO Box 330
Trenton, NJ 08625

Ben Spinelli, Executive Director
New Jersey Department of Community Affairs
Office of Smart Growth
PO Box 204
101 South Broad Street, 7th Floor
Trenton, NJ 08625

Bob Warner
Jones Farm Minimum Security Unit
Bear Tavern Road
Ewing, NJ 08628
Attention: Lt. Dawes

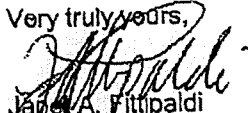
8. Ed Buss
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Clinton, NJ 08809-0196
9. Stephen Elliot, Clerk
Ewing Township
2 Jake Garzio Drive
Ewing, NJ 08628
10. Ewing Township Historical Preservation Society
27 Federal City Road
Ewing, NJ 08638
11. Linda Osborne
Mercer County Cultural and Heritage Commission
640 South Broad Street
Trenton, NJ 08650
12. National Railway Historical Society
West Jersey Chapter
PO Box 647
Palmyra, NJ 08065

Public involvement occurs during the life of the project at various stages of project development: per the NJDOT scope-of-work, the consultant is to contact people knowledgeable in the history/prehistory of the area; per Section 106, the consulting parties are invited to review the cultural resources reports and make suggestions on effects and mitigation, if necessary; and per NJDOT Public Involvement Action Plan (PIAP) procedures, the public will be invited to attend a Public Information Center(s).

Our Section 106 public involvement action plan is consistent with the NJDOT's PIAP. The policy promotes an on-going public partnership through early, frequent, and continuous consultation with the public by committing to public notification to the affected parties, citizen input in the identification of the solutions, and dedication on the part of NJDOT to make the public's input meaningful through follow through. Cultural resources are presented to the public and established organizations, such as historical societies, at every opportunity.

The future cultural resources surveys will be conducted within this APE if there is no objection from your Office within 30 days of receipt of this transmittal. If you have any questions, please contact me at 530-5462 or Karen Weber at 530-4946.

Very truly yours,


Janet A. Pittipaldi
Supervising Environmental Specialist
Bureau of Environmental Services

Enclosures


Kew:APEScuddersFalls

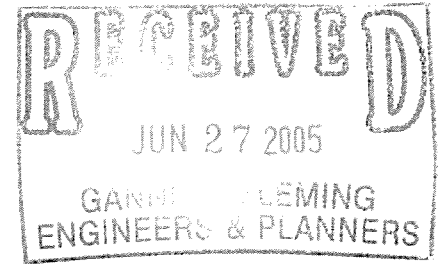
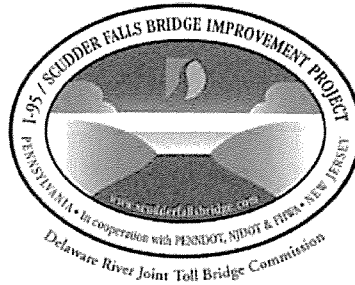
cc: Elkins Green

Bureau of Environmental Services

w/o enclosures

CONCUR

APR 28 2004

DEPUTY STATE HISTORIC
PRESERVATION OFFICER



**Delaware River Joint Toll Bridge Commission's
I-95 / Scudder Falls Bridge Improvement Project**

**NEW JERSEY DELAWARE AND RARITAN CANAL AGENCY FIELD VIEW
MEETING**

**May 24, 2005—1:30 p.m.
Delaware and Raritan Canal State Park**

Attendees

Ernie Hahn, Executive Director, Delaware and Raritan
Canal Commission
Jan Holms, Delaware and Raritan Canal Commission
Al Payne, New Jersey Division of Parks and Forestry
Dan Saunders, New Jersey Historic Preservation Office
Bill Bogosian, New Jersey Water Supply Authority
Joe Shepherd, New Jersey Water Supply Authority
Andrew Schneier, New Jersey Division of Parks and Forestry, Delaware and
Raritan Canal State Park
Joe Sweger, New Jersey Department of Transportation
Jihane Fazio, DMJM Harris
Esther McGinnis, Gannett Fleming, Inc.
Brooke Blades, A.D. Marble & Company
Bob Briggs, STV, Inc. (part-time)
Joe Grilli, HNTB Corporation
Addie Kim, HNTB Corporation

