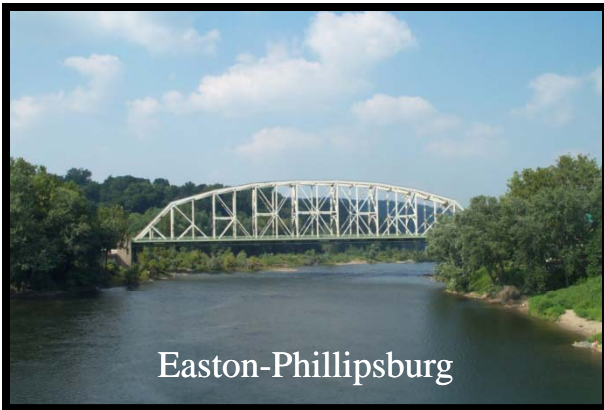




Delaware River
Joint Toll Bridge
Commission

TOLL BRIDGES

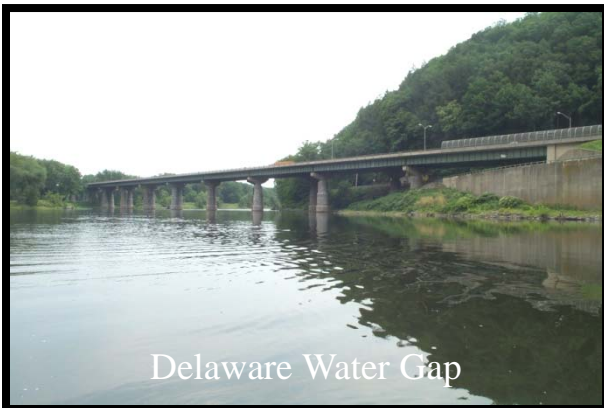
Trenton-Morrisville
New Hope-Lambertville
Interstate 78
Easton-Phillipsburg
Portland-Columbia
Delaware Water Gap
Milford-Montague



Easton-Phillipsburg



Interstate 78



Delaware Water Gap



Milford-Montague

SEVENTIETH ANNUAL INSPECTION REPORT 2007

Prepared by



TranSystems|Lichtenstein

TOLL SUPPORTED BRIDGES

Lower Trenton
Calhoun Street
Scudder Falls
Washington Crossing
New Hope-Lambertville
Centre Bridge-Stockton
Lumberville-Raven Rock
Uhlerstown-Frenchtown
Upper Black Eddy-Milford
Riegelsville
Northampton Street
Riverton-Belvidere
Portland-Columbia



DELAWARE RIVER JOINT
TOLL BRIDGE COMMISSION
ENGINEER
2008 APR -7 AM 11:42

TranSystems | Lichtenstein

45 Eisenhower Drive
Suite 250
Paramus, NJ 07652
Tel 201-368-0400
Fax 201-368-7740

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January 28, 2008 revised April 4, 2008
Mr. Frank G. McCartney
Executive Director
Delaware River Joint Toll Bridge Commission
110 Wood Street
Morrisville, PA 19067

**RE: Consulting Engineer's Seventieth Annual Inspection Report-2007
DRJTBC Contract No. C-07-02A
Our Project Number 708070022**

Dear Mr. McCartney:

It is with great pleasure that we are submitting the Consulting Engineer's Seventieth Annual Inspection Report (2007) for the Commission's following facilities:

- A. The Seven (7) Toll Bridges
- B. The Thirteen (13) Toll Supported (Non-Toll) Bridges
- C. The Thirty-five (35) approach bridges and roadways serving the above bridges
- D. The Commission's buildings and grounds
- E. The Commission's vehicles and equipment

This Annual Inspection Report summarizes our findings and recommendations based upon the 2007 inspection of the Toll Facilities and an update of the 2006 inspections of the Toll Supported Facilities updated to indicate any material changes in conclusions and recommendations since the 2006 inspection. All facilities are in operating condition.

The Eleventh Annual Maintenance Report which defines activities to be undertaken by the Commission's maintenance staff is published separately.

The report identifies certain ongoing capital projects and their estimated costs for 2008 and 2009. The estimated expenditure for capital projects in 2008 is **\$150,930,000**. In addition, an estimated expenditure of **\$1,197,000** is recommended for new vehicle and equipment purchases in 2008. Therefore the total amount of ongoing capital projects and vehicle and equipment expenditures in 2008 is estimated to be **\$150,930,000**. The estimated expenditure for ongoing capital projects for 2009 is **\$127,567,000**.

It has been a pleasure to serve the Commission. Please contact us if you require any additional information.

Very truly yours,

Transystems|Lichtenstein

William Clark, P.E.
Project Manager/Associate

TABLE OF CONTENTS

I.	Letter of Transmittal	
II.	Table of Contents	i
III.	Members of the Commission	iii
IV.	Introduction	vi
V.	Key Sheet	x
VI.	Commission Initiatives	1
VII.	Annual Inspection Reports	

TOLL BRIDGE FACILITIES

Trenton-Morrisville Toll Bridge Facility (<i>Structure No. 20</i>).....	8
New Hope-Lambertville Toll Bridge Facility (<i>Structure No. 140</i>)	15
Interstate 78 Toll Bridge Facility (<i>Structure Nos. 270 & 275</i>)	21
Easton-Phillipsburg Toll Bridge Facility (<i>Structure No. 300</i>).....	30
Portland-Columbia Toll Bridge Facility (<i>Structure No. 340</i>).....	38
Delaware Water Gap Toll Bridge Facility (<i>Structure Nos. 380 & 390</i>)	45
Milford-Montague Toll Bridge Facility (<i>Structure No. 400</i>).....	52

TOLL SUPPORTED BRIDGES

Lower Trenton Toll Supported Bridge (<i>Structure No. 40</i>)	58
Calhoun Street Toll Supported Bridge (<i>Structure No. 60</i>)	63
Scudder Falls Toll Supported Bridges (<i>Structure No. 80</i>)	69
Washington Crossing Toll Supported Bridge (<i>Structure No. 100</i>).....	77
New Hope-Lambertville Toll Supported Bridge (<i>Structure No. 120</i>)	83

	Centre Bridge-Stockton Toll Supported Bridges (<i>Structure No. 160</i>).....	89
	Lumberville-Raven Rock Pedestrian Bridge (<i>Structure No. 180</i>)	96
	Uhlerstown-Frenchtown Toll Supported Bridge (<i>Structure No. 220</i>)	102
	Upper Black Eddy-Milford Toll Supported Bridge (<i>Structure No. 240</i>).....	107
	Riegelsville Toll Supported Bridge (<i>Structure No. 260</i>)	113
	Northampton Street Toll Supported Bridge (<i>Structure No. 280</i>).....	119
	Riverton-Belvidere Toll Supported Bridge (<i>Structure No. 320</i>)	124
	Portland-Columbia Pedestrian Bridge (<i>Structure No. 360</i>)	130
VIII.	Vehicles and Equipment	VE-1
IX.	Estimated Expenditures	EE-1
X.	Schedule of Insurance	SI-1
XI.	Glossary of Terms	G-1
XII.	Appendix A – Interim/Special Inspections	A-1
	Scudder Falls Toll Supported Bridge Interim Inspection	
	Northampton Street Toll Supported Bridge Special Inspection	
XIII.	Appendix B – Bridge Listing.....	B-1

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

MEMBERS OF THE COMMISSION

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Chairman

HONORABLE DONALD HART

HONORABLE THOMAS W. SUMNERS, ESQ.

HONORABLE WILLIAM J. HODAS
Secretary Treasurer

HONORABLE HARRY ZIKAS, JR.

PENNSYLVANIA

HONORABLE GAETAN J. ALFANO, ESQ.
Vice Chairman

HONORABLE J. ALAN FOWLER

HONORABLE BERNARD A. GRIGGS, JR.

HONORABLE MELISSA HELLER

HONORABLE JOHN PREVOZNIK, ESQ.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

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TRANSYSTEMS|LICHTENSTEIN
Paramus, New Jersey

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Philadelphia, Pennsylvania

FLORIO, PERRUCCI, STEINHARDT & FADER
Phillipsburg, New Jersey

LABOR COUNSEL

STRADLEY, RONON, STEVENS & YOUNG
Philadelphia, Pennsylvania

WOLFF & SAMSON
Roseland, New Jersey

AUDITORS

MERCADIEN
Princeton, New Jersey

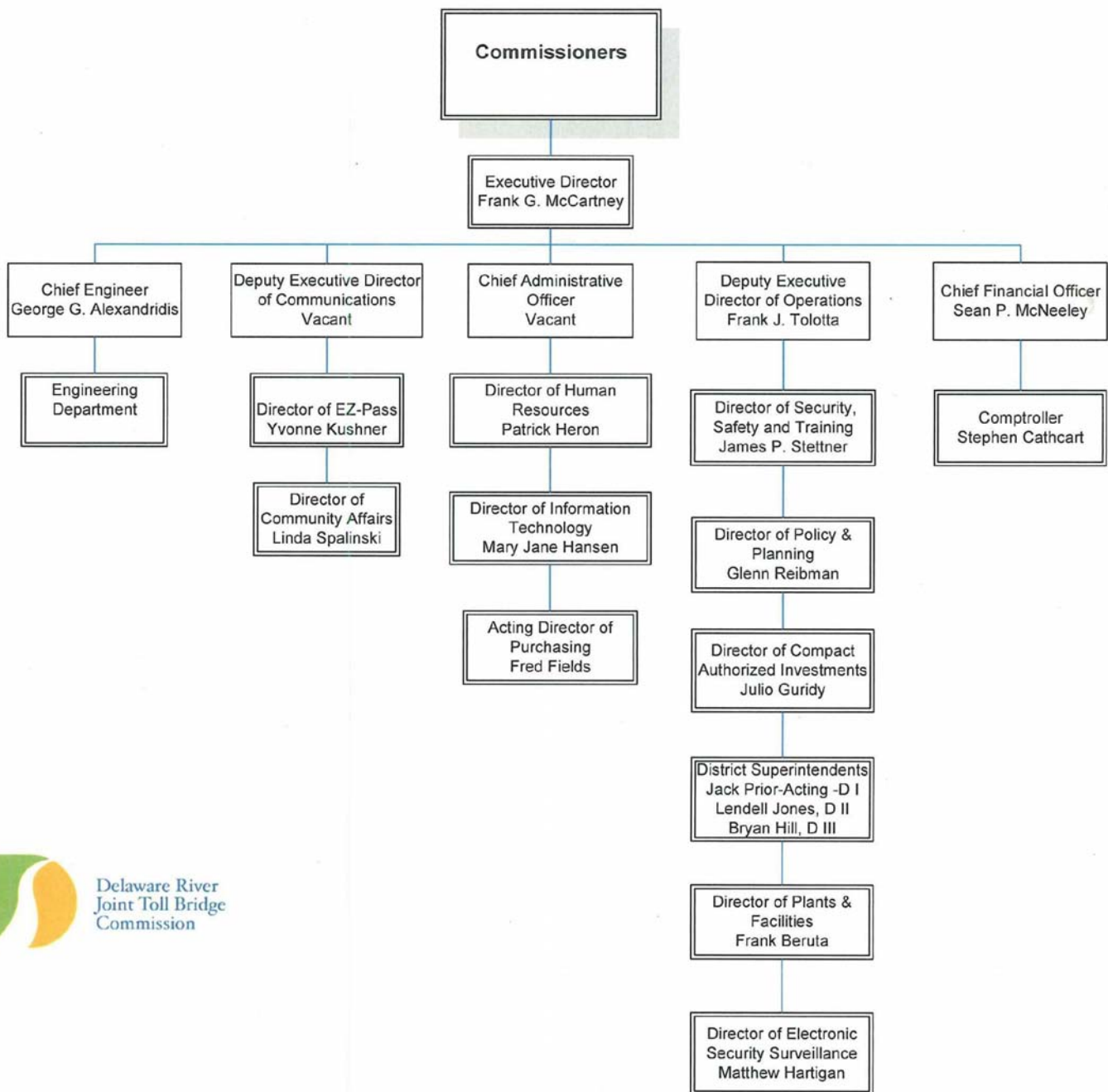
COMMUNICATIONS CONSULTANT

BELLEVUE COMMUNICATIONS
Philadelphia, Pennsylvania

INVESTMENT MANAGEMENT

COMMERCE CAPITAL MARKETS
Philadelphia, Pennsylvania

COMMISSION STAFF



INTRODUCTION

In accordance with Federal Highway Administration (FHWA) regulations, all bridges must be inspected at least once every two (2) years, more often if warranted, due to condition. Under the Commission's 2003 Bond Resolution, all bridges and toll facilities are to be inspected once every two (2) years. The Commission will inspect its Toll Supported Bridges in even years (2006, 2008, etc.) and the Toll Bridges in odd years (2007, 2009, etc.). The associated facilities and grounds will be inspected in the year the bridge is inspected.

This Seventieth Annual Inspection Report of bridges and facilities owned and operated by the Delaware River Joint Toll Bridge Commission contains the findings of the 2007 inspections of the Toll Bridges. The conclusions and recommendations concerning the Toll Supported Bridges are based on the 2006 inspections performed by Schoor DePalma. The inspection findings shown for the Toll Supported Bridges is for informational purposes only. This year's inspections consisted of seven (7) Toll Bridges and any accompanying facilities and approach structures. The Trenton-Morrisville Toll Bridge (Route 1) is currently undergoing major rehabilitation and only the accessible areas which continue to carry traffic on the toll bridge and approach structures were inspected.

Commission District foremen and maintenance personnel provided our inspection crew with support services and access equipment necessary for performing the inspections. Several maintenance personnel also assisted in providing a valuable 'walk through' of the bridges, prior to beginning the inspections, highlighting the major areas of concern and any previous work done on the structure.

The equipment used to access the majority of the bridges (underdeck) consisted of various length ladders, Commission owned single and dual lift trucks as well as an under-bridge unit called The Bridgemaster.

The following report highlights the significant findings observed during the inspections, including recommended measures of repairing or improving noted deficiencies, either by Commission maintenance forces or by a future contract. This report, however, does not discuss routine preventative maintenance items regularly performed by Maintenance forces. Any maintenance force level deficiencies which have been identified during the annual inspection can be found in the *Eleventh Annual Maintenance Report*, published under a separate cover, which has been prepared to expedite communication of repair work to the maintenance staff. In general these maintenance tasks include, but are not limited to, the following:

- Removal of accumulated debris from the deck, deck joints, inlets, catch basins, and drainage pipes
- Annual cleaning of structures (bridge flushing)
- Monitoring and repair of lighting and electrical work
- Removal of vegetation from substructures
- Removal of graffiti from bridges and retaining walls
- Patching concrete spalls and asphalt potholes
- Sealing roadway and bridge deck cracks
- Localized cleaning and painting of rusted steel/bearings
- Deck joint rehabilitation
- Guide rail repairs
- Miscellaneous steel repairs

A consistent numbering system was used to identify the bridge spans. Span numbering generally begins at the westernmost location of the bridge and increases to the east. However, a specific numbering system was not utilized for the individual structural members. The locations for individual members (stringers, floorbeams, etc.) are referenced by their relationship to known fixed points, such as bridge fascias and piers.

Several capital improvement projects were completed beyond the past two years. Among these projects are the following:

Projects Completed Beyond Past Two Years	Program Cost
Uhlerstown-Frenchtown Rehabilitation	\$ 5,779,187
Northampton Street Bridge Rehabilitation	\$ 7,364,066
Substructure & Scour Remediation	\$ 482,299
T-M Space Plan (Design thru Task Order)	\$ 56,544
Southerly Crossing Corridor Study	\$ 544,643
Power Upgrades - all facilities+Struct Wiring+Telephone	\$ 4,760,754
New Hope-Lambertville Toll Bridge Plaza & Bridge Rehab	\$ 9,671,373
New Hope-Lambertville TSB Rehabilitation (Design, Construction, CM/CI)	\$ 7,700,991
New Hope-Lambertville Toll Supported Bridge Emergency Sidewalk Repair	\$ 156,083
Easton-Philipsburg Pavement of Bridge Approaches (PennDOT)	\$ 517,090
SF Toll Supported Bridge Guiderail Replacement (By NJDOT)	\$ 103,000
Replace Overhead Sign (by NJDOT)	\$ 230,309
EZ Pass Implementation	\$ 18,023,146
Portland Columbia TS Pedestrian Bridge - Handicap Accessible Ramp	\$ 305,656
Portland Columbia TSB Deck Repairs and Drainage Modifications	\$ 290,998
Emergency and Priority Repair Contract (all Bridges) -T/TS 389	\$ 749,233
Emergency and Priority Repair Contract (all Bridges) -I-80/NH TSB	\$ 367,116
CS Interim Repair Contract (Structural Steel Repairs)	\$ 445,913
RGL End Floorbeam Bearings (Task Order)	\$ 565,563
I-78 Salt Storage Bid	\$ 485,681
Cleaning & Painting of the LT Toll Supported Bridge & Sign Replacement	\$ 4,567,205
I-78 Expansion Dam Replacement	\$ 867,788
Elevator Upgrade (In-House Design)	\$ 106,455
I-80 NJ Service Road Repair & Repaving	\$ 239,885
Easton-Philipsburg Sidewalk Replacement	\$ 1,705,247
High Priority Structural Steel Repairs at the SFToll Supported Bridge	\$ 968,625
I-78 Roadway Restriping	\$ 184,898
Northampton Street Toll Supported Bridge Inspection/Access Cable/Lifeline	\$ 222,044
Washington Crossing TSB Deck joint replacement/ rehabilitation @ Pier 1,2,4 & 5	\$ 407,885
Portland Columbia Impact Attenuators Design, see 438 (Constr. cost incl. in 441)	\$ 29,289
I-80 DWG Impact Attenuators Design (see 438, Constr. Cost included in 440)	\$ 69,228
M-M TB Impact Attenuators Design, see 438 (Constr. cost incl. in 430)	\$ 34,614
Wide Area Network (WAN)	\$ 192,957
Emergency Management Studies (Phase 1 & 2)	\$ 184,000
Total =	\$ 68,379,765

Several capital improvement projects were completed within the past two years. Among these projects are the following:

Projects Completed Within Past Two Years	Program Cost
Riverton-Belvidere TSB Rehabilitation	\$ 9,005,855
Scudder Falls TSB Deck Joint Replacement	\$ 1,400,157
Scudder Falls TSB Lighting Upgrade	\$ 125,275
Easton-Phillipsburg TB In-Depth Inspection and Load Rating Analysis	\$ 73,294
Centre Bridge-Stockton TSB Rehabilitation	\$ 9,705,787
New Hope-Lambertville TB Admin. Building Terne Roof Replacement	\$ 685,102
Easton-Phillipsburg TB Sign Structure Replacement	\$ 2,577,682
District 3 TB Facilities Roof Replacement	\$ 781,634
Portland-Columbia Sign Structure Repair	\$ 27,732
I-80 NJ Repaving	\$ 581,442
I-78 Emergency Slab Replacement	\$ 135,000
Total =	\$ 25,098,960

The capital improvement projects shown below are underway and are either being developed, studied, designed, or constructed:

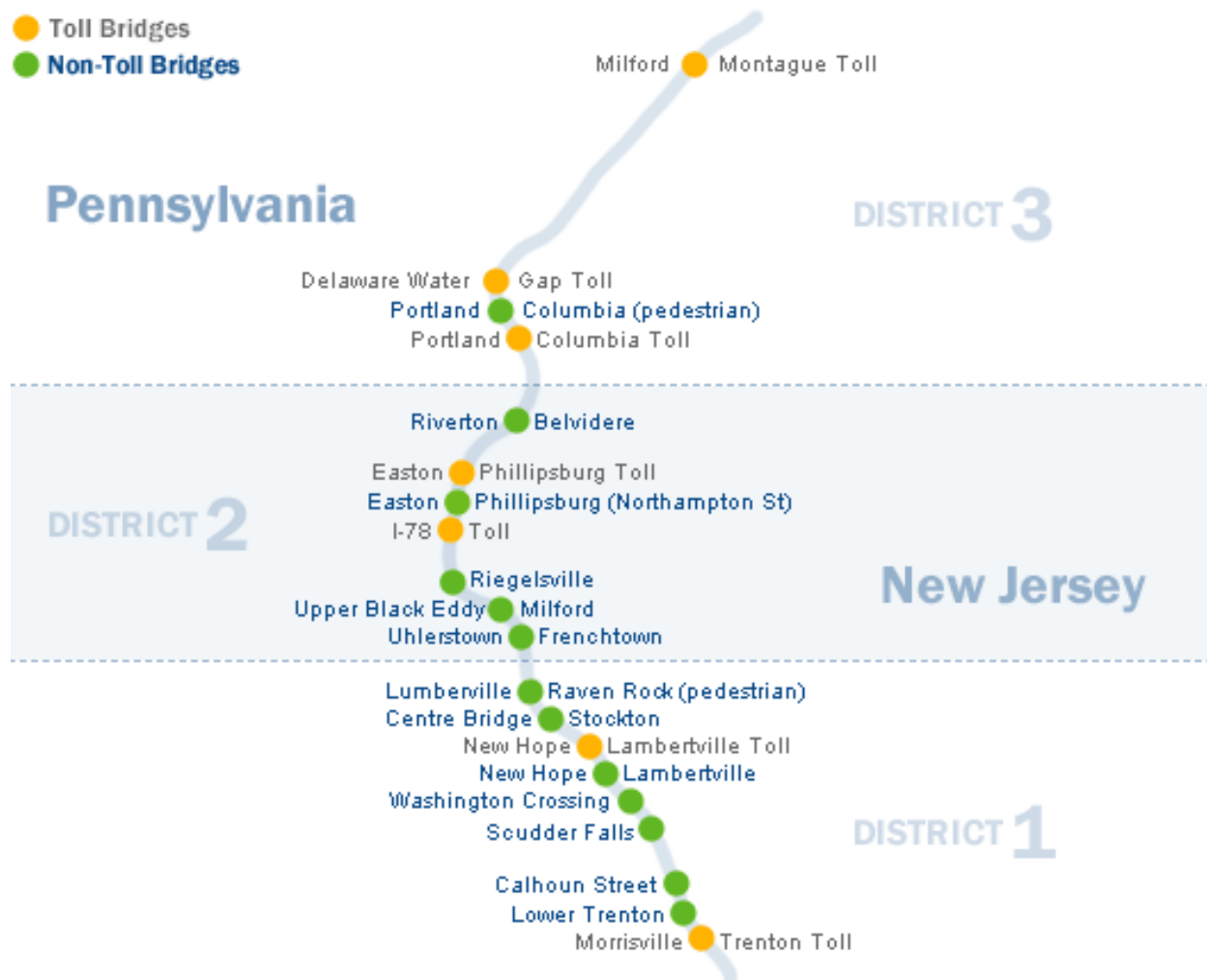
Projects Underway	Program Cost
District 1, 2 & 3 Substructure & Scour Remediation	\$ 5,591,000
Electronic Surveillance Detection System (ESS)	\$ 22,784,000
I-78 Open Road Tolling (ORT) Lanes	\$ 46,295,000
I-78 Roadway Rehabilitation	\$ 49,640,000
I-80 / Delaware Water Gap Task Force Consultant	\$ 521,000
I-80 / Delaware Water Gap Toll Bridge Bearing Remediation and Deck Study	\$ 1,805,000
I-80 / DWG Toll Bridge ORT & One Additional WB Lane (PE & Final Design)	\$186,308,000
I-95 / Scudder Falls Improvement Project (Design, CM/CI, Construction)	\$254,232,000
Lumberville - Raven Rock Toll Supported Bridge Blast Clean and Paint Bridge	\$ 3,039,000
Milford - Montague Toll Bridge Rehabilitation	\$ 19,129,000
New Hope - Lambertville Toll Bridge Additions & Renovations	\$ 5,660,000
NJDEP & PADEP Municipal Stormwater Regulation Compliance at Toll Facilities	\$ 286,000
Phase 1 Rehabilitation & Concept Study for the Washington Crossing TSB	\$ 3,357,000
Riegelsville Toll Supported Bridge Rehabilitation	\$ 6,974,000
Trenton Morrisville Toll Bridge Rehab + One Aux. NB Lane	\$102,384,000
Upper Black Eddy - Milford Toll Supported Bridge Rehabilitation	\$ 13,948,000
Total =	\$721,953,000

In 2000 the Commission adopted a “fix it right” philosophy for its Capital Program as compared to the previous “fix what’s broken” approach. The “fix it right” approach is based on the premise that whenever a project requires a bridge closure for implementation, that project must be designed so that no additional repair projects requiring a closure will be necessary for a subsequent period of at least 15 years. The estimated costs of the recommended improvements included in this report account for all costs of design, construction, construction management and inspection, and contract administration, are consistent with the Commission’s “fix it right” approach. It is also noted that the general findings and estimated repair costs developed from the

2006 Underwater Inspection Report, prepared by Louis Berger Group, have been included in this report.

The format of the cost sheets for the Seventieth Annual Inspection Report has been revised to reflect the estimated cost of recommended improvements funded by the General Reserve in 2008 and 2009. In addition the cost sheets provide the total program cost of the projects. The total in each section does not include the cost of completed projects.

The following report will summarize significant findings, recommendations, and associated estimated costs at the end of each section for each structure. Following the main reports are the recommendations for equipment and vehicle inspections and their associated repair/replacement costs. Finally, the Schedule of Insurance is provided towards the end of this report.

KEY SHEET

***COMMISSION INITIATIVES
AND SYSTEM WIDE PROJECTS***

Commission Initiatives and System-Wide Projects

In addition to addressing the findings of the 2006 annual inspection, the Commission has instituted in its Capital Program a number of "Commission Initiatives and System-wide Projects". These initiatives increase the safety and security of patrons, increase the Commission's responsiveness to emergencies, identify needed future capacity improvements, and allow for increased control of projects and equipment.

The following is a partial listing of Commission Initiatives and System-wide Projects that have begun or will begin in the near future:

Project Description	* Program Cost	General Reserve Fund	
		2008	2009
<u>Compact Authorized Investments</u>	<i>\$40,000,000</i>	\$26,824,000	\$7,412,000
<u>Compact Authorized Investment Consultants</u>	<i>\$2,000,000</i>	\$710,000	\$165,000
In order to maintain and enhance the bridge infrastructure the Commission has programmed projects in 2005 and 2006 to include Compact Authorized Expenditures for host community transportation infrastructure improvements. These expenditures will be geared toward improving throughout at the Commission's facilities. The project is currently underway.			
<u>Capitalized Engineering Department Labor</u>	<i>\$9,024,000</i>	\$600,000	\$621,000
This Commission initiative will track the in house engineering department's efforts on all capital projects. The total programmed amount is shown as well as the expected expenditures in 2008 and 2009.			
<u>Capitalized Capital Prgm Mgmt Consultant</u>	<i>\$23,348,000</i>	\$1,500,000	\$1,551,000
The Capital Program Management Consultant has enabled the Commission to continue to move the Capital Program forward by managing design, construction and construction management contracts associated with the capital program. Additional project managers have been provided under this contract and this cost is being tracked as a capital expense.			
<u>Northerly Corridor Congestion Mitigation Study</u>	<i>\$659,000</i>	\$47,000	\$0
Professional consultant services will be provided for an inter-agency task force focused on addressing eastbound and westbound congestion mitigation for the I-80 corridor within the vicinity of the Delaware Water Gap Toll Bridge.			

* Note: The Program Cost includes the costs from 2001 to 2018

Commission Initiatives and System-Wide Projects

Project Description	* Program Cost	General Reserve Fund	
		2008	2009
<u>Electronic Surveillance Detection System</u> This project involves the planning, design, installation and maintenance of an electronic surveillance and detection system to provide for the security of the Commission's bridges, roadways, toll plazas, and support facilities. The program will also include upgrades to the Commission's existing radio communications system. A consulting firm will be responsible for program management including the administration, planning, development, and coordination of the implementation of an electronic system designed to deter and detect impacts of threats to Commission assets. The project is currently underway.	\$22,784,000	\$12,786,000	\$7,354,000
<u>System Wide IT and Telephone Upgrade</u> This project involves the installation and maintenance of improvements to the Commission's Information Technology (IT) and Telephone systems in order to enhance the quality, security and reliability of the facility and inter-facility communications.	\$242,000	\$242,000	\$0
<u>Stormwater Compliance @ Toll Facilities</u> On April 1, 2004 the Commission was issued the New Jersey Pollutant Discharge Elimination System (NJPDES) Permit Number NJG0153052 Authorization to Discharge (Authorization) as a R12 – Highway Agency Storm water General Permit. This initiative will continue to provide for the compliance program bringing the Commission into conformance with the New Jersey permit. Although the Commonwealth of Pennsylvania has not yet adopted a formal permit process, the Commission will address and comply with the policies set forth by the Commonwealth of Pennsylvania Department of Environmental Protection's (PADEP) Phase II Storm water Program. The project is ongoing.	\$286,000	\$109,000	\$75,000

* Note: The Program Cost includes the costs from 2001 to 2018

Commission Initiatives and System-Wide Projects

Project Description	* Program Cost	General Reserve Fund	
		2008	2009
<u>In-Lane System Integration DBM</u> The existing toll lanes are comprised of automatic lanes, manual/attended lanes and dedicated ETC lanes. The current toll collection system has no VES and all enforcement is performed via manual means, toll gates. As part of the toll collection system expansion, the Commission will implement a three (3) lane ORT system at the I-78 Toll Bridge and also equip the existing conventional lanes with VES. In addition to the installation of the ORT and VES at the I-78 Toll Bridge, the Commission intends to install VES at the remaining six (6) toll bridges. Included in this project is the design, build and maintenance of the ORT, VES and the maintenance of the existing ETC system.	<i>\$9,024,000</i>	\$2,242,000	\$3,400,000
<u>Customer Service Center / Violation Processing Center</u> As part of the Commission's toll collection system expansion, the Commission plans to implement an ORT system and to equip numerous conventional lanes with VES. This project includes the CSC/VPC design, development, installation, integration and testing. This project also includes the replacement of the existing CSC with a new CSC that also provides violation processing capability. The CSC/VPC System shall interface with the existing ETC system, the ORT system and the VES system to obtain transaction data and violation images to post transactions and pursue toll evaders.	<i>\$4,033,000</i>	\$990,000	\$1,592,000
<u>Financial Management System</u> The Commission proposes to address the increasing scale of expenditures and complexity of the capital program and improve enterprise resource management by upgrading from the existing accounting system and implementing a comprehensive financial management system. The Commission will assess needs and implement a solution that addresses some or all of the following areas: accounting, general ledger, accounts payable, project accounting, job cost tracking and analysis, budgeting, cash management, and purchasing.	<i>\$2,585,000</i>	\$500,000	\$1,551,000

** Note: The Program Cost includes the costs from 2001 to 2018*

Commission Initiatives and System-Wide Projects

Project Description	* Program Cost	General Reserve Fund	
		2008	2009
<u>District 1, 2 & 3 Substructure & Scour Remediation</u> Professional engineering services are required to perform the Substructure & Scour Remediation Repairs for the Commission's bridges. The Consultant will be responsible for preparing a Concept Study, providing preliminary, final and post design services and compiling construction documents. The need for the proposed scour remediation and substructure repair work stems from the findings of the 2005 Underwater Inspection, and the more recent assessment of substructure damage as a result of the flood experienced in 2006.	\$5,591,000	\$314,000	\$898,000
<u>ITS Improvement @ (DWG, E-P, I-78, T-M, S-F) - ROM</u> The Commission proposes to implement Intelligent Transportation System (ITS) improvements to monitor real-time traffic conditions and disseminate traveler information at the Trenton-Morrisville, Easton-Phillipsburg, I-78 and Delaware Water Gap Toll Bridge Facility and the I-95 Scudder Falls Toll supported Bridge. Dissemination of information could improve travel time and safety during recurring and non-recurring congestion. ITS efforts could include deploying incident detection/management devices using roadway sensors for vehicle and incident detection. Incident verification/management using CCTV can be accomplished by deploying cameras at each facility. Dissemination of real-time traveler information can be accomplished through kiosks at major traffic generators / rest stops / visitor centers, as well as DMS/HAR installed along the roadway prior to major decision points that will allow motorists to use alternative routes.	\$4,403,000	\$0	\$0
<u>Fire Protection Systems All Communications / IT Rooms</u> The Commission has planned the design and installation of fire protection/suppression systems in the communication equipment rooms at all of the Commission's Administration Buildings.	\$464,000	\$60,000	\$404,000

* Note: The Program Cost includes the costs from 2001 to 2018

Commission Initiatives and System-Wide Projects

Project Description	* Program Cost	General Reserve Fund	
		2008	2009
<u>Asset Management System (Incl Maint Mgmt Track,</u> The Commission will develop a GIS based system to track the Commission's assets and provide the ability to show how, when, and why resources were committed by the Commission. The purpose of a Bridge Management System (BMS) is to provide a centralized location for pertinent information related to each bridge including providing a link between inspection, maintenance, design and construction data. A BMS should satisfy the FHWA requirements for the proper safety inspection and evaluation of highway bridges. Critical components of a BMS include monitoring the existing condition of the Commissions Bridges; maintain current records of structural capacity, anticipated fatigue life, seismic vulnerability, scour vulnerability and the functional assessment of each bridge. A BMS will help to better manage the Capital Program and plan for maintenance and rehabilitation costs each year.	\$631,000	\$0	\$311,000
<u>Update General Information Documents</u> The Bridge Commission desires to update their current General Information Documents. These two (2) documents entitled "General Information on Toll Bridges" and "General Information on Non-Toll Bridges" were last revised in June of 1996 and March of 1995, respectively. The goals of this Commission Initiative are to update the content of documents with current information, update the presentation of documents with graphics and color and produce electronic versions of the documents.	\$50,000	\$50,000	\$0
<u>District 1 Bridge Repairs</u>	\$5,802,000	\$0	\$311,000
<u>District 2 Bridge Repairs</u>	\$5,998,000	\$0	\$0
<u>District 3 Bridge Repairs</u> The Commission should be prepared to package miscellaneous bridge and facility repair items for one (1) district into one (1) construction contract. This will allow the Commission to receive a competitive price for completing various minor miscellaneous items. It is envisioned that one (1) contract will be completed each year and each district should be placed on a three (3) year cycle. Expenditures are expected to occur from 2009 to 2016.	\$6,104,000	\$0	\$0

* Note: The Program Cost includes the costs from 2001 to 2018

Commission Initiatives and System-Wide Projects

Project Description	* Program Cost	General Reserve Fund	
		2008	2009
<u>District 3 Maintenance Deicing Study and Implementation</u>	\$1,189,000	\$75,000	\$1,114,000
The 69th Annual Inspection Report prepared by Schoor DePalma Associates, recommended a study to be performed to determine the District's deicing requirements. The study will include determining salt storage capacity, location, alternatives for deicing materials and additional deicing needs. It is anticipated that this study will be accomplished through a Task Order Assignment.			
	* Program Cost	2008	2009
Total for all of the above Commission Initiatives and System-wide Projects:	\$144,217,000	\$47,049,000	\$26,759,000

* Note: The Program Cost includes the costs from 2001 to 2018

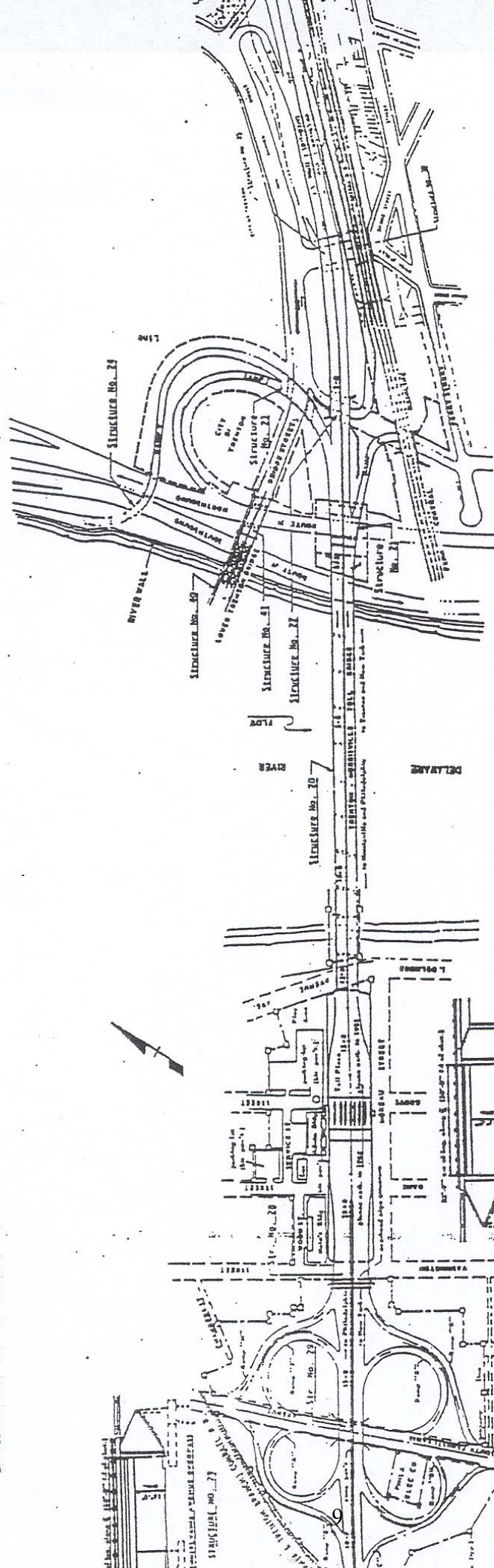
TRENTON-MORRISVILLE

TOLL BRIDGE FACILITY

(Structure No. 20)

STATE OF NEW JERSEY
COUNTY OF MERCER
CITY OF TRENTON

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
BOROUGH OF MORRISVILLE



NEW JERSEY APPROACH TO THE
TRENTON-MORRISVILLE TOLL BRIDGE

PENNSYLVANIA APPROACH TO THE
TRENTON-MORRISVILLE TOLL BRIDGE

TRENTON - MORRISVILLE TOLL BRIDGE

GENERAL

TRENTON-MORRISVILLE TOLL BRIDGE

(12 span, simply supported, composite steel multi-girder)

The Trenton-Morrisville Toll Bridge (Structure No. 20) carries US Route 1 over the Delaware River between Trenton, New Jersey and Morrisville, Pennsylvania. The main bridge is a twelve span, simply supported, composite steel girder structure with an overall length of 1,324 feet. The substructure consists of reinforced concrete abutments and piers with granite facing on the piers. The bridge was originally constructed by the Commission in 1952 as a four (4) lane roadway, and widened to six (6) lanes in 1965 for a total roadway width of 62 feet. In 1983 an aluminum barrier was erected across the bridge, creating three southbound and two northbound lanes. The posted speed limit in the northbound direction is 40 mph and 50 mph in the southbound direction until midspan, where the speed limit is reduced to 20 mph approach to toll plaza.