Meeting Summary

A field view meeting to review conditions at the NJ Route 29 Interchange and the Delaware and Raritan Canal and the design options for the I-95/Scudder Falls Bridge Improvement Project was scheduled with Ernie Hahn, Executive Director of the Delaware and Raritan Canal Commission (D&RCC), for May 24, 2005 at 1:30 p.m. This meeting was attended by representatives of the New Jersey Department of Transportation (NJDOT), the New Jersey Water Supply Authority, and the New Jersey Department of Environmental Protection (NJDEP), including the Delaware and Raritan Canal Commission (D&RCC), the New Jersey Division of Parks and Forestry (NJDPF), and the New Jersey Historic Preservation Office (NJHPO).



Delaware River Joint Toll Bridge Commission

110 Wood Street, Morrisville, PA 19067
215.295.5061 tel • 215.295.3337 fax • www.drjtbc.org

Selection of NJ Route 29 Design Options

The alternative design options were reviewed. Jihane Fazio of DMJM Harris presented design plans for each of the four design options and described the improvements proposed under each option. Option 1a, which consolidates NJ Route 29 northbound and southbound movements, and Option 1c, which incorporates roundabouts at the I-95 ramp termini, are the two remaining design options under consideration. Option 1c would be approximately \$6 million more expensive than Option 1a. Under Option 1a, the existing NJ Route 29 Bridge over the Delaware and Raritan Canal would not be reconstructed or replaced. Replacement of the NJ Route 29 bridge over the Delaware and Raritan Canal, originally proposed under Option 1c, is no longer included to reduce costs. It was discussed that coordination with NJDOT on operation of the roundabouts is ongoing to select a preferred design option.

Comments received on the design options included the following:

- There was a unanimous preference among NJDEP staff for Option 1a, which eliminates the bypass adjoining the canal and towpath. It was discussed that elimination of the bypass, and creation of additional open space along the canal, could be considered as mitigation for impacts on the canal that would occur as a result of increased bridge widths. Ernie Hahn of the D&RCC commented that this land could be donated to the parks department as mitigation.
- The safety and operation of the roundabouts under Option 1c was questioned, due to the heavy truck traffic that navigates NJ Route 29 traveling to or from I-95, and driver behavior.
- Option 2, which would relocate four lanes of traffic adjacent to the canal, was also not favored by NJDEP meeting attendees.
- The elimination of the northbound I-95 on-ramp from NJ Route 175 (Upper River Road) under the design options was viewed favorably as it would reduce local truck traffic on NJ Route 175, presenting a substantial noise benefit at the Delaware and Raritan Canal. Truck traffic on NJ Route 175 was so noisy during the field visit that it was difficult at times to hear the discussions. It was mentioned that the New Jersey State Police does not support elimination of the I-95 northbound on-ramp from NJ Route 175. It was suggested that, if this access is maintained, signage to prohibit truck traffic could be incorporated on NJ Route 175 (Upper River Road).

Design Features for Bridge Crossings Over the Delaware and Raritan Canal

Joe Grilli noted that the National Register designation for the historic canal district extends over a total width of 600 feet, but inquired about specific resource concerns at the canal crossing. Meeting attendees questioned the increase in the width of the bridge over the canal. The I-95 bridge carrying the I-95 travel lanes would be approximately 1/3 wider, and there would be two additional bridges carrying the interchange ramps across the canal.

The meeting attendees represent the diverse interests of NJDEP in the Delaware and Raritan Canal. It was explained to the project team that the NJDPF owns the state park property, maintains the lands, and would issue a special access permit for proposed work at the canal. The NJWSA maintains the waterway within the canal and operates the canal as a water supply. The D&RCC has regulatory jurisdiction over the entire canal park and extending out to within 1,000 feet of the canal. The D&RCC jurisdiction includes potential visual, wetlands, stormwater, and traffic impacts. The reviews for NJDEP wetland permits would be coordinated with the D&RCC permit reviews. The NJHPO conducts historic reviews within the canal historic district. Ernie Hahn indicated that the review by these agencies is separate from the Green Acres review, which will require an Act of the Legislature. He referred the project team to Judith Yeane at Green Acres.