The Commission is currently investing more than \$100 million in a multi-year project for the widening and rehabilitation of the Route 1 corridor. This work includes the main river bridge and approach structures in New Jersey and Pennsylvania. The main river bridge is being widened from the piers up, to provide an extra lane in the northbound direction. The widening also includes a full deck replacement. Construction on this project began in late 2006 and is expected to be completed in late 2009.

TRENTON-MORRISVILLE TOLL BRIDGE APPROACH STRUCTURES

The New Jersey approach consists of eight approach structures. The Pennsylvania approach consists of two approach structures.

TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach, has six toll lanes. The tollbooths are erected on concrete islands and are protected by an overhead canopy. Each lane is equipped for EZ-Pass. The construction project underway includes rehabilitating the existing toll plaza. The new toll plaza will consist of five toll collection lanes, all equipped with EZ-Pass, and a service tunnel for the toll collection staff.

The 2007 inspection included the accessible portions (due to construction) of the main river bridge, two approach bridges, and the facility and grounds.

SIGNIFICANT FINDINGS

TRENTON-MORRISVILLE TOLL BRIDGE

(12 span, simply supported, composite steel multi-girder)

The Trenton-Morrisville Toll Bridge is currently under construction. The toll bridge is being widened to accommodate an added lane in the northbound direction.

ROUTE 29 OVERPASS (NJ)

(3 span, prestressed concrete spread box beams)

This bridge is currently under construction. The structure is being reconstructed to accommodate an added off-ramp lane from Route 1.

RAMP N OVERPASS (NJ)

(1 span, steel mutli-girder)

This bridge is currently under construction. The structure is being widened to accommodate an added lane in the northbound direction.

RAMP IY OVERPASS (NJ)

(3 span, steel multi-girder)

This bridge is currently under construction for replacement of the deck.

RAMP Y OVERPASS (LONG RAMP) (NJ)

(4 span, steel multi-girder)

The structure is in overall good condition. The bridge will be cleaned and painted and the barrier parapets will be replaced as part of Contract T-380B.

UNION STREET OVERPASS (NJ)

(1 span, steel multi-girder)

This bridge is currently under construction. The southbound structure is being widened to accommodate an added lane in the northbound direction. The entire deck is being replaced as part of Contract T-380B.

CENTER STREET UNDERPASS (NJ)

(1 span, riveted steel plate girders)

The structure is in overall good condition.

BROAD STREET UNDERPASS (NJ)

(1 span, steel multi-girder)

This bridge is currently under construction. Approach roadway work and cleaning and painting of the superstructure is currently underway.

RAMP N OVER UNION STREET (NJ)

(3 span, prestressed concrete girders)

The structure is in overall good condition.

WASHINGTON STREET OVERPASS (PA)

(1 span, steel multi-girder)

This bridge is currently under construction. Deck and approach roadway work on the northbound lanes is currently underway.

SOUTH PENNSYLVANIA AVENUE OVERPASS (PA)

(1 span steel multi-girder)

The structure is in overall good condition.

TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

There is on going construction at the toll plaza and approaches. A new concrete tunnel was constructed under the toll plaza to provide access between the tollbooths and the administration building.

The entrance to the administration building closest to the toll plaza is closed because of ongoing construction on Route 1.

The HVAC system is not working adequately. The facility personnel have indicated that the HVAC duct cleaning has been completed.

The existing roof of the administration building consists of rubber membrane system. Repair patches were observed on the roof. Occasional roof leakage has been reported.

Contracts for an electronic surveillance system along with upgrading of the fire warning and alarm systems have been awarded.

The maintenance facility administration building roof replacement is in the planning stage.

CONCLUSIONS

TRENTON-MORRISVILLE TOLL BRIDGE

The structure is in overall good condition.

ROUTE 29 OVERPASS (NJ)

The structure is in overall good condition.

RAMP N OVERPASS (NJ)

The structure is in overall satisfactory condition due to the cracks and spalls at the substructure. There are no repairs recommended at this time due to ongoing construction.

RAMP IY OVERPASS (NJ)

The structure is in overall good condition.

RAMP Y OVERPASS (LONG RAMP) (NJ)

The structure is in overall good condition.

UNION STREET OVERPASS (NJ)

The structure is in overall good condition.

CENTER STREET UNDERPASS (NJ)

The structure is in overall good condition.

BROAD STREET UNDERPASS (NJ)

The structure is in overall fair condition due to paint loss and minor pitting of the webs at the superstructure. There are no repairs recommended at this time due to the ongoing construction.

RAMP N OVER UNION STREET (NJ)

The structure is in overall good condition.

WASHINGTON STREET OVERPASS (PA)

The structure is in overall good condition.

SOUTH PENNSYLVANIA AVENUE OVERPASS (PA)

The structure is in overall good condition.

TRENTON-MORRISVILLE TOLL BRIDGE FACILITY AND GROUNDS

A study should be performed to determine the best method of upgrading the HVAC system.

The administration building elevator should be replaced to eliminate frequent breakdowns and repairs. Presently the building elevator replacement is being studied.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

Trenton-Morrisville Toll Bridge

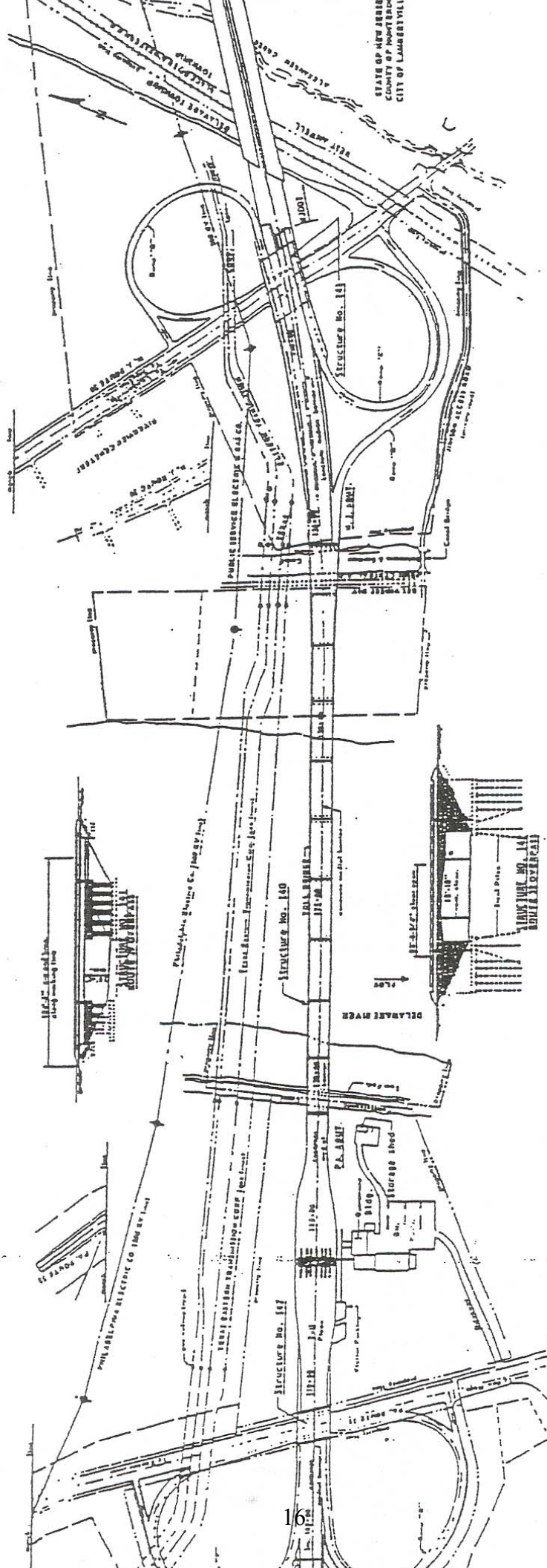
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
380	T-M TB Rehab + One Aux. NB Lane	\$102,384,000	\$31,998,000	\$31,358,000
BRIDGES SUB TOTAL		\$102,384,000	\$31,998,000	\$31,358,000
<u>Facilities and Grounds</u>				
TMTB	Miscellaneous Projects (less than \$100k each)	\$686,000	\$50,000	\$52,000
499	TM Elevator Upgrade	\$387,000	\$40,000	\$347,000
500	TM Renovations (Roof, HVAC, Space)	\$3,294,000	\$200,000	\$1,732,000
FACILITIES AND GROUNDS SUB TOTAL		\$4,367,000	\$290,000	\$2,131,000
TOTAL COST		\$106,751,000	\$32,288,000	\$33,489,000

NEW HOPE-LAMBERTVILLE
TOLL BRIDGE FACILITY
(Structure No. 140)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
TOWNSHIP OF SOLEBURY

STATE OF NEW JERSEY
COUNTY OF HUNTERDON
TOWNSHIP OF DELAWARE



PENNSYLVANIA APPROACH TO THE
NEW HOPE-LAMBERTVILLE TOLL BRIDGE

NEW JERSEY APPROACH TO THE
NEW HOPE-LAMBERTVILLE TOLL BRIDGE

NEW HOPE - LAMBERTVILLE TOLL BRIDGE

GENERAL

NEW HOPE-LAMBERTVILLE TOLL BRIDGE

(10 span, continuous, steel two girder/floorbeam/stringer)

The New Hope-Lambertville Bridge (Structure No. 140) was opened to traffic on July 22, 1971 and carries US Route 202 over the Delaware River between Lambertville, New Jersey and New Hope, Pennsylvania. The bridge is a ten span, continuous, steel two girder fracture critical structure. The deck is reinforced concrete and carries two lanes of traffic in each direction separated by a median barrier. The substructure units are composed of reinforced concrete with stone facing. The total length of the structure is 1,682 feet measured from center to center of bearings.

NEW HOPE-LAMBERTVILLE APPROACH BRIDGES

The Commission's jurisdiction also includes the loop-ramp interchanges with overpasses provided at Route 29 in New Jersey and Route 32 in Pennsylvania. The posted speed limit on the approach roadways is 55 mph.

NEW HOPE-LAMBERTVILLE FACILITY AND GROUNDS

The toll plaza and toll booths at the Pennsylvania approach have one-way toll collection, replacing the two-way collection prior to the reconstruction. All lanes are equipped with EZ-Pass. The toll plaza is erected on concrete islands and is protected with an overhead canopy that matches the Operations building roof.

The 2007 inspection included the main river bridge, two approach bridges, and the facility and grounds.

SIGNIFICANT FINDINGS

NEW HOPE-LAMBERTVILLE TOLL BRIDGE

(10 span, continuous, steel two girder/floorbeam/stringer)

This structure has been classified as structurally deficient per the FHWA system due to deficiencies found in the cantilever brackets. The condition is being addressed under Contract C-449B-4 to improve the overall condition and remove the structurally deficient classification of the structure.

The deck, approach roadways, and substructure are in good condition.

Interim inspections of the superstructure should be performed on a 3 month interval to monitor the cracks at the cantilever brackets throughout the structure. The tie plates at the cantilever bracket are bent upwards due to pack rust between the tie plate and the top flange of the girders. Contract C-449B-4 is addressing this condition with an in-depth inspection of the cantilever brackets with a permanent repair to follow. Several stringers exhibited arrested areas of material

loss to the web and bottom flange. Small holes were noted at a few stringer webs. The Stringer 11 connection to the floorbeam 3 north cantilever bracket top flange in Span 9 exhibits two (2) of four (4) anchor bolts sheared off. The south fascia stringer in Span 4 exhibits a longitudinal crack at the base of the web which has been arrested by a ½" diameter drilled hole. The web at this location exhibits ¼" localized buckling.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure was found to be in good condition with only minor exposure of the pier footings.

ROUTE 29 OVERPASS

(3 span, simply supported, steel multi-stringer)

The structure is in overall satisfactory condition.

The deck is in good condition. There are several areas of loose portions of the wabo-flex deck joint at the northbound and southbound roadways.

The approach roadway is in satisfactory condition. The approach slabs exhibit several fine to medium cracks throughout.

The superstructure is in good condition.

The substructure is in satisfactory condition. Several large areas of hollow concrete are noted at the east abutment breastwall and the pier caps and columns. Pier 2 exhibits a large spall with exposed reinforcement and an adjacent hollow concrete area at the north end of the cap.

ROUTE 32 OVERPASS

(1 span, reinforced concrete rigid frame)

The structure is in overall satisfactory condition.

The roadway is in good condition.

The approach roadway is in satisfactory condition. The approach roadway slabs exhibit few medium to wide cracks throughout.

The superstructure is in satisfactory condition. The intrados of the rigid frame exhibits few fine to medium cracks with efflorescence at the north and south ends of the midspan. Incipient spalls are noted on the concrete rigid frame over the median and the northbound left lane.

The substructure is in good condition.

NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY AND GROUNDS

The New Hope-Lambertville tollbooths and tunnels are in new condition. The roadways at the tollbooths are in good condition. The administration building, attached garage facility, and barn sheds have new roofs. New lampposts have been installed in the parking lots.

An extension to the existing administration building should be under construction in late fall of 2007 and completed by spring of 2008. Also, 29 additional parking spaces will be constructed adjacent to the existing parking lot.

CONCLUSIONS

NEW HOPE-LAMBERTVILLE TOLL BRIDGE

The structure is in overall poor condition due to the superstructure. Due to the cracks noted in the steel superstructure, interim inspections are recommended to be performed on a three (3) month basis. These inspections should include all cantilever brackets on the bridge. Priority repairs to arrest the noted cracks should be undertaken within the next 6-12 months. This recommendation has been addressed through Contract C-449B-4. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

ROUTE 29 OVERPASS

The structure is in overall satisfactory condition. The deck joints are deteriorated throughout the structure and the portions of the deck joints that are either loose or missing should be repaired. There are several areas of spalls with exposed reinforcement and hollow concrete areas throughout the substructure that should be patched with concrete. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

ROUTE 32 OVERPASS

The structure is in overall satisfactory condition. The concrete rigid frame exhibited areas of incipient spalls over the median and the northbound left lane. The concrete at these areas should be removed, the exposed reinforcement cleaned, and the area epoxy coated. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

NEW HOPE-LAMBERTVILLE TOLL BRIDGE FACILITY AND GROUNDS

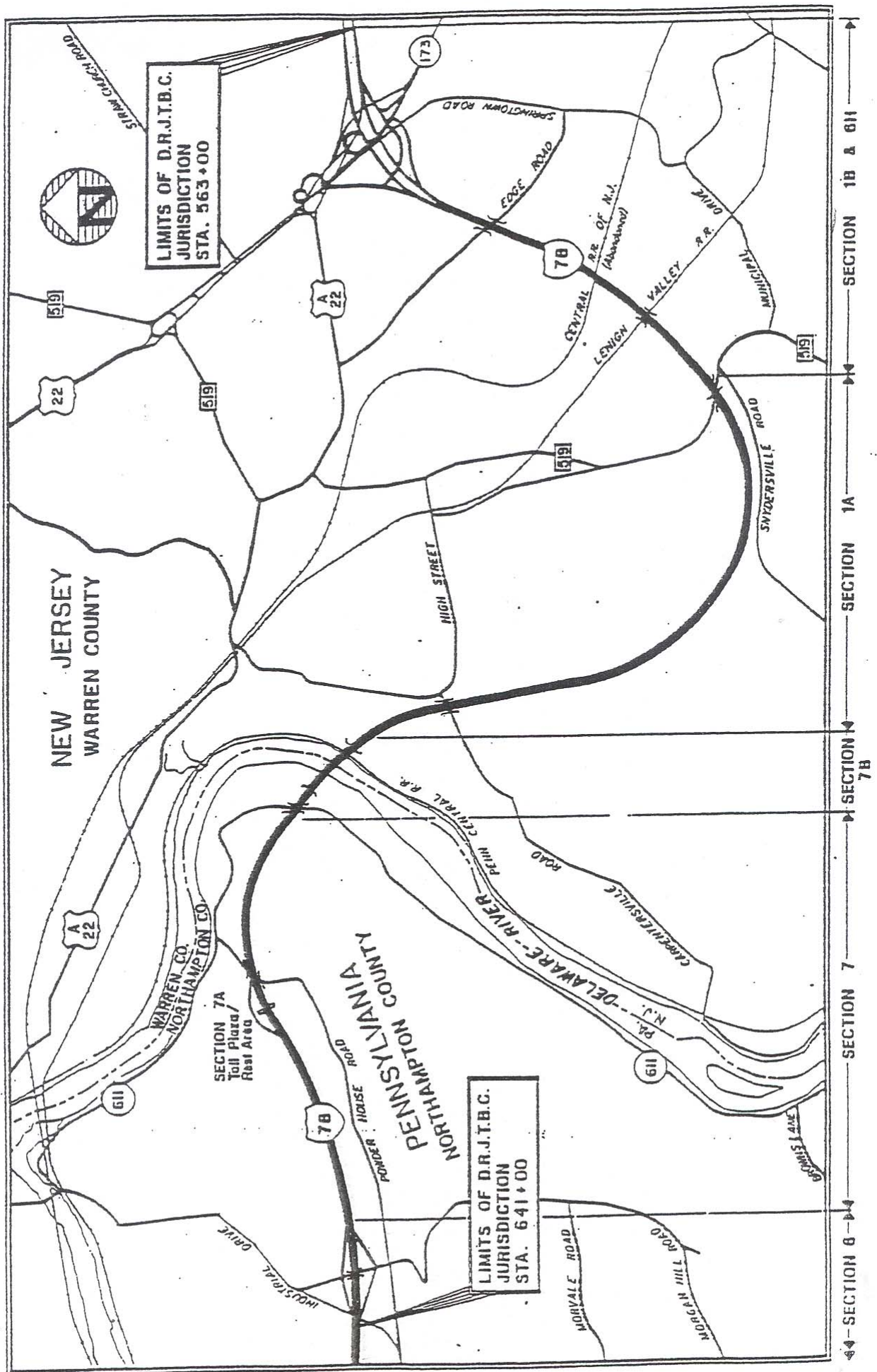
A HVAC study was included with the administration building extension to be built in the near future. Contract T-397B will include upgrades to the HVAC system. Contract T-397B will also include a back-up generator to supply all power needs of the facility. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

New Hope Lambertville Toll Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
498	NH-L TB - Floorbeam Bracket Improvements	\$5,897,000	\$2,945,000	\$2,952,000
BRIDGES SUB TOTAL		\$5,897,000	\$2,945,000	\$2,952,000
<u>Facilities and Grounds</u>				
NHLTB	Miscellaneous Projects (less than \$100k each)	\$401,000	\$30,000	\$32,000
NHLFRN	Furnishings and Equipment for Addition and Renovation	\$200,000	\$0	\$200,000
397	NH-L Additions & Renovations	\$5,660,000	\$4,818,000	\$238,000
FACILITIES AND GROUNDS SUB TOTAL		\$6,261,000	\$4,848,000	\$470,000
TOTAL COST		\$12,158,000	\$7,793,000	\$3,422,000

INTERSTATE 78
TOLL BRIDGE FACILITY
(Structure Nos. 270 & 275)



**INTERSTATE 78
TOLL BRIDGE**

GENERAL

INTERSTATE 78 TOLL BRIDGE

(Twin 7 span, continuous, steel multi-girder)

The Interstate 78 toll bridge carries traffic over the Delaware River between Northampton County, Pennsylvania and Warren County, New Jersey. The facility was opened to traffic on November 21, 1989. The Interstate 78 main river bridge (Structure nos. 270 & 275) is a twin, 1,222 foot long, four girder, 7 span continuous bridge. The dual roadways are each 46 feet from curb to curb and carry three lanes of traffic. The substructure consists of reinforced concrete hammerhead piers and reinforced concrete stub abutments. The posted speed limit on the bridge is 55 mph.