Addie Kim requested information regarding NJDEP land holdings within the interchange area. Jan Holmes of the D&RCC referred to the quit claim deeds as the only property information that D&RCC has for the area. It was discussed that the quit claim deeds for the property, that were given to the project team last year, do not have information at an appropriate scale to delineate the parklands at the site. Al Payne indicated that he would research his files and forward any relevant information.

There was extensive discussion regarding the design features that NJDEP would like to see incorporated at the I-95 bridge crossing:

- Visual and aesthetic considerations should be taken into account, with an attempt to preserve the openness of the space under the bridges and use aesthetically pleasing treatments of bridge abutments and piers, such as stone facing. An example of an aesthetically pleasing treatment that was pointed out in the field is the stone facing on the bridge over the canal providing access from NJ Route 29/Bernard Drive to the Scudder Falls Recreation Area.
- Ernie Hahn suggested that the bridge abutments on both sides of the canal should be moved further back to reduce fill and create more open area under the bridge. Use of column piers (rather than a closed pier) was also preferred to preserve openness of the area under the I-95 bridge. Shifting piers further from the canal and towpath was also discussed. The appropriateness of the use of a closed pier (as is present at the base of the piers between River Road and the canal) as a potential visual/noise barrier was discussed, but the preference was generally for columns preserving openness.
- Al Payne of the NJDPF mentioned that the earthen embankment along NJ Route 175 (Upper River Road) that extends into the canal is a source of erosion. He suggested that a stone-facing treatment/riprap would both reduce erosion into the canal and could be an aesthetic treatment.
- Dan Saunders of the NJHPO acknowledged that the area is currently urbanized/developed and therefore the project would not introduce an entirely new structure within the resource area. He indicated that measures to preserve openness and improve aesthetics should be undertaken, and he indicated a willingness to work with the project team on this. Measures that were discussed to improve aesthetics included stone treatments of bridges. Dan Saunders transmitted aerial photos of the area before I-95 was

constructed, as well as maps that he had annotated during the dredging of the canal. The mapping included location of a former bridge tenders house on River Road in New Jersey.

- Addie Kim inquired the relative importance of light vs. noise considerations under the bridge. Ernie Hahn indicated that it would be preferable to introduce light under the bridge.
- Bill Bogosian of the NJWSA would like bridge scuppers draining directly into the canal to be eliminated to remove any direct discharges into the canal.

Pedestrian-Bicycle Options

- Jihane Fazio presented a concept for a pedestrian/bicycle access ramp on the north side of the I-95/Scudder Falls Bridge connecting to the towpath alongside NJ Route 29 (River Road) near the Scudder Falls Recreation Area. This pedestrian/bicycle connection would be compatible with both Option 1a and 1c and would involve a wall where the path would be meeting the grade of the existing towpath. Jihane Fazio indicated that this path ends before what appears to be a natural overflow along the canal. Joe Grilli indicated that the feasibility of providing this type of access for pedestrians and bicyclists is still being investigated.
- Ernie Hahn confirmed that the depression at the end of the path is a natural canal overflow.
- There was a high level of support among NJDEP meeting attendees for providing pedestrian/bicycle access across the river and connecting to the canal path.
- Jihane Fazio explained that another option, under Option 1a, to cross over the interchange ramps and access the canal towpath from the interior of the interchange area is another option that the project team will be investigating. This alternative is being considered to avoid steep slopes on the river side. Potential issues associated with this alternative include avoidance of wetlands within the interchange area and meeting required clearances over ramps as well as ADA requirements.
- Meeting attendees indicated that they favored the current concept developed for a pedestrian/bicycle path along the river over the option for a path cutting through the NJ Route 29 Interchange area. Benefits of this option that were discussed is that it would provide views of the Delaware River for users and would avoid impacts to wetlands interior to the interchange area. However, it would introduce a wall between the existing towpath and proposed pedestrian/bicycle path where the ramp would descent to meet existing grade.
- Design features for the path that were suggested by meeting attendees included aesthetic treatments on the wall between the towpath and the proposed pedestrian/bicycle ramp. Addition of impervious area associated with a new bike path was discussed. Potential mitigation for this that was mentioned by Joe Sweger of NJDOT included use of pervious pavement to allow infiltration.

We believe these minutes accurately reflect what transpired at the meeting. If these minutes are not in accordance with your understanding, please contact the undersigned promptly; otherwise, we will assume that you concur with the accuracy of the above.

Addie Kim, Senior Planner, HNTB Corporation
Tel: 617.523.2326, fax: 617.428.6905, e-mail: akim@hntb.com

cc: All attendees
George Alexandridis, Delaware River Joint Toll Bridge Commission
W. Michael Cane, Delaware River Joint Toll Bridge Commission
Linda Spalinski, Delaware River Joint Toll Bridge Commission
Tom Carbone, NJDOT
Bijan Pashanamaei, DMJM Harris
Tim Gunner, DMJM Harris
Christine Bishop-Edkins, DMJM Harris
Harvey Knauer, Gannett Fleming, Inc.
Brad Bauman, A.D. Marble & Company
Dick Baublitz, A.D. Marble & Company

For	Job No.	Sheet No.
Made by	Checked by	Backchecked by
Date	Date	Date

Joe Grilli HNTB 215 568 6500

JOE SWEGER DOT 609-530-2985

BOB BRIGGS STV 609 530 0300

BILL BOGOSIAN NJWSA 908 638 6121
 ERNIE HAHM DRCC 609 357 2000

JAN HOLMS DRCC " "

Al Payne Parks & Rec 609 777-0511

DAN SAUNDERS HIST. PRESERVATION 609-633-2397

JOE SHEPHERD NJWSA 609-530-3999

Andrew Schwerer PTIZ 397-2949
 DTR Canal

BROOKE BLADES ADM (project) 414-533-2515

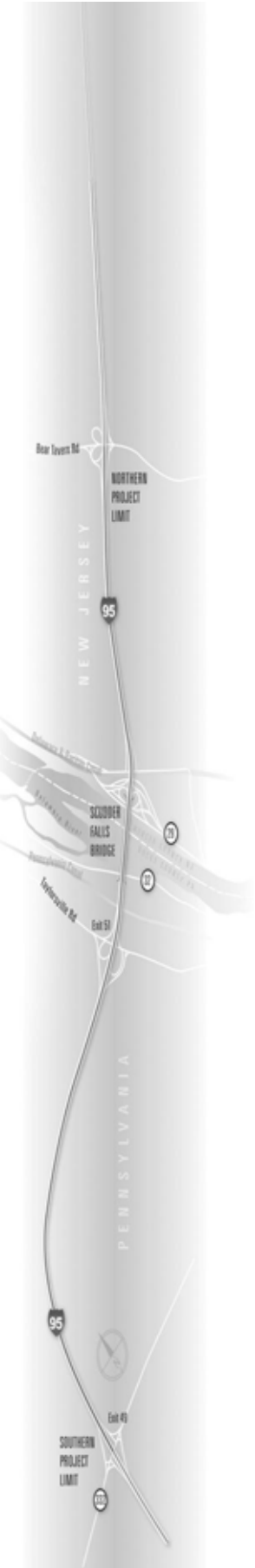
Oddie Kern HNTB 617-532-2326

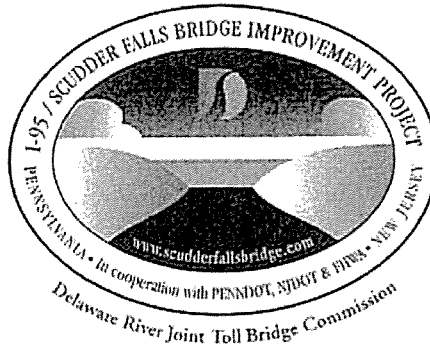
Liane



APPENDIX D

PUBLIC COORDINATION





MEETING SUMMARY

Subject: Lower Makefield Board of Supervisors Meeting
Reporting on the Status of the I-95 / Scudder Falls Bridge Improvement Project

Meeting Date: Monday, February 7, 2005

Meeting Place: Lower Makefield Township Building, Yardley, PA

Meeting Time: 7:30 P.M.

Note: This summary is meant to highlight the main issues of discussion and not to document the meeting's proceedings verbatim.

I. Welcome and Introductions

Mr. William Michael Cane of the Delaware River Joint Toll Bridge Commission (DRJTBC) introduced the project team and provided an overview of the I-95/Scudder Falls Bridge Improvement Project to the Lower Makefield Township Board of Supervisors.