INTERSTATE 78 APPROACH BRIDGES

The New Jersey approach consists of six approach structures. The Pennsylvania approach consists of five approach structures. In total there are eleven (11) approach structures owned and maintained by the Commission that are part of the Interstate 78 Toll Bridge Facility.

INTERSTATE 78 ROADWAY

The Commission's jurisdiction extends approximately 2.2 miles to the west at the Pennsylvania approach and includes five (5) bridges and a Welcome Center. The New Jersey approach extends approximately 4.7 miles to the east (not including Conrail over I-78 or the Route 173 structures) from the main river bridge and includes six (6) bridges.

INTERSTATE 78 TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach of the westbound lanes, has seven toll lanes. All toll booth are erected on concrete islands and are protected by an overhead canopy. All lanes are equipped with EZ-Pass.

The 2007 inspection included the eastbound and westbound main river bridges, eleven (11) approach structures, and the facility and grounds.

SIGNIFICANT FINDINGS

INTERSTATE 78 TOLL BRIDGE (WESTBOUND)

(7 span, continuous, steel multi-girder)

The structure is in overall good condition.

The deck, superstructure, substructure are in good condition.

The approach roadway is in satisfactory condition. Few medium to wide transverse cracks were noted at the approach roadways. The hot pour sealer at the abutment header is slightly deteriorated and depressed.

INTERSTATE 78 TOLL BRIDGE (EASTBOUND)

(7 span, continuous, steel multi-girder)

The structure is in overall good condition.

The deck is in satisfactory condition. The top of deck exhibits numerous fine to medium transverse cracks throughout. The SIP forms at the underside of the deck have isolated areas of spot rust and the concrete overhangs exhibit few fine cracks with efflorescence.

The approach roadway is in satisfactory condition. Few medium to wide transverse cracks were noted at the approach roadways. The east approach roadway exhibits a spall between the right and center lanes.

The superstructure and substructure are in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructures for the eastbound and westbound roadways were found to be in good condition with only minor deficiencies noted.

MORGAN HILL ROAD OVERPASS

(2 span, simply supported, prestressed concrete spread box beams)

The structure is in overall good condition.

The deck is in satisfactory condition. The top of deck exhibits fine to medium cracks, some partially sealed, throughout. The compression seal deck joints are partially covered with hot poured sealer and exhibit deterioration where visible.

The approach roadway is in satisfactory condition. Medium to wide cracks were noted throughout both approach roadways. The approach shoulder pavement exhibits heavy scaling and potholes at the east and west shoulders of both approach roadways.

The superstructure and substructure are in good condition.

CEDARVILLE ROAD OVERPASS

(4 span, simply supported, prestressed concrete I-beams)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

I-78 WESTBOUND OVER ROUTE 611

(3 span, simply supported, prestressed concrete spread box beams)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The west approach roadway exhibits medium to wide cracks. The east approach roadway has few spalls partially patched with asphalt.

I-78 EASTBOUND OVER ROUTE 611

(3 span, simply supported, prestressed concrete spread box beams)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The west approach roadway exhibits medium to wide cracks. The east approach roadway has few spalls partially patched with asphalt and few wide cracks.

CARPENTERSVILLE ROAD OVERPASS

(2 span, continuous, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

EDGE ROAD OVERPASS

(2 span, continuous, steel multi-stringer)

The structure is in overall satisfactory condition.

The deck, approach roadways, and substructure are in good condition.

The superstructure is in satisfactory condition. The bottom flanges exhibit light to moderate rust and the remaining portion of the superstructure and bearings exhibit light surface rust.

I-78 WESTBOUND OVER ROUTE 519

(2 span, continuous, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

I-78 EASTBOUND OVER ROUTE 519

(2 span, continuous, steel multi-stringer)

The structure is in overall good condition.

The deck is in satisfactory condition. The compression seal deck joints are partially covered with hot poured sealer and exhibit areas of minor to moderate settlement.

The approach roadways are in satisfactory condition. The west approach roadway exhibits few partially sealed wide cracks.

The superstructure and substructure are in good condition.

I-78 WESTBOUND OVER RAMP C

(1 span, simply supported, steel multi-stringer)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The west approach roadways exhibits spalls and wide cracks. There are spalls at the approach slabs between the lanes due to missing and broken lane reflectors.

I-78 EASTBOUND OVER RAMP C

(1 span, simply supported, steel multi-stringer)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadways are in satisfactory condition. The approach roadways exhibit wide cracks throughout.

SERVICE ROAD OVERPASS

(1 span, simply supported, prestressed concrete adjacent box beams)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

INTERSTATE 78 ROADWAY

The I-78 roadway in New Jersey is comprised of concrete slabs. These slabs have many severe transverse cracks throughout the slabs. The concrete approach roadways have many settled and uneven slab sections with spalled edges along joints. Many joints between slabs have spalled and have been filled with asphalt. An Interstate 78 Roadway Rehabilitation Contract is underway (Contract T-424A).

INTERSTATE 78 TOLL BRIDGE FACILITY AND GROUNDS

Permanent impact attenuators (protective crash cushions) should be considered for installation at the islands for increased protection to the traveling public and Commission employees.

Some of the I-78 facility vehicles and equipment are not protected from the weather and are stored along parking lots because of a lack of storage capacity within the building.

CONCLUSIONS

INTERSTATE 78 TOLL BRIDGE (WESTBOUND)

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

INTERSTATE 78 TOLL BRIDGE (EASTBOUND)

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

MORGAN HILL ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

CEDARVILLE ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

I-78 WESTBOUND OVER ROUTE 611

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

I-78 EASTBOUND OVER ROUTE 611

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

CARPENTERSVILLE ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

EDGE ROAD OVERPASS

The structure is in overall satisfactory condition. The guide rail at the east parapet of the south approach exhibits a sheared anchor bolt and should be replaced. The superstructure steel and bearings should be painted. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

I-78 WESTBOUND OVER ROUTE 519

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

I-78 EASTBOUND OVER ROUTE 519

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

I-78 WESTBOUND OVER RAMP C

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

I-78 EASTBOUND OVER RAMP C

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

SERVICE ROAD OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

INTERSTATE 78 ROADWAY

The I-78 roadway has excessive slab cracking and settlement for the majority of the Commission owned portion of I-78 (especially the NJ portion). Presently, Contract T-424 is underway for the I-78 Roadway Rehabilitation in New Jersey.

INTERSTATE 78 TOLL BRIDGE FACILITY AND GROUNDS

A study should be conducted to determine the need for additional vehicle and equipment storage at the I-78 facility.

A study of the HVAC system should be conducted to determine whether the system located in the maintenance facility needs to be upgraded.

Consideration should be given to the installation of permanent impact attenuators at the toll plaza.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

Interstate 78 Toll Bridge

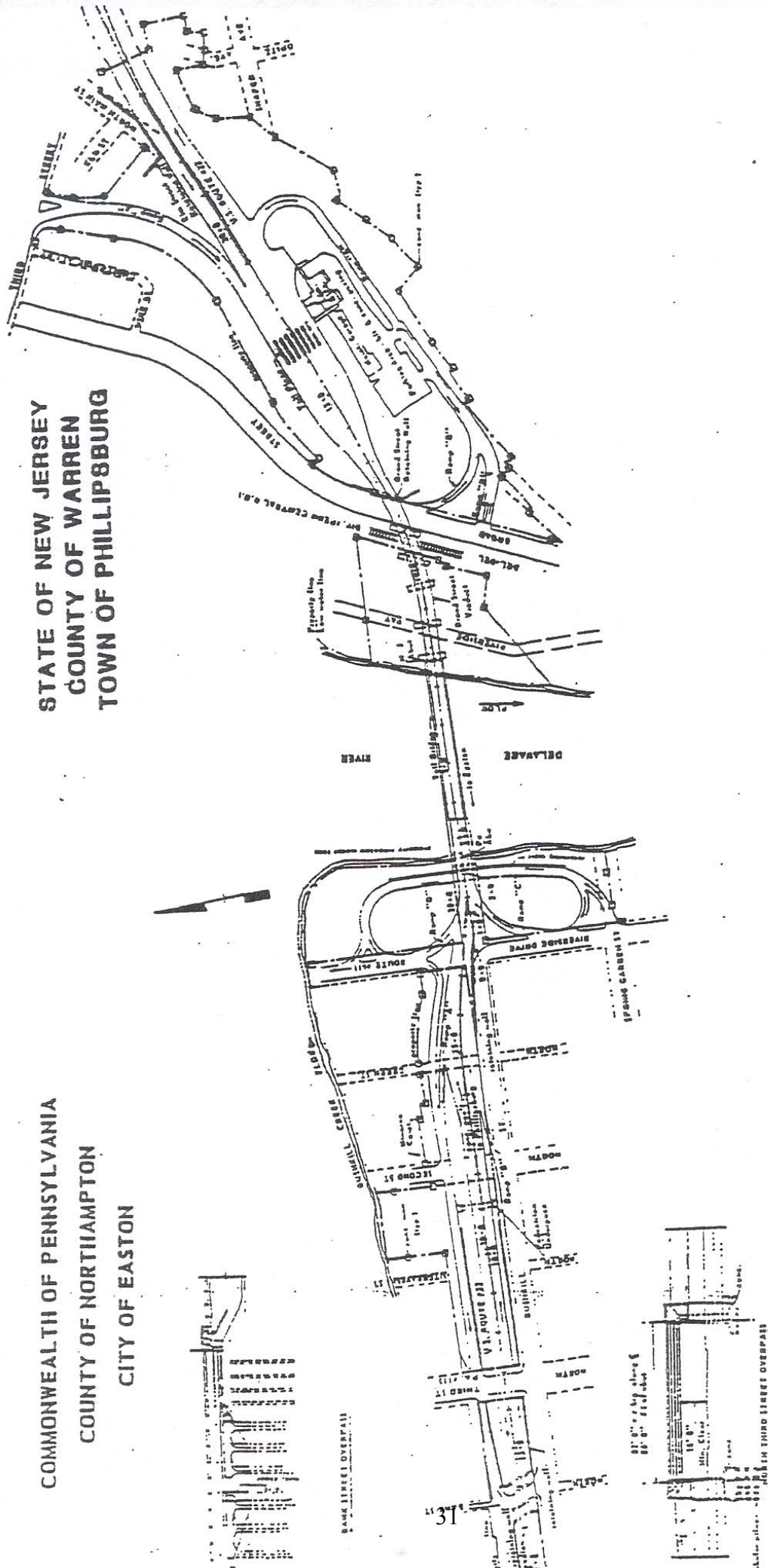
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
424	I-78 Roadway Rehabilitation	\$49,640,000	\$22,309,000	\$24,101,000
427B	I-78 Open Road Tolling (ORT) Lanes	\$43,632,000	\$8,056,000	\$12,811,000
BRIDGES SUB TOTAL		\$93,272,000	\$30,365,000	\$36,912,000
<u>Facilities and Grounds</u>				
I-78TB	Miscellaneous Projects (less than \$100k each)	\$668,000	\$50,000	\$52,000
507	I-78 HVAC Upgrade	\$698,000	\$0	\$78,000
508	I-78 Vehicle Storage Building	\$3,105,000	\$0	\$168,000
506	I-78 Mill and Pave Facility Parking Lots and Service Branch Roads	\$140,000	\$140,000	\$0
FACILITIES AND GROUNDS SUB TOTAL		\$4,611,000	\$190,000	\$298,000
TOTAL COST		\$97,883,000	\$30,555,000	\$37,210,000

EASTON-PHILLIPSBURG
TOLL BRIDGE FACILITY
(Structure No. 300)

STATE OF NEW JERSEY
COUNTY OF WARREN
TOWN OF PHILLIPSBURG

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF NORTHAMPTON
CITY OF EASTON



EASTON - PHILLIPSBURG TOLL BRIDGE

GENERAL

EASTON-PHILLIPSBURG TOLL BRIDGE

(1 span, Petit Thru-Truss)

The Easton-Phillipsburg Toll Bridge (Structure No. 300) carries US Route 22 over the Delaware River. The bridge was opened to traffic on January 14, 1938. Westbound only toll collection commenced on June 4, 1989. The main river bridge consists of a 540 foot Petit thru-truss span over the Delaware River. The overall length, including the approaches on either end of the structure, is approximately 1,010 feet. The roadway width is 40 feet between the trusses and carries 4 lanes of traffic. There are 8 foot sidewalks cantilevered outside of both trusses. The substructure consists of reinforced concrete abutments. The posted speed limit through the toll bridge facility is 25 mph.

Sidewalk reconstruction was performed under Contract T-420 and was completed in 2004.

The underside of the Easton-Phillipsburg Toll Bridge, which includes the roadway stringers, floorbeams, and the bottom chords of the trusses, received an in-depth inspection performed by Schoor DePalma, Inc. in April 2007. This special in-depth inspection was required due to the limited access to those members for the regular inspections. The underside components were found to be in overall satisfactory condition. All major areas of section loss at the floorbeams and lateral bracing was found below the curblines due to poor drainage.

EASTON-PHILLIPSBURG TOLL BRIDGE APPROACH STRUCTURES

The Commission's jurisdiction includes a total of five (5) approach structures. On the Pennsylvania approach there are four approach structures.

Approximately 2,000 feet of the Pennsylvania approach was reconstructed in 1982. This reconstruction included new superstructures for the overpasses at Bank Street, Third Street, and Route 611. The truss support for the center bearing of the Broad Street Viaduct was reconstructed in 2001.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the New Jersey approach, has five toll lanes. All tollbooths are erected on concrete islands and are protected by an overhead canopy. All lanes are equipped for EZ-Pass.

The 2007 inspection included the main river bridge, five (5) approach bridges, and the facility and grounds.

SIGNIFICANT FINDINGS

EASTON-PHILLIPSBURG TOLL BRIDGE

(1 span, Petit Thru-Truss)

The structure is in overall satisfactory condition.

The deck is in satisfactory condition. Numerous medium to wide transverse cracks are noted throughout the bridge, mainly over the floorbeam locations. The pedestrian railing exhibited cracks at the base of the several posts.

There are no approach roadways for this structure due to the adjacent approach structures.

The superstructure is in satisfactory condition. Several members exhibit isolated areas of light to moderate surface rust and peeling paint. Pack rust was noted at several locations between eyebars and at gusset plate connections. Few access cover plates at the vertical truss members are welded and few welds are cracked. The underside inspection performed by Schoor DePalma, Inc. in April 2007 noted minor section loss to the floorbeams and lateral bracing.

The substructure is in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure was noted to be in good condition. No major deficiencies were noted at either abutment in the underwater inspection report.

BROAD STREET VIADUCT

(5 span, simply supported, riveted steel three girder-floorbeam-stringer system)

The structure is in overall fair condition.

The deck is in satisfactory condition. Fine to medium transverse cracks are noted throughout the top of deck. Several areas of the underside steel trough and sidewalk SIP forms exhibit heavy laminar rust. Cracks are noted at the base plates of the north and south bridge pedestrian railing posts.

The approach roadway (east only) is in satisfactory condition. Medium to wide cracks are noted in the asphalt. The eastbound and westbound lane exhibited small spalls and loose concrete.

The superstructure is in fair condition. Several structural steel members exhibit areas of moderate to severe corrosion below the deck joints, along the curb openings, and those exposed directly to the elements. Severe rust was noted at the end stringers and floorbeam under the deck joint at Pier 4 with up to 50% material loss to the stringer connection bolts. Stringers 2 and 4 (from the north) deflect up to 1/4" at the connection to the floorbeam at Pier 4 due to the losses at the connection bolts. Repaired cracks were noted at Piers 1 to 3 at the floorbeam-kneebrace connections. The weld repair at the vertical connection to the Span 3 south girder at Pier 3 has cracked and is 21" long. The crack extends approximately 1/2" beyond the weld repair area.

The substructure is in good condition.

ROUTE 611 OVERPASS

(1 span, simply supported, prestressed concrete adjacent box beam)

The structure is in overall satisfactory condition.

The deck is in fair condition. The top of deck exhibits large areas of deteriorated asphalt patches and concrete areas. The compression seal deck joints at the east and west abutments are depressed, torn, and missing throughout. The parapets have few small spalls and incipient spalls throughout.

The approach roadway (west only) is in good condition.

The superstructure is in satisfactory condition. The prestressed box beams exhibit few small spalls and moderate water stains throughout.

The substructure is in satisfactory condition. The abutments have few medium to wide cracks throughout.

THIRD STREET OVERPASS

(1 span, simply supported, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

BANK STREET OVERPASS

(3 span, continuous, steel multi-stringer)

The structure is in overall good condition. The deck, approach roadways, superstructure, and substructure are all in good condition.

The inlet at the northwest corner of Bank Street under Span 2 has settled with erosion of the roadway slab subbase material adjacent to the inlet. The concrete sidewalls of the inlet have also spalled with several areas of missing and broken concrete.

PEDESTRIAN TUNNEL

(Single cell, reinforced concrete box culvert)

The structure is in overall good condition. The roadway and culvert are in good condition.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The west side of the toll plaza has several concrete slabs of roadway with a few open and wide transverse cracks. The roadway surface is uneven with wear along tire lines and minor settlement of concrete slabs. During heavy rain, there are areas with ponding water and the tunnel under the toll booth exhibits minor leakage and occasionally the carpets on tunnel floor over the drains become wet. Overall the toll plaza is in fair condition.

Localized failure of steep embankments located at east and south sides of the maintenance yard, adjacent to the Broad Street ramp, were previously noted. Eroded embankment was observed at the base of the slope. These areas appear to be stable at the time of this inspection.

The current diesel fuel storage tank used by this facility has a 250 gallons capacity and it is inadequate for current needs. The fuel is dispensed utilizing a hand pump. The current underground diesel storage tank should be replaced with an above ground tank.

The circulating hot water heating system in the administration building is not functioning adequately and it needs to be flushed cleaned. Maintenance forces at the facility indicated that they will flush this heating system.

The tiles in the 1st floor hallway, 2nd floor hallway, and elevator of the administration building should be replaced due to the uneven walking surface. The existing tile and mastic material may contain asbestos. The Commission should have a qualified consultant or contractor test for asbestos containing material. If asbestos exists the Commission should let a contract to properly dispose of the material and replace the tile.

The roof on the administration building and garage was replaced under Contract T-465A.