II. Project Background

Mr. Cane reviewed the role of the Federal Highway Administration (FHWA), the Pennsylvania Department of Transportation (PennDOT), and the New Jersey Department of Transportation (NJDOT). He also reviewed the funding for the project indicating that the DRJTBC is funding the environmental documentation and preliminary engineering and that the current project cost estimate is \$195 million.

III. Status of the I-95/ Scudder Falls Bridge Improvement Project

Mr. Bijan Pashanamaei, consultant Project Manager from DMJM+HARRIS, showed a PowerPoint presentation that identified project location and project purpose, defined the goals of the NEPA process, and outlined ongoing public involvement activities. The project length extends for 4.4 miles along I-95 and traverses Lower Makefield and Ewing Townships. Currently, the bridge carries approximately 55,000 vehicles per day with a Level of Service (LOS) F. By 2030, the bridge will carry approximately 74,000 vehicles per day and the LOS will remain F.

Mr. Pashanamaei explained that a public participation plan is in place that provides the public with opportunities to provide input into the project. The public can obtain information about the project through local newspapers, the project quarterly newsletter, the project website

www.scudderfallsbridge.com, or the project hotline at (800) 879-0849. Informational signs have also been posted on both sides of the Scudder Falls Bridge with the website and hotline information. When the environmental documentation is complete, Public Hearings will be held on both sides of the Delaware River.

Mr. Pashanamaei explained recent activities on the project. Over the past several months, the team has completed the traffic modeling with the Delaware Valley Regional Planning Commission and completed the traffic analysis for the alternatives. The analysis concluded that in order to accommodate traffic in 2030 with a LOS D that the Scudder Falls Bridge must carry 5 northbound lanes and 4 southbound lanes. I-95 in New Jersey must carry 4 northbound lanes and 3 southbound lanes. Three lanes are needed in each direction in Pennsylvania.

In addition, the team has analyzed the feasibility of rehabilitating the existing bridge and replacing it with a new structure. The consultant has recommended that the existing bridge be replaced.

Also, the team developed criteria to evaluate the alternatives. The project team is currently developing various improvement alternatives. So far, the alternatives that have been identified include the No Build alternative, building a new, wider bridge, building a bridge with collector/distribution roads, constructing two new parallel bridges, building a two level bridge, and incorporating contraflow lane(s) into the design. Along I-95, there are currently two lanes running north and south in Pennsylvania and New Jersey and a third lane could be built either along the outside of existing lanes or in the median. The project team is also developing four alternatives for the Taylorsville Road interchange and four alternatives for the NJ 29 interchange with I-95. The team will continue to solicit public participation throughout the project.

The project team is currently completing the development of the alternatives, seeking input on the alternatives through township meetings, and evaluating each alternative and its potential impacts. Open Houses will be held in Spring 2005.

IV. Questions & Answers

Question: Has it been decided which houses will be condemned?

Answer: The impact on right-of-way is unknown at the present time. At the Open House this Spring the public will be able to view the various alternatives and the potential impact on right-of-way for each of the alternatives.

Question: Will sound barriers be erected?

Answer: Whether or not sound barriers will be built depends upon the result of noise studies. Early in the project existing noise levels were documented and future noise levels are being predicted for the project alternatives. If noise levels are predicted to exceed established FHWA criteria, then the consultant team will evaluate the feasibility and effectiveness of noise mitigation. The size, location, and extent of barriers are based on the existing noise levels, predicted noise levels, and the predicted effectiveness of the barrier.

Question: Some trees were removed along I-95 and there is more noise now. How will this affect the noise measurements?

Answer: We modeled noise after the trees had been removed.

- Question:** What is a collector-distributor road?
- Answer:** A collector-distributor separates through traffic from local traffic much like at Scotch Road in Ewing Township, New Jersey.
- Question:** Are there noise studies being conducted now?
- Answer:** The noise monitoring for existing conditions is complete. We are now modeling future noise levels for the various alternatives.
- Question:** What is LOS D? What is the current LOS?
- Answer:** LOS is Level of Service and it is one way that traffic engineers qualitatively measure congestion and its affect on operating conditions. Engineers rate conditions from A to F with A representing free flow traffic and F representing a breakdown in the flow of traffic. FHWA has decided that D is appropriate for urban locations like the project area. The current LOS during peak hours is F on the Scudder Falls Bridge. It is important to mention that the LOS will be a D by 2030 but the LOS will be better when the new bridge is opened.
- Question:** What is the impact of the new I-95/Pennsylvania Turnpike interchange to this project?
- Answer:** Traffic using the Scudder Falls Bridge will increase slightly over existing levels by the year 2025 as a result of the I-95/PA Turnpike project.
- Question:** Is a bicycle-pedestrian feasibility study being conducted as a part the improvement project? How do you decide if the facility is feasible? What criteria will be used?
- Answer:** A detailed bicycle-pedestrian feasibility study will begin within the next few months. The feasibility of adding a facility will be based on its compatibility with statewide bicycle and pedestrian plans, the ability to create safe access and egress points, and cost.
- Question:** Will traffic be affected during construction?
- Answer:** For any of the alternatives, all lanes of traffic will be maintained while the bridge is under construction. The bridge will be built in stages. However, there will be temporary ramp closings.
- Question:** How is noise measured?
- Answer:** The project team uses stationary instruments to measure noise either in 20-minute intervals or, in some limited locations, 24-hour intervals. The project team has taken 40 to 50 noise measurements in the study area and has simultaneously taken traffic counts for the noise prediction model.
- Question:** Why aren't these improvement plans on the website?
- Answer:** Following this meeting the complete presentation, which includes the alternatives, will be available on the website. The potential impacts of each alternative have not been completely identified. The Open Houses will identify the impacts for the public.

- Question:** Will we know before the Open House if we will be impacted?
- Answer:** At the Open House you will know the potential impacts of each of the alternatives. You will not know for certain if you are impacted until the preferred alternative is chosen. We will hold another Open House in the late Summer to present the preferred alternative. We will contact you before this Open House if you will be impacted by the preferred alternative.
- Question:** Will residents know if their home is being condemned before the next Open House? If a property is condemned, how will the property be appraised?
- Answer:** No. At the next Open House the project team will show several alternatives and the potential impacts of each alternative. This Open House will provide residents with another opportunity to provide the team with comments about which alternatives they prefer. We will hold another Open House in the late Summer to present the preferred alternative. Appraisals will happen at a much later date.
- Question:** What is considered to be a significant impact?
- Answer:** Defining the preferred alternative requires the detailed evaluation of number of criteria one of which is right-of-way. Ultimately, the project team looks to find a balanced solution that minimizes impacts.
- Question:** How much time will residents have to get their affairs in order before their property is condemned?
- Answer:** In May/June 2005 the team will share various alternatives with the public and in July/August 2005 the preferred alternative will be determined. Preliminary and Final engineering will occur and right-of-way acquisition will begin at the earliest in 2008.
- Question:** Who makes the decision to appraise properties? Who hires the appraiser? Which firm does the appraisals?
- Answer:** The Delaware River Joint Toll Bridge Commission will be in charge of the appraisal process. Professional appraisers will be hired by the Commission. The firm that will conduct the appraisals is not yet known.
- Comment:** People want to know the process that will be used to appraise properties.
- Question:** Whose rules are followed for the property condemnation and acquisition process?
- Answer:** Either the NJDOT or PennDOT process is followed depending on the state in which the property is located.
- Question:** What is the Township going to do to protect property values? What is the role of the Board of Supervisors?
- Answer:** The Lower Makefield Township Solicitor indicated that the Township has no legal authority with regard to the proposed improvements to the bridge or I-95. The Board of Supervisors will hold meetings to keep the public informed of any new project

developments. People have the right to appeal the value that is placed on their property if they do not agree with the price that is placed on it by the appraiser.

Comment: The value that is placed on your property depends upon nearby sales and comparables not what you think your property is worth.

Comment: Board member Steven Santarsiero indicated that the Board of Supervisors will use their position to talk to and work with the Commission. The Board will make the opinions of the public known to the Commission and the Board can indicate their support for choosing an alternative that builds the additional lane in the median of the highway rather than along the outside of the existing lanes. The Board of Supervisors will draft a letter to the Commission indicating that the widening of I-95 should occur in the median in Pennsylvania.

Question: How will the improvements to the I-95/Taylorsville Road interchange affect properties in the area?