The City of Easton recently informed the Commission that a storm drainage line running in close proximity to the northern foundation of Sign Structure A is partially blocked by concrete. The storm drainage line in question is an 18" concrete line. The blockage's location is in line with Sign Structure A's northern foundation.

CONCLUSIONS

EASTON-PHILLIPSBURG TOLL BRIDGE

The structure is in overall satisfactory condition. The general condition of the paint system of the above-deck truss is fair. Consideration should be given for a major rehabilitation project for the toll bridge and the approach structures. The rehabilitation project should include cleaning and painting of the superstructure, miscellaneous steel repairs, and drainage improvements. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

BROAD STREET VIADUCT

The structure is in overall fair condition. The cracked vertical connection angles between the south girder and east end floorbeam at Pier 3 and between Stringer 3 and the floorbeam at Pier 4 should be replaced during a future rehabilitation project, while arresting the cracks should be included in a future miscellaneous repair contract. All the floorbeam ends and gusset plates should be cleaned and spot painted. The cracks at the east abutment backwall and breastwall should be sealed. The cracked and hollow areas at the east abutment backwall and northeast wingwall should be removed and patched with concrete. The repaired cracked welds at the connection angles throughout the structure and the Span 5 stringer connections at Pier 4 should be monitored. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

ROUTE 611 OVERPASS

The structure is in overall satisfactory condition. The top of deck exhibits large areas of deteriorated asphalt patches and concrete areas which should be removed and repaired with concrete. The compression seal deck joints at the east and west abutments should be replaced. Rebuild the settled and cracked south sidewalk at the west approach. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

THIRD STREET OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

BANK STREET OVERPASS

The structure is in overall good condition. The inlet at the northwest corner of Bank Street should be repaired due to the erosion around the inlet. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

PEDESTRIAN TUNNEL

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

EASTON-PHILLIPSBURG TOLL BRIDGE FACILITY AND GROUNDS

The deteriorated and cracked concrete slabs on the west side of the toll plaza should be replaced. Several of concrete slabs on the east side of toll plaza in the westbound lanes should be replaced. The spalled curbs and deteriorated relief joint should be repaired.

A study should be performed for the replacement of the current diesel fuel storage tank.

A contract will be let to rectify the storm water blockage at Sign Structure A's northern foundation in the near future.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

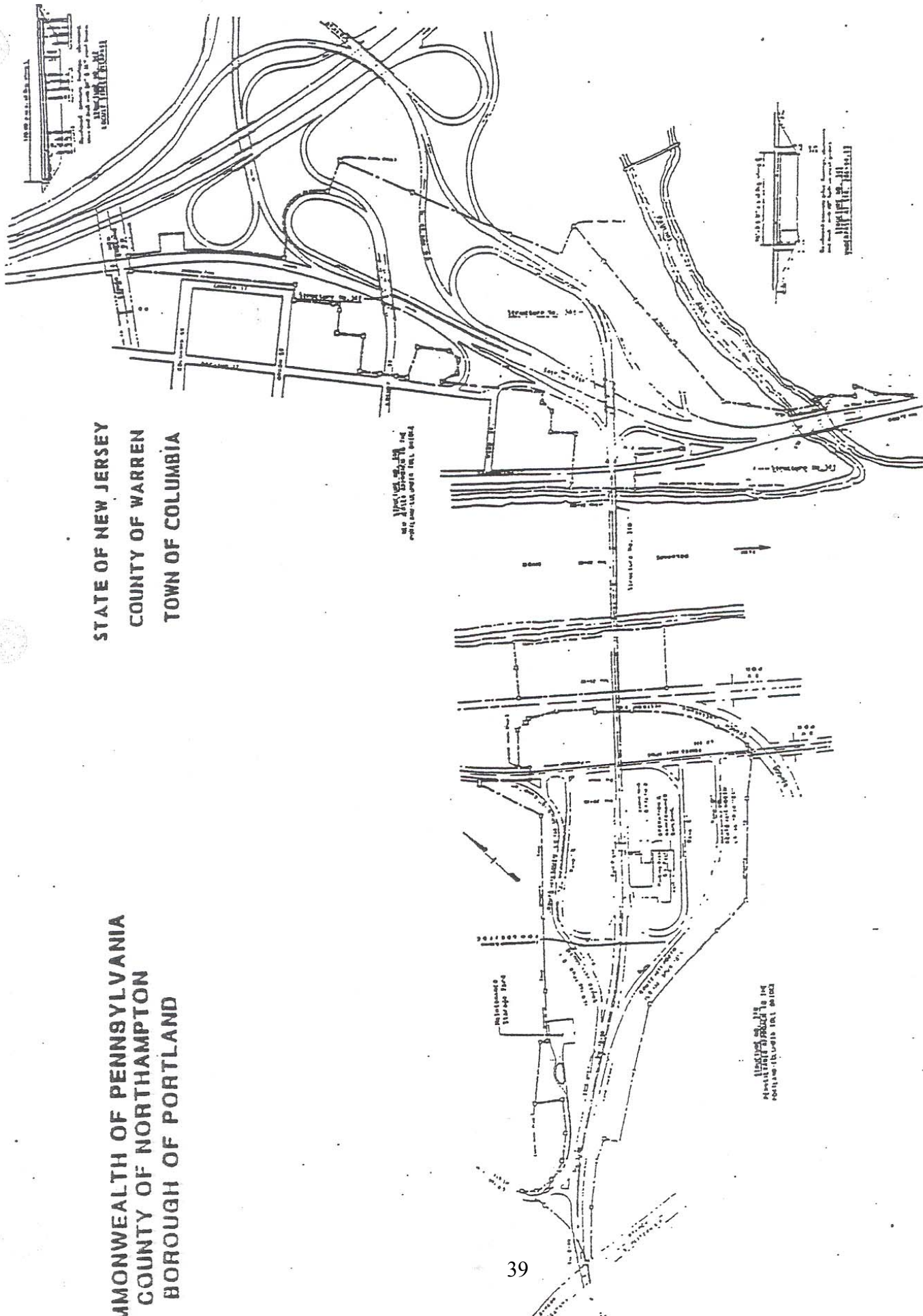
Easton-Phillipsburg Toll Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
436	E-P TB Sign Struct Replacements, Repair & Signage Upgrades	\$2,797,000	\$287,000	\$0
437	E-P TB Facility Rehabilitation	\$15,073,000	\$160,000	\$749,000
BRIDGES SUB TOTAL		\$17,870,000	\$447,000	\$749,000
<u>Facilities and Grounds</u>				
EPTB	Miscellaneous Projects (less than \$100k each)	\$589,000	\$40,000	\$42,000
475	E-P AST Diesel Fuel Storage Tank Replacement	\$92,000	\$92,000	\$0
509	E-P HVAC Upgrade	\$600,000	\$0	\$0
FACILITIES AND GROUNDS SUB TOTAL		\$1,281,000	\$132,000	\$42,000
TOTAL COST		\$19,151,000	\$579,000	\$791,000

PORTLAND-COLUMBIA
TOLL BRIDGE FACILITY
(Structure No. 340)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF NORTHAMPTON
BOROUGH OF PORTLAND



PORTLAND - COLUMBIA TOLL BRIDGE

GENERAL

PORTLAND-COLUMBIA TOLL BRIDGE

(10 span, riveted steel multi-girder)

The Portland-Columbia Toll Bridge Facility (Structure No. 340) opened to traffic on December 1, 1953 and converted to toll collection in the westbound direction only on May 25, 1989. The bridge connects Pennsylvania Route 611 at Portland, Pennsylvania with US Route 46 at Columbia, New Jersey. US Route 46 merges with Interstate 80 located just north of the bridge on the New Jersey approach.

The main river bridge consists of a ten span, riveted steel plate girder system with an approximate total length of 1,309 feet. The roadway is 32 feet wide from curb to curb and carries one lane of traffic in each direction with a posted speed limit of 35 mph. The substructure units consist of reinforced concrete piers and concrete bin abutments. All the substructures are founded on spread footings with the exception of Pier 8, which is founded on piles. The piers also have partial granite stone facing.

A rehabilitation contract performed in 1992 included replacement of the existing concrete deck with a cast-in-place deck and concrete parapets. The combination sidewalk and maintenance walkway were removed and a new lighting system on the downstream side of the main bridge was installed. Approach roadway improvements (NJ and PA) and new drainage systems were also implemented. In 1998, the main river bridge, the pedestrian bridge to the north of the toll bridge, and both approach structures were cleaned and painted by contract.

PORTLAND-COLUMBIA APPROACH BRIDGES

The Commission's jurisdiction also includes two additional bridges at the New Jersey approach. Deck and barrier replacements were performed in 1992 in conjunction with the main river bridge rehabilitation contract.

PORTLAND-COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach, has three toll lanes. All the tollbooths are erected on concrete islands and are protected by an overhead canopy. All three lanes are equipped for EZ-Pass.

The 2007 inspection included the main river bridge, two approach bridges, and the facility and grounds.

SIGNIFICANT FINDINGS

PORTLAND-COLUMBIA TOLL BRIDGE

(10 span, riveted steel multi-girder)

The structure is in overall good condition.

The deck is in good condition. Impact damage was noted to the cantilever sign structure connected to the north girder at Span 3. The steel support behind the sign panel is disconnected, however the sign panels are secure. The steel support at the base did not show any signs of distress or cracks. This condition is being repaired under Contract C449A-2.

The approach roadway is in satisfactory condition. Large areas of fine map cracking are noted at both approaches with few medium to wide cracks. The guide rail at the north side of the east approach exhibits impact damage.

The superstructure and substructure are in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The underwater components of the substructure were noted to be in good condition with only minor defects noted.

ROUTE 46 OVERPASS

(1 span, riveted steel multi-girder)

The structure is in overall good condition.

The deck, superstructure, and substructure are in good condition.

The approach roadway is in satisfactory condition. There is a previously patched cracked and deteriorated concrete area at the centerline of the roadway of the west approach. The east approach exhibits numerous medium to wide cracks throughout the pavement.

LOCUST STREET OVERPASS

(4 span, steel multi-stringer)

The structure is in overall satisfactory condition.

The deck, approach roadways, and superstructure are in good condition.

The substructure is in satisfactory condition. A spall was noted at the east abutment bridge seat exposing the anchor bolt of the Stringer 6 bearing with a 10 in² area of undermining of the masonry plate (approximately 10%). A 2 in² area of undermining (less than 5%) was also noted at the Stringer 1 bearing at the west abutment due to a small spall. All three piers exhibit hollow concrete areas at the pier columns and at the pier cap of Pier 1.

PORTLAND-COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The maintenance parking lot is in poor condition with wide cracking of the asphalt pavement and unevenness throughout. The additional storage yard and driveway are in poor condition with numerous areas of deteriorated pavement. Also, the roadway drainage is poor because of spalling and cracking of the pavement.

The roof on the maintenance garage and the administration building was recently replaced under Contract T-439A.

The HVAC controls are approximately 20 years old and the controls are not working properly.

The paint system on the overhead sign structure over the eastbound roadway, west approach, is in poor condition with areas of rust. The reflectivity of the sign panels throughout the facility is degraded and consideration should be given to replace the panels.

The entire District 3 salt storage is maintained at this location. The existing storage capacity is not sufficient.

CONCLUSIONS

PORTLAND-COLUMBIA TOLL BRIDGE

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

ROUTE 46 OVERPASS

The structure is in overall good condition. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

LOCUST STREET OVERPASS

The structure is in overall satisfactory condition. Repair the spalls causing the minor undermining of the bearings of Stringer 6 at the east abutment and Stringer 1 at the west abutment. Remove the pack rust below the rocker bearings at Stringer 2 to 5 at the west abutment and Stringer 4 at the east abutment. Reset the shifted sliding plate bearings at all the piers. Replace the missing anchor bolts at Stringer 1 of Pier 3. The cracked and hollow concrete throughout the piers should be removed and patched with concrete. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

PORTLAND-COLUMBIA TOLL BRIDGE FACILITY AND GROUNDS

The maintenance (rear) parking lot and the salt storage yard access and turn around should be repaved. New sidewalks, curbs and drainage should be constructed.

The sign structures should be repainted or replaced.

A study should be performed on the HVAC controls to determine what components need to be replaced, or if the entire system should be upgraded.

A study should be performed to determine the district's deicing requirements. The study should determine salt storage capacity, storage location and type of storage.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

Portland-Columbia Toll Bridge

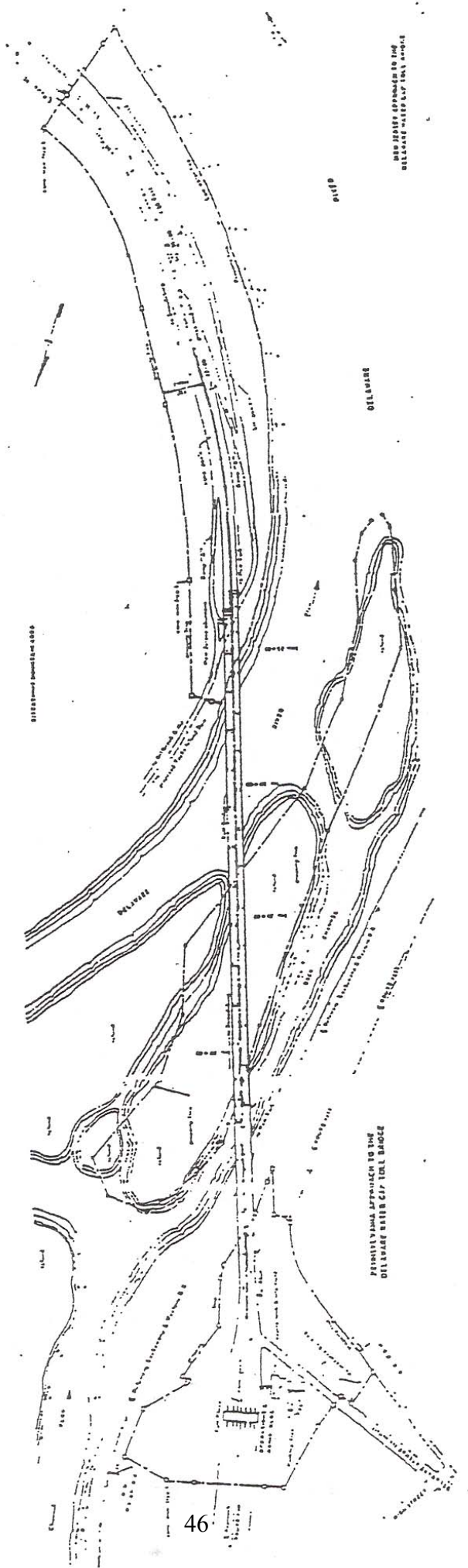
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
441	Locust Street Bridge Rehab (including Impact Attenuators)	\$704,000	\$20,000	\$534,000
BRIDGES SUB TOTAL		\$704,000	\$20,000	\$534,000
<u>Facilities and Grounds</u>				
PCTB	Miscellaneous Projects (less than \$100k each)	\$270,000	\$20,000	\$21,000
460	Portland Wastewater System Connection	\$64,000	\$54,000	\$0
510	P-C Rear Parking Lot, Storage Yard and Driveway Paving	\$270,000	\$270,000	\$0
512	P-C HVAC Upgrade	\$600,000	\$0	\$0
FACILITIES AND GROUNDS SUB TOTAL		\$1,204,000	\$344,000	\$21,000
TOTAL COST		\$1,908,000	\$364,000	\$555,000

DELAWARE WATER GAP
TOLL BRIDGE FACILITY
(Structure Nos. 380 & 390)

STATE OF NEW JERSEY
COUNTY OF WARREN
TOWNSHIP OF PAHAQUARRY

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF MONROE
BOROUGH OF DELAWARE WATER GAP



DELAWARE WATER GAP TOLL BRIDGE

GENERAL

DELAWARE WATER GAP TOLL BRIDGE

(Eastbound: 17 span, riveted steel multi-girder)

(Westbound: 16 span, riveted steel multi-girder)

The Delaware Water Gap Toll Bridge (Structure Nos. 380 and 390) carries Interstate 80 across the Delaware River near Stroudsburg, Pennsylvania, providing a gateway from the eastern metropolitan area to the Pocono recreational area. Through Pennsylvania, the four lane limited access highway crosses the width of Pennsylvania to the Ohio border and directly connects to the Ohio Turnpike. On the New Jersey side, Interstate 80 connects the Delaware Water Gap Toll Bridge to the George Washington Bridge.

The toll bridge, built by the Commission and opened on December 16, 1953, is a twin, multi-span (17 spans EB and 16 spans WB), steel riveted plate girder bridge approximately 2465 feet in total length. The dual roadways are each 28 feet wide from curb to curb, carrying two lanes of traffic each, and are separated by an aluminum barrier. A 5 foot wide sidewalk is located on the south side of the eastbound roadway, separated from the travel lanes with a concrete barrier. The substructure units consist of reinforced concrete bin abutments and piers. The piers also have partial granite stone facing. The speed limit posted at both approach roadways is 55 mph.

Major rehabilitation work was completed in 1989. The rehabilitation work included reconstruction of the toll plaza for one-way toll collection in the westbound direction (8 total lanes), deck replacement, construction of a New Jersey approach pedestrian walkway, toll plaza access tunnel, and miscellaneous pavement replacement. Other work performed under this contract included the installation of the aluminum median barrier, lighting and signage.

DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

The one-way toll plaza, located at the Pennsylvania approach has eight (8) toll lanes. All tollbooths are erected on concrete islands and are protected by an overhead canopy.

Contract T-492A repaved ½ mile of Interstate 80.

The 2007 inspection included the eastbound and westbound main river bridges and the facility and grounds.

SIGNIFICANT FINDINGS

DELAWARE WATER GAP TOLL BRIDGE (EASTBOUND)

(17 span, riveted steel multi-girder)

The structure is in overall satisfactory condition.

The deck is in satisfactory condition. The cast-in-place microsilica concrete (deck slab) roadway and sidewalk deck, installed in 1989, exhibits numerous fine to medium transverse cracks and longitudinal cracks over the stringer locations. These cracks were formed during the initial pouring procedures. Cores taken in 1989 and again in 1996 indicated that cracks to have grown to a maximum width of 1/16" at some locations, and also showed no signs of corrosion to the reinforcement. This inspection revealed minor or no rust to the stay-in-place forms at the underside of the deck and no significant changes to the cracks on the surface of the deck. The cracks noted at the top of deck do not pose a structural concern at this time. The deck joints were rebuilt during the deck replacement in 1989 and are consist of steel plates welded to the original finger joints, combined with steel angle armoring and strip seals. The "Seva" patch material, used as the joint header material, is deteriorated at numerous locations throughout. The material is settled, cracked, and spalled, exposing the steel plates and steel angle armoring below. Few deck joints in the eastbound roadway are slightly vertically offset between spans resulting in minor plow catch damage. All the deck joints also exhibit moderate debris accumulation in the joint opening.

The approach roadway in Pennsylvania is in satisfactory condition. Fine to medium map cracks were noted at the approaches. Random cracks and small spalls were also noted at the approaches.

The superstructure is in good condition. The north girder exhibits isolated areas of minor material loss to the bottom flange throughout all spans. Several rocker bearings exhibit moderate to heavy rust at the bearings and keeper angles. Minor material loss and missing retaining bolts were noted at a few of the keeper angles. Few bearings are missing shoulder bolts. No lateral movement of the bearings was noted at the time of inspection. The paint at the fascia beams is in fair condition, while the paint at the interior beams is in good condition.