Answer: The footprint of the interchange will be similar to what it is today.

Question: How can you widen the bridge and not change the footprint of the interchange?

Answer: There is enough room to design a new interchange substantially within the existing footprint.

Question: What about using a rubberized roadway surface?

Answer: We are required to design a surface based on NJDOT and PennDOT standards which incorporate state-of-the-art parameters.

Question: Who has the Commission used in the past to appraise properties?

Answer: I do not know. Please call the Commission for this information. *Subsequent to the question and answer period the project team provided the resident with a newsletter with the telephone number and address of George Alexandridis and Bijan Pashanamaei.*

Question: How is it determined that there are impacts to widening to the inside and outside?

Answer: There is a set of evaluation criteria that is used to determine impacts.

Question: Will our easements pushed back if you build a lane to the outside of I-95?

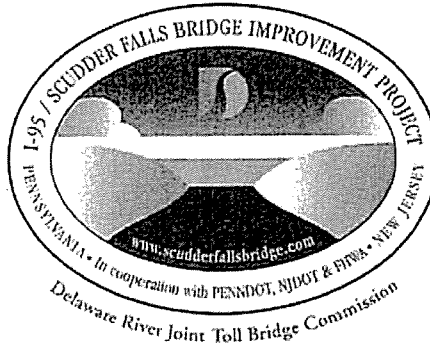
Answer: We will be able to show you at the next Open House if there will be an impact to easements from the alternatives.

Question: If you add a lane to the median won't you need to add a lane to the outside also?

Answer: No. Only one additional lane is needed in Pennsylvania.

Distribution:

Frank McCartney, DRJTBC
George Alexandridis, DRJTBC
William M. Cane, DRJTBC
Linda Spalinski, DRJTBC
Bijan Pashanamaei, DMJM+HARRIS
Christine Bishop-Edkins, DMJM+HARRIS
Joe Grilli, HNTB
Linda Artlip, Riverfront Associates, Inc.
Bridget Keegan, Kise Straw & Kolodner



MEETING SUMMARY

Subject: Ewing Township Council
Agenda Session Meeting
Report on the Status of the I-95 / Scudder Falls Bridge Improvement Project

Meeting Date: Monday, January 10, 2005

Meeting Place: Ewing Township Municipal Complex, Ewing, NJ

Meeting Time: 6:30 P.M.

Note: This summary is meant to highlight the main issues of discussion and not to document the meeting's proceedings verbatim.

I. Welcome and Introductions

Mr. George Alexandridis, Delaware River Joint Toll Bridge Commission (DRJTBC) Chief Engineer and Project Manager, introduced the project team and provided an overview of the I-95/Scudder Falls Bridge Improvement Project.

II. Status of the I-95/ Scudder Falls Bridge Improvement Project

Mr. Bijan Pashanamaei, consultant Project Manager from DMJM+HARRIS, showed a PowerPoint presentation that illustrated the cooperating agencies, provided an overview of project funding, identified project location and project purpose, defined the goals of the NEPA process, and outlined ongoing public involvement activities. The project extends 4.4 miles along I-95 and traverses Lower Makefield and Ewing Townships. Currently, the bridge carries approximately 55,000 vehicles per day with a Level of Service (LOS) F. By 2030, the bridge will carry approximately 74,000 vehicles per day and the LOS will remain F.

Mr. Pashanamaei explained that a public participation plan is in place that provides the public with opportunities to provide input into the project. The public can obtain information about the project through local newspapers, the project quarterly newsletter, the project website www.scudderfallsbridge.com, or the project hotline at (800) 879-0849. Informational signs have also been posted on both sides of the Scudder Falls Bridge with the website and hotline information. When the environmental documentation is complete Public Hearings will be held on both sides of the Delaware River.

Mr. Pashanamei explained recent activities on the project. Over the past several months, the team has completed the traffic modeling with the Delaware Valley Regional Planning Commission and completed the traffic analysis for the alternatives. The result of this analysis is the conclusion that in order to accommodate traffic in 2030 with a LOS D that the Scudder Falls Bridge must carry 5 northbound lanes and 4 southbound lanes. I-95 in New Jersey must carry 4 northbound lanes and 3 southbound lanes. Three lanes are needed in each direction in Pennsylvania.