The substructure is in satisfactory condition. The substructure exhibits areas of spall repair and epoxy coating that was performed by Maintenance forces. Numerous areas of spalled and hollow concrete were noted throughout the substructure. Some of these areas have been removed by maintenance forces and the exposed reinforcement was epoxy coated. The footing at Pier 8 is exposed.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure for the eastbound roadway was found to be in satisfactory condition due to the spalls with exposed reinforcement on the concrete pier caps and stems and the exposure of the footings with no undermining noted.

DELAWARE WATER GAP TOLL BRIDGE (WESTBOUND)
(16 span, riveted steel multi-girder)

The structure is in overall satisfactory condition.

The deck is in satisfactory condition. The defects noted at the westbound roadway deck are similar to the eastbound roadway deck. The deck joints in the westbound roadway exhibit ½” to ¾” vertical offset resulting in plow catch damage at the east and west abutments and Pier 3. The aluminum median barrier exhibits scrape marks and a large gouge (6’ long by 1’ high) was noted in Span 1.

The approach roadway is in satisfactory condition. Fine to medium map cracks were noted at the approaches. A large spall was noted at the east approach slab.

The superstructure is in satisfactory condition. The defects noted at the westbound superstructure are similar to the eastbound superstructure.

The substructure is in good condition.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The substructure for the westbound roadway was found to be in good condition with only minor defects noted.

The results of the recently completed Northerly Crossing Corridor Congestion Mitigation Study indicate that the I-80 DWG Bridge currently operates at a level of service F during the weekday PM peak period. This report recommends that the DRJTBC proceed with an Open Road Tolling project at the I-80 DWG Bridge to help increase the throughput capacity at the I-80 bridge. Included in the ORT is the addition of a third lane in the westbound direction on the northern section of the bridge approaching the toll plaza. Widening is proposed for a length of approximately 800 feet approaching the toll plaza. This concept will require the widening of the bridge in the westbound direction. These improvements are proposed under Contract T-440.

DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

The District 3 superintendent has requested that the existing maintenance garage facility be expanded. The maintenance garage currently does not have bathroom, locker room or lunchroom facilities, which are present at the other Commission toll facilities. Several of the Commission vehicles are parked outside in the open areas a distance away from the facility equipment. A training/meeting room for the district is requested. Presently meetings take place in the garage area and are disrupted by outside activity.

Maintenance has requested to replace HVAC system because it is not functioning properly. Maintenance has also requested to replace streetlight electrical panels at three locations. The metal cabinets are corroded and are difficult to open and close.

Maintenance has indicated that the salt storage capacity is insufficient for the entire district.

CONCLUSIONS

DELAWARE WATER GAP TOLL BRIDGE (EASTBOUND)

The structure is in overall satisfactory condition. The bearings should be cleaned and painted throughout the structure. Replace the bolts at locations where keeper angle and shoulder bolts are missing. The Commission should consider replacement of these bearings with elastomeric bearings. The hollow concrete areas and spalls throughout the substructure should be repaired with concrete. The north and south fascia girders and the end 6 feet of all girders should be painted. Install riprap around the exposed footing at Pier 8. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

DELAWARE WATER GAP TOLL BRIDGE (WESTBOUND)

The structure is in overall satisfactory condition. The bearings should be cleaned and painted throughout the structure. Replace the bolts at locations where keeper angle and shoulder bolts are missing. The Commission should consider replacement of these bearings with elastomeric bearings. The north and south fascia girders and the end 6 feet of all girders should be painted. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

DELAWARE WATER GAP TOLL BRIDGE FACILITY AND GROUNDS

A study for the expansion and modifications of maintenance garage is recommended.

A study should be performed on the HVAC controls to determine what components need upgrading, or if entire system should be upgraded.

A study should be performed on the electrical panels for the streetlights to determine which units need to be replaced and to specify the replacement item.

A study should be performed to determine the district's overall deicing requirements. The study should include but not limited to determining salt storage capacity, storage location, type of storage and any additional deicing capabilities.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

Delaware Water Gap Toll Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
395B	I-80 / DWG Task Force Consultant	\$521,000	\$352,000	\$156,000
440	DWG ORT & One Additional WB Lane (PE & Final Design)	\$186,308,000	\$1,252,000	\$1,726,000
472	DWG TB Bearing Remediation and Deck Study	\$1,805,000	\$355,000	\$1,451,000
BRIDGES SUB TOTAL		\$188,634,000	\$1,959,000	\$3,333,000
<u>Facilities and Grounds</u>				
DWGTB	Miscellaneous Projects (less than \$100k each)	\$668,000	\$50,000	\$52,000
474	DWG Admin, Operations & Maintenance Garage Utilization Study	\$104,000	\$0	\$104,000
513	DWG HVAC Upgrade	\$581,000	\$0	\$63,000
FACILITIES AND GROUNDS SUB TOTAL		\$1,353,000	\$50,000	\$219,000
TOTAL COST		\$189,987,000	\$2,009,000	\$3,552,000

MILFORD-MONTAGUE
TOLL BRIDGE FACILITY
(Structure No. 400)

COMMONWEALTH OF PENNSYLVANIA

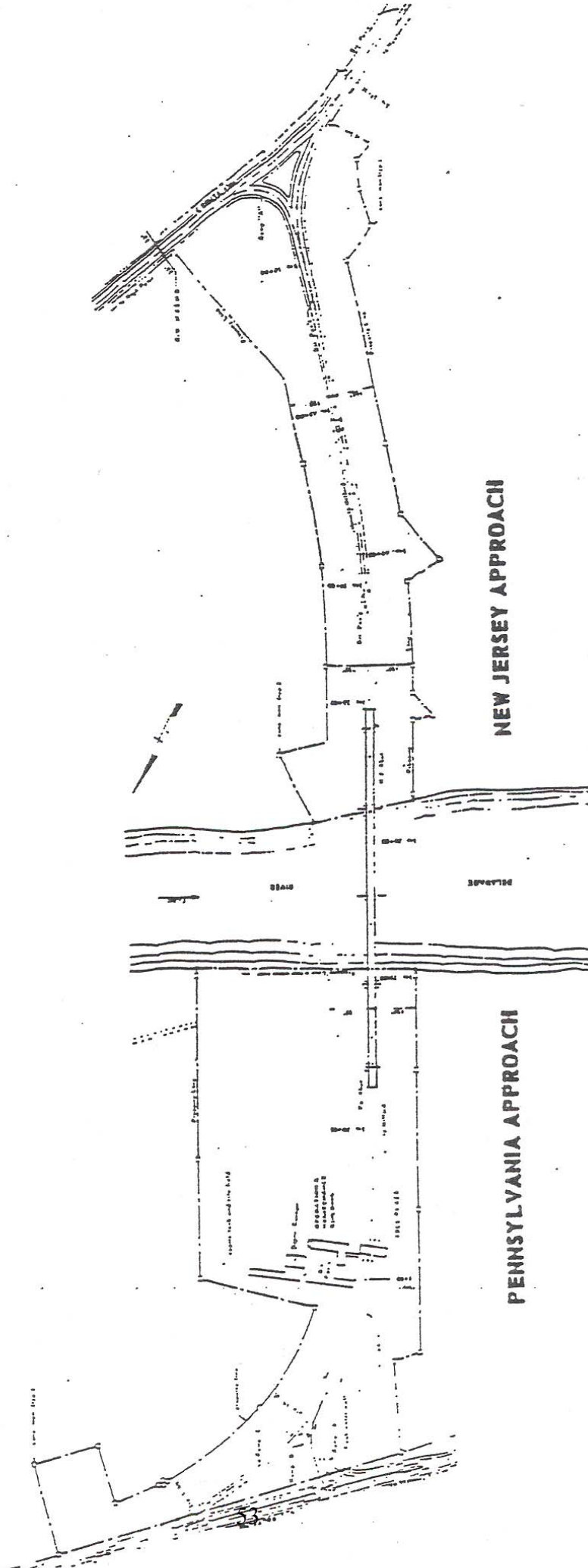
COUNTY OF PIKE

TOWN OF MILFORD

STATE OF NEW JERSEY

COUNTY OF SUSSEX

TOWN OF MONTAGUE



MILFORD - MONTAGUE TOLL BRIDGE

GENERAL

MILFORD-MONTAGUE TOLL BRIDGE

(4 span, continuous, steel deck truss)

The Milford-Montague Toll Bridge (Structure No. 400) is the northern-most toll bridge across the Delaware River under the Commission's jurisdiction. Located seven miles south of the New Jersey/New York state line, the bridge connects US Route 206 at Montague, New Jersey to US Routes 6 and 209 at Milford, Pennsylvania.

The toll bridge, built by the Commission and opened to traffic on December 30, 1953, is a four span continuous steel deck truss structure with an approximate total length of 1,150 feet. The curb to curb width of the roadway is 27'-6" and carries one lane of traffic in each direction with a posted speed limit on the New Jersey approach of 40 mph. Cantilevered from the north truss is a 4'-0" wide sidewalk. The substructure units consist of reinforced concrete abutments and piers with granite stone facing on the piers.

In 1982 the original deck was replaced with precast concrete deck panels and stringers were relocated (fifth stringer added) for the addition of the cantilevered sidewalk. Also included in the 1982 rehabilitation project were modifications to the substructures and bridge lighting, and the addition of the aluminum safety barriers. In 1998, the New Jersey approach was milled and repaved by contract.

Contract T430-A, a rehabilitation contract for the Milford-Montague Toll Bridge, is currently underway with an anticipated construction start date of Spring 2008. The proposed improvements to the structure are:

- Concrete deck replacement
- Superstructure steel repairs
- Cleaning and painting of the superstructure
- Substructure repairs
- Slope protection and erosion damage repairs
- Approach roadway repaving
- Drainage improvements
- Safety feature improvements (signage, guide rails, etc.)
- Toll plaza rehabilitation

MILFORD-MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

At the Pennsylvania approach, there are three westbound toll collection lanes that are protected by a canopy and founded on concrete islands.

Maintenance forces completed the conversion of the Pennsylvania toll plaza in 1999, converting it to one-way tolls. This project included removing two toll booths and their respective lanes and canopy, reconstructing slabs, installing median barriers, and impact attenuators on the ends of the median barrier.

The 2007 inspection included the main river bridge and the facility and grounds.

SIGNIFICANT FINDINGS

MILFORD-MONTAGUE TOLL BRIDGE

(4 span, continuous, steel deck truss)

The structure is in overall satisfactory condition.

The deck is in fair condition. Several of the precast concrete deck panels exhibit large spalls with exposed epoxy coated reinforcement and few incipient spalls at the underside of the deck. Transverse cracks with efflorescence were noted beneath the transverse deck panel joints. The deck slab expansion joints, located at the piers and abutments, exhibited signs of water leakage. The east abutment finger joint is misaligned with the east approach side ½" higher causing a potential plow catch. At several locations, the bridge scupper pipes are located directly above the truss bottom chord members. No deck joint drainage trough is present below the west abutment finger joint.

The approach roadway is in good condition.

The superstructure is in satisfactory condition. Heavy rust with localized material loss was noted below at the top and bottom flange of the center stringer throughout and locally on the adjacent stringers. Several floorbeams also exhibited material loss to the web at the connection with Stringer 3. The top and bottom chord members exhibit peeling paint with light to moderate surface rust throughout and isolated locations of minor pitting. Several gusset plate connections and end diaphragms exhibit moderate to heavy rust, few with material losses, due to drainage pipes located above the members. No deck joint drainage trough is present below the west abutment finger joint. The water drains directly onto the bridge seat and down the abutment walls causing the bearings and steel below the joint to be moderately rusted.

The substructure is in satisfactory condition. Areas of fine map cracking were noted throughout both abutments and medium transverse cracks were noted at the concrete exposed portion of the pier caps. The granite stone facing at the piers exhibited random areas of missing mortar.

An underwater inspection was performed in 2006 by Louis Berger Group, Inc. under Contract C-467D. The underwater components of the substructure were noted to be in good condition with only minor defects noted. No undermining was noted during the inspection, although the Pier 2 footing was found to be partially exposed.

MILFORD-MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

The Pennsylvania approach slab, just east of the toll plaza, is severely deteriorated with numerous wide cracks and medium to large spalls throughout. The pavement relief joint is cracked and spalled.

The concrete slabs west of the toll plaza, were rehabilitated and found to be in good condition.

Contract T430-A includes the rehabilitation of the toll plaza and approaches.

The water storage and distribution system for the facility is not providing sufficient pressure on occasions. Fire hydrants are located at a distance from facilities. This creates reduced fire protection for the facility and is below the capacity of other toll facilities. Contract T-432, completed in 2007, provided a direct connection for municipal water through the Milford Water Authority.

The HVAC system is showing signs of the age and it is not functioning satisfactorily.

The maintenance facility asphalt pavement parking lot is in fair to poor condition with uneven pavement and wide cracking throughout. The sidewalks have random cracking and the curbs are spalled.

The paint system is failing on the steel cantilever sign structure with multiple areas of light rust. Maintenance reports that the sign panels reflectivity is significantly reduced.

The present salt storage capacity is insufficient for the entire district in the event of a major snowstorm.

CONCLUSIONS

MILFORD-MONTAGUE TOLL BRIDGE

The structure is in overall satisfactory condition. No significant work is recommended due to Contract T430-A, a rehabilitation contract for the Milford-Montague Toll Bridge, which is currently underway with an anticipated construction start date of Spring 2008. For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

MILFORD-MONTAGUE TOLL BRIDGE FACILITIES AND GROUNDS

The toll plaza, approach roadway, and sign structures will be rehabilitated under Contract T430-A.

The parking lot should be rehabilitated.

Construction of a new waterline connecting the facility to the Milford Water Authority has been completed under Contract T-432A. This resolved the problem of water storage and the inadequate water pressure at the facility.

A study should be performed on the HVAC controls to determine what components need upgrading, or if the entire system should be upgraded.

A study should be performed to determine the district's overall deicing requirements. The study should include but not limited to determining salt storage capacity, storage location, type of storage and any additional deicing capabilities.

For a list of maintenance repair items, see the *Eleventh Annual Maintenance Report*.

Milford-Montague Toll Bridge

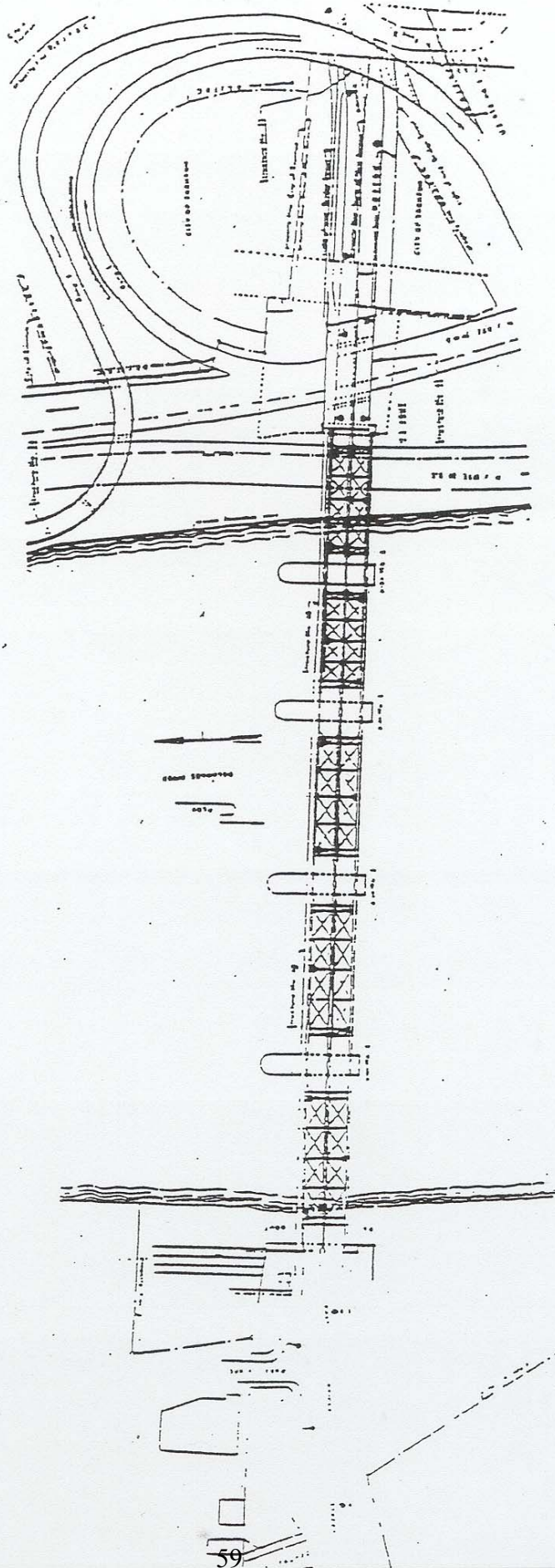
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
430	M-M Toll Bridge Rehabilitation	\$19,129,000	\$14,040,000	\$3,752,000
BRIDGES SUB TOTAL		\$19,129,000	\$14,040,000	\$3,752,000
<u>Facilities and Grounds</u>				
MMTB	Miscellaneous Projects (less than \$100k each)	\$466,000	\$35,000	\$37,000
514	M-M HVAC Upgrade	\$369,000	\$52,000	\$317,000
432	M-M Upgrade Water Supply	\$752,000	\$230,000	\$0
FACILITIES AND GROUNDS SUB TOTAL		\$1,587,000	\$317,000	\$354,000
TOTAL COST		\$20,716,000	\$14,357,000	\$4,106,000

LOWER TRENTON
TOLL SUPPORTED BRIDGE
(Structure No. 40)

STATE OF NEW JERSEY
COUNTY OF MERCER
CITY OF TRENTON

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
BOROUGH OF MORRISVILLE



LOWER TRENTON TOLL SUPPORTED BRIDGE

LOWER TRENTON BRIDGE

GENERAL

LOWER TRENTON TOLL SUPPORTED BRIDGE

(5 span, subdivided Warren Truss)

The Lower Trenton Bridge (Structure No. 40), also known as the ‘Trenton Makes’ Bridge, carries Bridge Street traffic from Trenton, New Jersey to Morrisville, Pennsylvania; one of three bridges connecting these two towns.

The superstructure is a five-span subdivided Warren Truss built in 1928, with a total length of approximately 1,022 feet. The roadway consists of two lanes, one lane in each direction separated by the center truss. The substructure, originally built in 1804, widened and raised in 1874, consists of stone masonry.

The downriver truss displays the “Trenton Makes The World Takes” sign which is mounted to the truss members; hence, the nickname ‘The Trenton Makes Bridge’. The original sign was erected in 1935 and replaced in 1981. *A new sign was installed in 2005.*

The bridge is currently posted for a five-ton weight limit restriction and a twenty-five mile per hour speed limit. The bridge is also posted for a ten-foot vertical clearance.

In accordance with Commission’s bridge inspection policy, this structure was inspected in 2006. This inspection included all five (5) spans, the substructure units and the west approach roadway. The east approach bridge is NJDOT owned and was not part of the inspection.

SIGNIFICANT FINDINGS

The bridge appears to be in good condition.

The structure has undergone extensive cleaning and painting of the above deck structural steel and sidewalk railings. As part of this renovation project, a new “Trenton Makes” sign has been installed addressing the lighting and maintenance problems associated with the old sign technology.

The sway frame between the center and outer trusses exhibits old impact damage at a few locations. Missing rivets (2 of 35 rivets) were found at the center truss top chord connection in span 4. The missing rivets and impact damage do not affect the structural capacity of the connections.

Rust stains were observed throughout the metalized superstructure, as a result of light rusting of the open grate steel decking. The steel members that were inaccessible during cleaning and metalizing in 1997, in particular portions of the truss bottom chord, are rust staining the adjacent steel since they do not have a protective coating. The bearings exhibited minor corrosion and deterioration of the anchor bolts, none of which are of major concern at this time.

LOWER TRENTON BRIDGE

The substructures are in generally good condition above the waterline. The lower portions of the west abutment exhibited loose or missing mortar joints. In general mortar joints of the substructures below high water line are deteriorating.

The officer's shelter located on the Pennsylvania side of the bridge has been replaced in 2006.

An upgrade of the traffic signals at the intersection of Warren and Bridge Streets, and Warren Street and the Route 1 Ramp was performed in 2006 by the New Jersey Department of Transportation (NJDOT) via a purchase order issued to NJDOT by the Commission.

The east abutment deck joint sealer in the westbound lanes has become dislodged allowing water to infiltrate on to the bridge seat.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures to be in fair condition. The underwater inspection noted that the upstream portion of the substructures exhibited undermining of the concrete aprons and the PA abutment's upstream retaining wall also exhibited scour along the full length. The upstream end of pier 3 exhibited split and missing stone masonry and deteriorated mortar joints. Estimated repair costs have been included in this report.

CONCLUSIONS

The bridge is in overall good condition and is structurally adequate to carry the posted weight limit at the time of the inspection.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2005 Underwater Inspection Report. Pointing of deteriorated mortar joints should also be addressed.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Lower Trenton Toll Supported Bridge

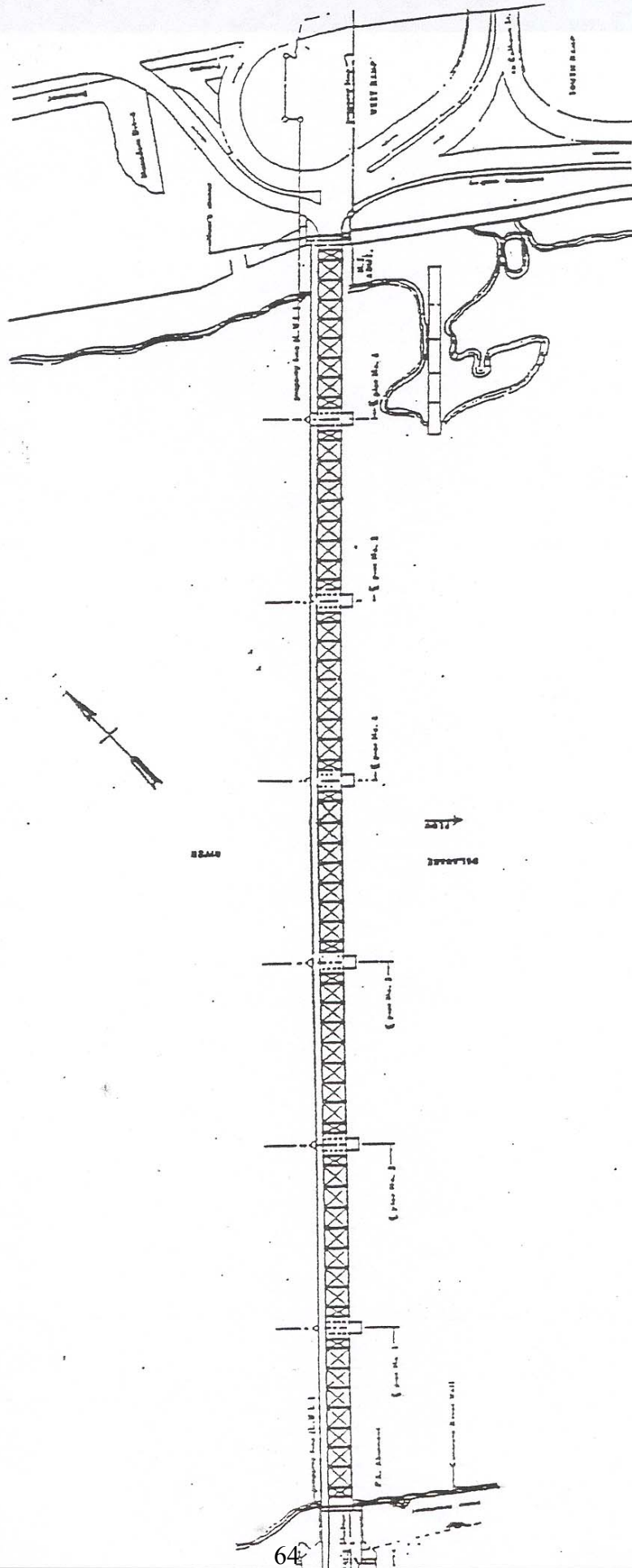
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
This bridge was rehabilitated in 1997 with cleaning and painting being performed and the "TRENTON MAKES" sign being replaced in 2005				
	BRIDGES SUB TOTAL	\$0	\$0	\$0
<u>Facilities and Grounds</u>				
LTTSB	Miscellaneous Projects (less than \$100k each)	\$180,000	\$10,000	\$11,000
	FACILITIES AND GROUNDS SUB TOTAL	\$180,000	\$10,000	\$11,000
	TOTAL COST	\$180,000	\$10,000	\$11,000

CALHOUN STREET
TOLL SUPPORTED BRIDGE
(Structure No. 60)

STATE OF NEW JERSEY
COUNTY OF MERCER
CITY OF TRENTON

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
BOROUGH OF MORRISVILLE



CALHOUN STREET TOLL SUPPORTED BRIDGE

CALHOUN STREET BRIDGE

GENERAL

CALHOUN STREET TOLL SUPPORTED BRIDGE

(7 span, wrought iron phoenix truss)

The Calhoun Street Bridge (Structure No. 60) is one of three bridges constructed to connect Trenton, New Jersey and Morrisville, Pennsylvania. Toll collection was discontinued at the time of the Commission's purchase on November 14, 1928. The truss was built in 1884 and the stone masonry substructure was built in 1859.

The bridge is a seven-span, wrought iron, pin-connected Phoenix Pratt truss with a total length of 1,274 feet. The open steel-grate roadway provides a clear width of eighteen feet, four inches between the three-beam guide rails. A timber plank sidewalk is supported by the upper truss on steel cantilever brackets. The bridge is currently posted for a three-ton weight limit and a fifteen-mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all seven (7) spans, the substructure units and both approach roadways.

SIGNIFICANT FINDINGS

Interim strengthening of steel stringers and floor beams was performed under Contract No. TS-390 in 2003. The interim repairs were necessary to maintain the current bridge rating of three tons. Also, the intersection on the Pennsylvania approach was milled and repaved.

It has been determined previously that the bridge can safely support the posted vehicular loading of 3 tons when every other stringer is in satisfactory condition according to the 1998 repair contract (Contract No. 345) prepared by the DRJTBC Engineering Department in conjunction with Michael Baker Jr., Inc. The work was performed by an outside contractor, and consisted of removing and replacing of alternate (odd numbered) lines of stringers which were determined to be in unsatisfactory condition. Stringers located in the even numbered lines which were determined to be beyond repair were flame cut and removed during this contract.

Approach sidewalks exhibited wide cracks, spalling and scaling due to age and wear and tear.

The upper truss members were last painted in 1985. The paint system above the deck is in generally satisfactory to fair condition, with localized areas of peeling paint. The floor system was last painted in 1982 and the paint system is in poor condition.

The steel open-grate deck appears to be in fair condition, with signs of wear. Small sections of decking have been broken off or removed in span 1. Cracks in the span 7 deck plate have developed from vehicular wear and tear.

CALHOUN STREET BRIDGE

The below-deck superstructure not included in the recent interim repairs is in poor condition. Stringers exhibited severe section loss at numerous locations, mostly in even lines. A number of stringers, mainly in even lines, had the bottom flange and lower web completely removed. Perforations of the lower webs of stringers were also noted. Floor beams typically exhibited light to moderate rust with several end floor beams exhibiting severe exfoliated rust, especially at bottom flanges and lower webs, with locations of web perforations. Minor section loss (necking) was observed at the floorbeam U-bolt supports.

Many localized areas of the transverse struts and upper chords were repaired with bolted splice plates and appear to be in fair condition with some areas in poor condition with corrosion developing in the member. Other localized areas were noted to require similar repairs, which exhibited impacted rust, causing rivets to push out and flanges of the Phoenix members to separate. Lateral Phoenix members were noted to exhibit moderate rust adjacent to weep holes in the webs. Several holes were found in the Phoenix members. The holes are occurring on the north end of the top chord of the sway frames in all spans. In addition, several areas of the Phoenix members showed signs of corrosion and impacted rust.

Several truss diagonals and counters comprised of steel bars or rods are in contact with one another. Several of these locations exhibit signs of moderate wear and corrosion. This condition was noted randomly at both upstream and downstream sides. These areas have no protective paint system and are susceptible to further rust.

Several locations of the existing intermediate post eyebar/cable tension members, as well as new reinforced tension cables, were observed to be loose.

Sidewalk timber planks (untreated) are generally in fair condition. Several have deflected both upward and downward slightly, with light to moderate deterioration. The sidewalk railing posts, adjacent to the roadway, were noted to be loose at the support base in some locations.

The upper concrete portions of the substructure units were noted to be in poor condition requiring concrete repairs and an epoxy waterproof coating. The upper pier caps exhibited stone pop-out, large spalling, incipient spalls, scaling, cracking and exposed rebar.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures to be in satisfactory condition. Minor to moderate scour with missing rock protection was observed during the underwater inspection at most of the substructure units, but did not affect the structural integrity at the time of the underwater inspection. Estimated repair costs have been included in this report.

CALHOUN STREET BRIDGE

CONCLUSIONS

TranSystems/Lichtenstein has been retained by the Delaware River Joint Toll Bridge Commission to perform a structural analysis of the bridge carrying Calhoun Street over the Delaware River under Contract C-447A. The primary objective of this study is to understand the structural integrity of the bridge and determine the remaining useful life of the structure and determine the most economical and constructible structural remediation strategies.

The bridge is in overall poor condition due to severely deteriorated superstructure stringers and deterioration to the piers. It is recommended that a bridge Rehabilitation Contract be performed in the future. Overall rehabilitation should include truss member repairs as well as substructure and scour remediation, and should include reconstruction of the pier tops as well as substructure deterioration noted in the 2005 Underwater Inspection Report. Due to continued deterioration, it is also recommended that the entire floor system (stringers, floor beams, sidewalk, etc.) be replaced to improve the current rating of three-tons and to extend the useful life of the bridge. These improvements, in conjunction with blast cleaning and painting of the trusses, will also remove the lead-based paint from the bridge. Approach roadway sidewalk improvements should be included.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Calhoun Street Toll Supported Bridge

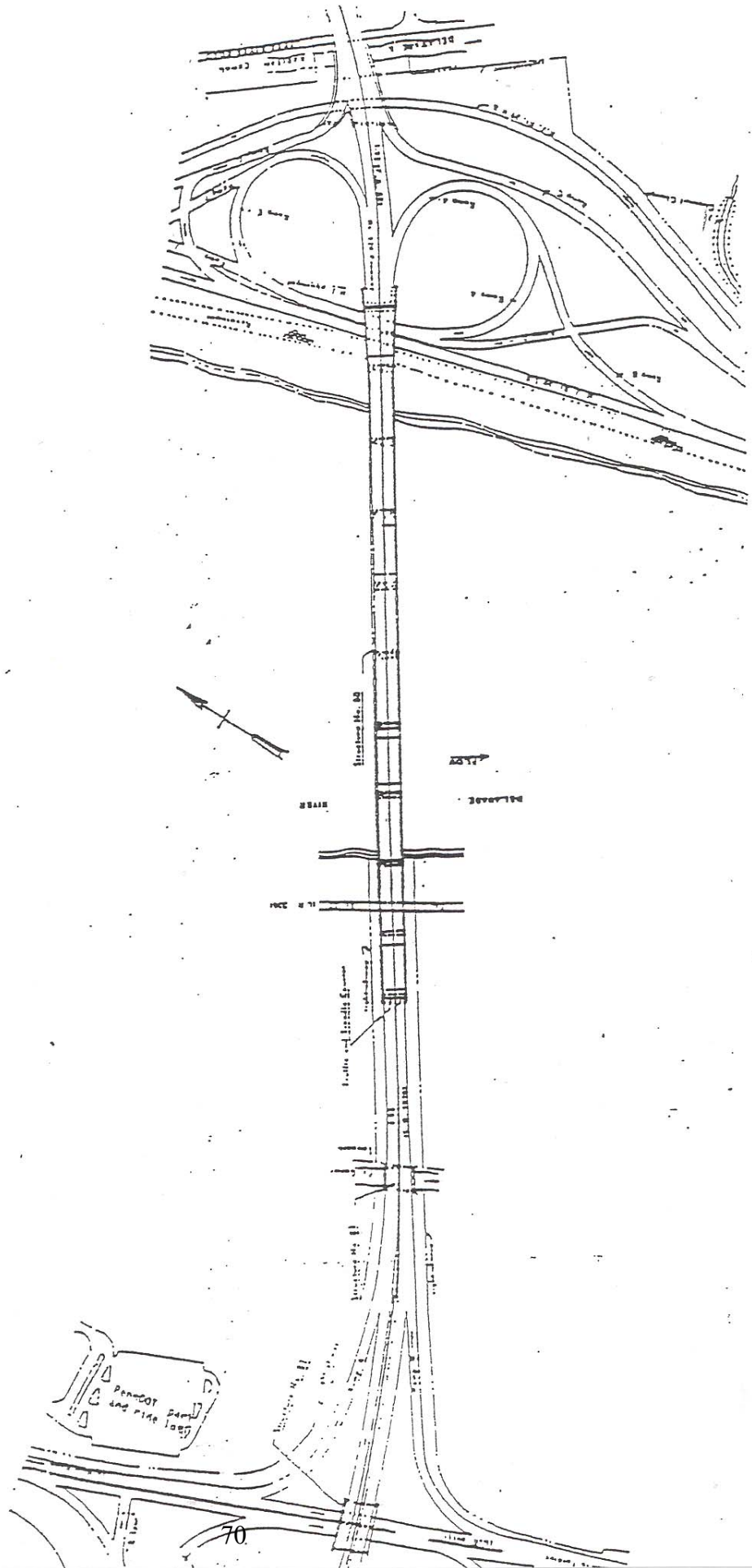
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
394	Alternative Analysis Study - Additional Capacity at Calhoun Street	\$230,000	\$39,000	\$0
447	CS TSB Rehabilitation Contract (Design / Construction)	\$15,829,000	\$464,000	\$388,000
BRIDGES SUB TOTAL		\$16,059,000	\$503,000	\$388,000
<u>Facilities and Grounds</u>				
CSTSB	Miscellaneous Projects (less than \$100k each)	\$155,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$155,000	\$10,000	\$11,000
TOTAL COST		\$16,214,000	\$513,000	\$399,000

SCUDDER FALLS
TOLL SUPPORTED BRIDGE
(Structure No. 80)

STATE OF NEW JERSEY
COUNTY OF MERCER
TOWNSHIP OF EWING

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
TOWNSHIP OF LOWER MAKEFIELD



SCUDDER FALLS TOLL SUPPORTED BRIDGE

SCUDDER FALLS BRIDGE

GENERAL

SCUDDER FALLS TOLL SUPPORTED BRIDGE

(10 span, riveted steel two girder/floorbeam/stringer)

The Scudder Falls Toll Supported Bridge (Structure No. 80) carries Interstate 95 over the Delaware River from Lower Makefield Township in Pennsylvania to Ewing Township in New Jersey.

The main river bridge is a ten-span, riveted plate girder bridge consisting of two-span continuous deck girders and alternating cantilever spans. Built by the Commission in 1959 and opened to traffic on June 22, 1961, the bridge carries two dual roadways each 27 feet wide with a concrete median barrier, and flanked by an upstream and downstream safety walk. The total length of the bridge is 1,740 feet. The substructure units are reinforced concrete, with stone facing on the piers. The posted speed limit on the bridge approach roadways is fifty-five miles per hour. The Commission's jurisdiction at this crossing also includes two Pennsylvania approach overpasses at Taylorsville Road and the Pennsylvania Canal.

At the request of the Commission, TranSystems/Lichtenstein conducted an interim inspection of the Scudder Falls Toll Supported Bridge (I-95). The purpose of this interim inspection was to determine the condition of the fracture critical pin and hanger assemblies and the floorbeam cantilever brackets in the negative moment region. TranSystems/Lichtenstein completed the special inspection of the Scudder Falls Toll Supported Bridge over the Delaware River on August 8, 2007. For the complete inspection findings see Appendix A.

SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

(1 span, simply supported, steel multi-stringer)

The Scudder Falls Pennsylvania Canal Overpass (Structure No. 81) carries Interstate Route 95 over the Pennsylvania Canal in Lower Makefield Township, Pennsylvania. The structure is an approach bridge to the main Scudder Falls Bridge that crosses the Delaware River.

The Pennsylvania Canal Overpass is a simple span, concrete deck, multi-stringer structure founded on reinforced concrete abutments on footings, which are supported by steel bearing piles. Opened to traffic on June 22, 1961, the bridge carries two dual roadways each 27 feet wide with a concrete median barrier, and flanked by an upriver and downriver safety walk. The total span length of the bridge is 61'-4".

SCUDDER FALLS BRIDGE

TAYLORSVILLE ROAD OVERPASS

(3 span, steel multi-stringer)

Taylorstown Road Overpass (Structure No. 82) carries Interstate 95 over Taylorstown Road in Lower Makefield Township, Pennsylvania and provides access to the main Scudder Falls Bridge over the Delaware River. The bridge was built in 1959 and opened to traffic on June 22, 1961.

The superstructure is a three-span, concrete deck, multi-stringer structure founded on reinforced concrete abutments and piers on footings that are supported by cast in place concrete piles. The bridge carries two dual roadways each 27 feet wide with a concrete median barrier. The bridge is flanked by a north and south safety walk. The total span length of the bridge is 134'-0".

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. That inspection included all ten (10) spans, the substructure units and both approach roadways. Also included were the two approach bridges, approach roadways, and roadway ramps.

SIGNIFICANT FINDINGS

SCUDDER FALLS BRIDGE

The Commission is moving forward with plans to improve the I-95/Scudder Falls Bridge based on conclusions contained in its Southerly Crossings Corridor Study. That study found that congestion and safety problems on the bridge were a result of its narrow configuration, the proximity of adjoining interchanges, and ramps merging onto I-95.

The bridge carries more than 57,500 vehicles per day and operates at the worst level of service (LOS F) during peak rush hours. Over the next 25 years, traffic volumes are expected to increase an additional 35 percent.

In cooperation with the New Jersey and Pennsylvania Departments of Transportation, the Commission is completing a preliminary engineering plan and an environmental assessment to select a preferred alternative that will improve safety and relieve anticipated congestion on the bridge and an approximate 4 mile stretch of I-95, from Route 332 in Bucks County, PA to Bear Tavern Road in Mercer County, NJ.