In addition, the team has analyzed the feasibility of rehabilitating and replacing the existing bridge with a new structure. The consultant has recommended that the existing bridge be replaced.

Also, the team developed criteria to evaluate the alternatives. The project team is currently developing various improvement alternatives. So far, the alternatives that have been identified include the No Build alternative, building a new, wider bridge, building a bridge with collector/distribution roads, constructing two new parallel bridges, building a two level bridge, or incorporating contraflow lane(s) into the design. Along I-95, there are currently two lanes running north and south in Pennsylvania and New Jersey and a third lane could be built either along the outside of existing lanes or in the median. The project team is also considering improvements to the Route 29, and Taylorsville Road interchanges. Currently, the team is exploring four alternatives for the Taylorsville Road interchange and four alternatives for the NJ 29 Interchange. The team will continue to solicit public participation throughout the process.

The project team is currently completing the development of the alternatives, seeking input on the alternatives through township meetings, and evaluating each alternative and its potential impact. Open houses will be held in Spring 2005.

III. Questions & Answers

Question: Can you tell us if homes will be razed because of the project?

Answer: The impact on right-of-way is unknown at the present time. At the Open House this Spring the public will be able to view the various alternatives and the potential impact on right-of-way for each of the alternatives.

Question: Can you put the slides from the presentation on to the website so we can comment on them?

Answer: Following this meeting the complete presentation, which includes the alternatives, will be available on the website.

Question: I think that the project is an overblown response to a rush hour problem. There is only a problem traveling into New Jersey in the morning. Why are you addressing this bridge and not the other crossings?

Answer: There is a need to address severe congestion and safety problems at the Scudder Falls Bridge and along I-95. Traffic is projected to continue increasing through 2030.

Question: Why would you build a new bridge rather than rehabilitate the existing one? Would the alignment change if you build a new bridge? Will the new bridge be built north or south of the existing bridge?

- Answer:** It is more expensive to rehabilitate than to replace the existing bridge. Also, a new bridge will have more years of useful life. We are now looking at upstream and downstream options.
- Comment:** George Alexandridis explained that whichever alternative is chosen that four lanes of traffic will be maintained during construction.
- Comment:** Our houses will be greatly affected if a new bridge is built upstream.
- Question:** The current Route 29 interchange is complex to navigate. Wouldn't building roundabouts at this interchange also be complicated?
- Answer:** The roundabouts allow for traffic to keep moving because there is no need for traffic signals. Signing the roundabout so that drivers know how to use the facility is important.
- Comment:** The Council commented that the Route 29 interchange is complicated now and that roundabouts would be a similarly complicated.
- Question:** The Council asked if the roundabouts will be applied to all the alternatives.
- Answer:** Yes. The more typical interchange configuration design options will also be applied to all the alternatives.
- Question:** Why are more lanes needed in the northbound direction than in the southbound direction?
- Answer:** More lanes are needed in the northbound direction to safely accommodate traffic in the morning. In the morning rush hour heading north from Taylorsville Road there is a weaving problem that slows down traffic along the mainline on I-95. In the evening rush hour traffic is more spread out so there is no weaving problem in the southbound direction.
- Question:** Why is this project scoped as an Environmental Assessment (EA) and not as an Environmental Impact Statement (EIS)?
- Answer:** The Commission, in cooperation with the Federal Highway Administration (FHWA), the Pennsylvania Department of Transportation (PENNDOT), and the New Jersey Department of Transportation (NJDOT), through a scoping process and field view, determined that an EA would be appropriate for this project because the significance of potential environmental impacts of the project is not known at this time. If at any time during the EA process it is determined that significant impacts will result from the proposed project, then an EIS must be prepared. The project could also be downgraded to a Categorical Exclusion (CEE) depending on the impacts. The FHWA decides if the project designation will change but the opinions of the resource agencies drive the decision.

Distribution:

Frank McCartney, DRJTBC
George Alexandridis, DRJTBC
Linda Spalinski, DRJTBC
Bijan Pashanamaei, DMJM+HARRIS
Christine Bishop-Edkins, DMJM+HARRIS
Joe Grilli, HNTB
Linda Artlip, Riverfront Associates, Inc.
Bridget Keegan, Kise Straw & Kolodner