The assessment includes environmental studies, alternatives to improve safety and congestion, and preliminary engineering design. The Commission has communicated with the public regarding this project via public meetings, newsletters, and a website to reflect the current status.

The main river bridge was last painted in 1981. The paint condition is poor on the girders, which exhibit moderate to heavy paint peeling. Locations under deck joints at piers 2, 5

SCUDDER FALLS BRIDGE

and 8, and pin/hangers typically exhibit the worst paint condition, with top and bottom flanges of floorbeams, ends of stringers, stiffeners, and lateral connections exhibiting moderate to heavy corrosion, obviously due to defective deck joints. Barn swallow nests and debris were observed throughout the main river bridge on stringer flanges and webs. This presents a concern as to its impact to the bridge's paint system.

The pin and hanger assemblies exhibit light to moderate rusting throughout, more so on the outside face exposed to the weather. Several areas of hangers exhibited light to moderate pitting and section loss. Ultrasonic testing was performed on the pin and hanger assemblies during the 2000 Inspections and no significant findings were found. A backup catch system is in place at all pin-hanger assemblies.

High priority structural repairs were performed in 2004 under Contract TS-421 to repair cracks in the fascia stringers as well as some of the first interior stringers at Piers 2, 5 and 8 due to advanced deterioration of the web. The work performed included the installation of stringer-support brackets; the replacement of diaphragm members; high-strength steel bolts and rivets at various locations; and the cleaning and painting of all structural steel within three feet of the stress-relief joints.

Fine transverse cracks were noted in the concrete deck above and below. Fascia soffits typically exhibit cracks with efflorescence and incipient spalling at intermittent joint locations. Throughout the underside of deck, random areas exhibited spalling, some of which had exposed rebar. The deck also shows signs of wear with aggregate pop-out and random locations of concrete and asphalt patches in the LMC overlay.

Hot-poured sealer deck joints at piers 2, 5 and 8 are worn, cracking and spalled. There are multiple temporary asphalt patches that need to be permanently repaired. The median barrier at all the deck joints is not sealed causing debris to build up on the shear locks below. Safetywalk deck joints also exhibit heavy deterioration and perforations/separations of strip seals at several locations. These openings are allowing water to infiltrate to underlying structural steel and the pin and hanger assemblies.

The substructure units are in generally good condition, with minor rust stains on pier caps. Spalling on the north end and the seat of pier 2 was noted.

Many of the railing brackets on both sides of the bridge exhibited cracks in the support brackets. There were also a few locations where the railing and brackets were dislodged.

Due to ongoing maintenance issues with the bridge lighting, a repair contract has been issued and was completed in 2006 under Contract 393F.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures (Piers 2 through 8) to be in good condition. Estimated repair costs from the underwater inspection report have been included in this report.

SCUDDER FALLS BRIDGE

SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

The paint condition is typically fair on all girders and poor at the girder ends. The bearings exhibit moderate to heavy corrosion with debris on the bridge seats. The backwall of the east abutment contains some spalls. The joint material in the vertical expansion joints throughout the substructure is missing or dislodged.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc. has found the substructures to be in good condition. Estimated repair costs from the underwater inspection report have been included in this report.

SCUDDER FALLS TAYLORSVILLE ROAD OVERPASS

The bridge is in fair condition due to the condition of the underside of deck at the deck joint locations and the non-functioning bearings.

The paint condition is typically fair to poor throughout.

Impact damage to the three northern stringers (bottom flanges and cover plates) in the northbound lanes of Taylorsville Road was observed with the 2nd stringer from the north being the worst. This collision damage does not affect the structural capacity of the bridge.

Several bearings are misaligned and exhibiting moderate to heavy corrosion with debris on the bridge seats. The backwall of the west abutment contains several spalls and vertical cracks. The joint material in the vertical expansion joints throughout the substructure is missing or dislodged.

The concrete deck below the joints is in poor condition. The underside of the deck at concrete header and deck joints is spalled in several locations above the piers.

The Commission-maintained portion of Interstate 95, including the Pennsylvania ramps and shoulders, is in good condition, having been rehabilitated in 1999 under the Taylorsville Road Interchange Rehabilitation contract (Capital Project No. 9904A). Both approach structures have been overlaid with bituminous concrete under this contract. The pavement is beginning to show signs of normal distress such as cracking due to age and usage.

CONCLUSIONS

Under Contract 393A, I-95/Scudder Falls Toll Supported Bridge Improvement Project, the main river bridge and its approach roadways and bridges are expected to be replaced by 2013. For this reason a rehabilitation to address the above noted conditions will not be undertaken.

Although the main river bridge is in satisfactory condition, the paint system is poor. At piers 2, 5 and 8 the deterioration caused by water infiltration begins at the deck joints and works downward corroding the structural steel and will eventually deteriorate the concrete

SCUDDER FALLS BRIDGE

piers, which is evident by the spalls beginning to form at pier 2. In addition, above deck slab deterioration with numerous cracks have resulted in below deck deterioration. As a result, Contract TS-393C has been issued and completed in 2006 to preserve the useful life of the structure.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2006 Underwater Inspection Report. ***Contract C-476A, Districts 1, 2 & 3 Substructure and Scour Remediation will address this issue.***

A Preliminary Engineering and Environmental Documentation contract (C-393A) has been awarded for improvements to the Scudder Falls Toll Supported Bridge Facility. Also due to the current traffic congestion, it is recommended that an interim capacity improvement study be undertaken to determine if anything can be done to relieve congestion and if so implement those improvements within the next two years.

SCUDDER FALLS PENNSYLVANIA CANAL OVERPASS

The Pennsylvania Canal Overpass is generally in satisfactory condition. Although the canal bridge is in satisfactory condition, the paint system is poor.

The Pennsylvania Canal Bridge is in fair condition, however the structure should be maintained and necessary repairs be performed in order prevent further deterioration. Repairs should include cleaning and painting the girder ends and end diaphragms, and also cleaning and epoxy coating the bridge seats.

SCUDDER FALLS TAYLORSVILLE ROAD OVERPASS

The Taylorsville Road Bridge is in fair condition, however the structure should be maintained and necessary repairs be performed in order prevent further deterioration.

A rehabilitation contract should be performed to repair the non-functioning bearings, deck joints and underside of deck spalling. This contract should be included in the Main River Bridge Rehabilitation Contract.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Scudder Falls Toll Supported Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
393A	I-95 / SF Improvement Project (Design, CM/CI, Construction)	\$254,232,000	\$11,865,000	\$12,629,000
BRIDGES SUB TOTAL		\$254,232,000	\$11,865,000	\$12,629,000
<u>Facilities and Grounds</u>				
SFTSB	Miscellaneous Projects (less than \$100k each)	\$180,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$180,000	\$10,000	\$11,000
TOTAL COST		\$254,412,000	\$11,875,000	\$12,640,000

WASHINGTON CROSSING
TOLL SUPPORTED BRIDGE
(Structure No. 100)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
TOWNSHIP OF UPPER MAKEFIELD
WASHINGTON CROSSING



WASHINGTON CROSSING BRIDGE

GENERAL

WASHINGTON CROSSING TOLL SUPPORTED BRIDGE

(6 span, double Warren Truss)

The Washington Crossing Bridge (Structure No. 100) connects Mercer County Route 546 in Hopewell Township, New Jersey with PA Route 532 (George Washington Memorial Boulevard) in the Township of Taylorsville in Upper Makefield, Pennsylvania.

The bridge consists of a six-span double Warren truss structure, with a total length of 877 feet. The steel superstructure was built in 1904. The substructures, composed of rubble stone-faced masonry, are from the original construction in 1831. The open steel grid deck provides a clear roadway width of 15 feet between the steel channel rub-rails. The downstream side of the truss supports a cantilevered, wood-planked sidewalk. The bridge was closed from August 15, 1994 to January 13, 1995 for extensive structural rehabilitation.

The bridge is currently restricted to a 15-mile per hour speed limit and a 3-ton weight limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all six (6) spans, the substructure units and both approach roadways

SIGNIFICANT FINDINGS

The deck joint support system was repaired under Contract TS-428A in 2005. This Contract consisted of repairing and replacing riser beams.

Several floorbeam stringers at multiple locations were noted to have a minor twist (buckling) to their web, mainly at the supports over the floorbeams. According to the previous reports and the current findings, the twist has not increased in severity since 1998 and the bridge appears to be handling the current loads. Several areas of pitting of the steel were also noted throughout the top flanges of floorbeams, especially near stringer bottom flanges.

Due to the Flood of June 2006, the post tensioning rods in spans 1, 4, 5 and 6 were elongated to the point where there is excessive sagging. There is also minor sagging in the post tensioning rods in spans 1, 2 and 3. As previously documented, the tie rod on the south side of span 2 was removed during the Flood of 2005. From previous analysis, performed by Lichtenstein Engineers, the rods do not affect the posted load carrying capacity.

The steel roadway railings at the north side of span 2 at floorbeam 3, span 3 at floorbeam 2 and at span 4 were damaged by debris.

Impact damage from previous floods was observed to the bottom chord in span 5, bay 3, span 4, bay 9 and span 2, floorbeam 4 diagonal. Damage resulting from the Flood of June 2006 was limited to span 5, bay 2 and span 6, bay 2 on the upstream side of the structure. At the

WASHINGTON CROSSING BRIDGE

present time, no action is required regarding the damage. The deficiencies should continue to be monitored during the regularly scheduled biennial inspections.

Although the west abutment was rehabilitated under the 1994 rehabilitation contract, it has begun to show deterioration. Wide diagonal cracks were observed at the north and south ends of the west abutment backwall. Both the north and south roadway barriers adjacent to the bridge appear to have deflected outward from backwall movement and rotation. No signs are present depicting impact damage to either barrier. In addition, the tooth dam at the west abutment was fully closed at the time of inspection. The temperature at the time was approximately 60°, indicating that the closure was not temperature related. Maintenance forces have provided a small pavement relief joint in the west approach adjacent to the west abutment and have made remedial concrete repairs. This joint has begun to exhibit signs of deterioration.

During the post flood inspection performed in early April 2005, the substructure sustained damage that warranted the closing of the bridge. A section of the Pier 5 stone facing had washed away, exposing the stacked stone core. In addition, the superstructure sustained impact damage from debris that washed downriver. The superstructure damage was incidental and does not require repair. High priority repairs to the substructure were completed by contract.

The concrete aprons at the piers exhibit wide cracks. These cracks can lead to spalling of the aprons and deterioration of the pier protection. The substructure units appear to be in fair condition, with areas of loose and missing mortar on the northern ends of the piers. A 50 SF area of damaged apron was observed at the upstream end of pier 2.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. Although pier footings were not visible during the underwater inspection due to the concrete aprons, several mortar bags of the pier footings were found to be loose, created by scour of the channel around the piers. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CONCLUSIONS

The bridge is in satisfactory condition due to the problems with the west abutment and scour at the piers.

An In-Depth Inspection and Rating leading to a rehabilitation contract is recommended. The last In-Depth Inspection and Rating Contract (C-326) was performed in 1992, prior to the rehabilitation done in 1994. The long term needs of the tie rods should also be investigated to determine their future use as a secondary strengthening system.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to re-point areas of missing and loosed mortar and repair any substructure deterioration found below the water line noted in the 2005 Underwater Inspection Report.

WASHINGTON CROSSING BRIDGE

Slight web twisting is apparent on the older bridge stringers, but when exactly the twisting occurred is unknown (possibly before the weight limit restriction). Although no repair is recommended at this time, this situation should be monitored during annual inspections.

The rehabilitation contract should include the deficiencies noted above.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Washington Crossing Toll Supported Bridge

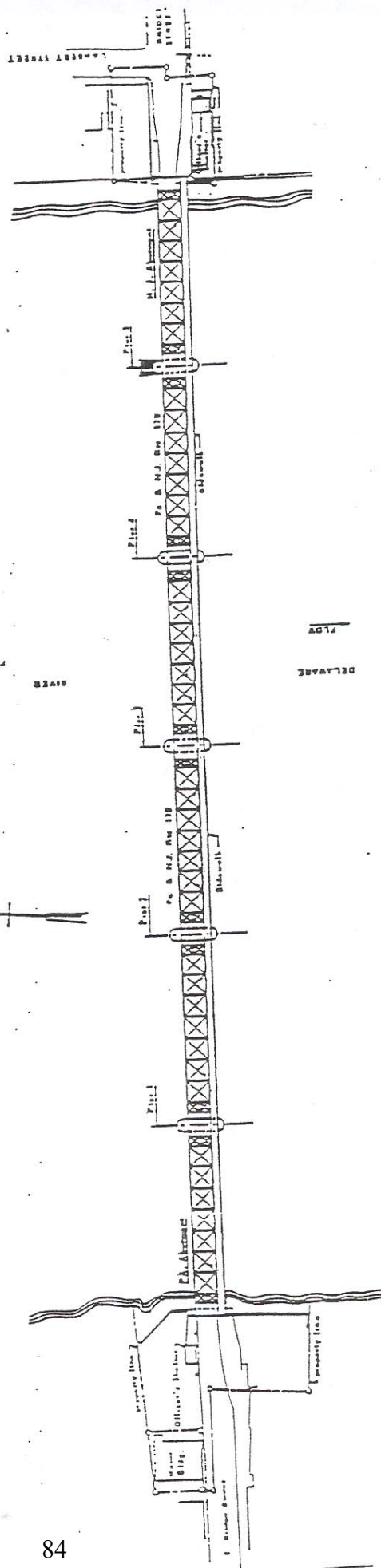
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
442A	Phase 1 Rehabilitation & Concept Study for the Washington Crossing TSB	\$3,357,000	\$600,000	\$2,244,000
442B	Washington Crossing TSB Phase 2 Rehabilitation	\$9,720,000	\$0	\$0
428	WX Deck joint replacement/ rehabilitation @ Pier 1,2,4 & 5	\$408,000	\$0	\$0
BRIDGES SUB TOTAL		\$13,485,000	\$600,000	\$2,244,000
<u>Facilities and Grounds</u>				
WCTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$131,000	\$10,000	\$11,000
TOTAL COST		\$13,616,000	\$610,000	\$2,255,000

NEW HOPE-LAMBERTVILLE
TOLL SUPPORTED BRIDGE
(Structure No. 120)

STATE OF NEW JERSEY
COUNTY OF HUNTERDON
CITY OF LAMBERTVILLE

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF DUCKS
BOROUGH OF NEW HOPE



NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

GENERAL

NEW HOPE-LAMBERTVILLE TOLL SUPPORTED BRIDGE

(6 span, pin connected Pratt Truss)

The New Hope-Lambertville Toll Supported Bridge (Structure No. 120) connects Bridge Street in New Hope, Pennsylvania to Lambertville, New Jersey.

The bridge superstructure, constructed in 1904, is a six-span pin connected Pratt truss with a total length of 1,046 feet. The open steel grate deck provides a clear roadway width of 20 feet 7 inches between steel rub rails. A timber-plank sidewalk, installed in 1982, is supported on the downstream side by steel cantilever brackets. Abutments, wingwalls, and piers are ashlar-faced masonry; the piers are stone-filled. All substructure units are from original construction in 1814.

The current posting consists of a 4-ton loading restriction and a fifteen mile per hour speed limit. The lower chord has been strengthened with a post-tensioning rod system by contract in 1984. A thrie-beam guide rail system was added by Maintenance forces to both sides of the roadway.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all six (6) spans, the substructure units and both approach roadways.

SIGNIFICANT FINDINGS

The bridge was recently rehabilitated by J. D. Eckman under Contract No. TS-370A. The rehabilitation was completed and the bridge was reopened on June 7, 2004.

During the post flood inspection performed in early April 2005, the superstructure and portions of the sidewalk sustained impact damage caused by debris floating downstream. The damage did not appear to affect the structural integrity of the bridge and the sidewalk was repaired by maintenance.

During the Flood of June 2006, multiple areas of minor damage to several members of the upstream bottom chord were observed throughout the bridge. The damage sustained does not pose a threat to the structural integrity of the bridge.

However, in span 5 at the 2nd bay from the east, the bottom chord exhibited more damage than the other areas noted above. This built up lower chord member is comprised of two (2) steel channels connected together with lacing bars in a diagonal pattern for the full length of the member. Impact damage to this member has caused it to deflect horizontally approximately 8". The upstream channel apparently absorbed more of the impact (causing it to twist) than the adjacent downstream channel. Also, multiple lacing bars, which tie the two channels together, were observed to be distorted and buckled from the impact.

NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

It was also observed that the top flange of the upstream channel exhibited cracks in at least 5 locations. The cracks occur directly adjacent to the rivet holes and do not appear to have propagated beyond the holes.

Several post tensioning rods that run along the upstream and downstream bottom chords sustained damage where floating debris became entangled, causing them to detach from their supports. In span 3, the north post tensioning rod became completely detached from the hangers and ultimately sheared off. The failure occurred at the base of the double nut connection at the north bearing at pier 3. In span 3 at the south side, the tie rod became detached from the hangers, and elongated at pier 3, causing it to sag. A similar condition to the south post tensioning rod of span 3 occurred at the north side of span 2 and span 4. There were heavy vibrations in span 2 caused by debris entangled in the post tensioning rod. The post tensioning rods at all other locations appear to have sustained no damage.

At the north side of pier 4, the steel bracket attached to the bearing for the inspection rigging cable was disconnected. Maintenance forces should realign the cable bracket. This deficiency does not affect the structural integrity of the bridge.

Damage to the sidewalk planks was observed at one location in span 2 and two locations in span 3. It appeared that debris struck the underside of the planks causing them to lift up and become detached from the stringer supports. In span 2, in addition to the sidewalk damage, the empty utility conduit sustained damage.

Heavy debris was observed at the upstream end of pier 2 and minor to moderate debris accumulation at all of the other pier locations. A damaged section of guide rail in bay 8 of span 2 (caused by floating debris) was observed.

Multiple areas of debris were observed to be wedged throughout the upstream lower chord of the north truss.

There is a Commission owned building (formerly a firehouse) located on the Pennsylvania side that is currently being used for storage by Maintenance. There do not appear to be any major defects, with the building, however a code use and occupancy study should be conducted.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition with some moderate to heavy cracking of the concrete aprons around the piers, moderate areas of collapsed concrete aprons, undermining of portions of the aprons, and minor mortar loss in masonry joints.

CONCLUSIONS

The bridge has been downgraded from good to satisfactory condition due to damage sustained during the flood of 2006. Subsequent to the inspections and under the direction of the Commission, Parsons Brinkerhoff performed the rating calculations during the in-depth inspection and determined that the damage sustained by the flood did not warrant a

NEW HOPE - LAMBERTVILLE TOLL SUPPORTED BRIDGE

continued bridge closure. Non-destructive testing was also performed to areas of the severely damaged bottom chord in span 5 and no evidence of cracking was found. Maintenance forces repaired the damaged sidewalk planks. The DRJTBC opened the bridge to vehicular and pedestrian traffic on July 2, 2006.

Emergency repairs to the severely damaged bottom chord in span 5 were in progress at the time this report was written.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to re-point areas of missing and loosed mortar and repair any substructure deterioration found below the water line noted in the 2005 Underwater Inspection Report.

A code use and occupancy study should be conducted for the Commission owned building (formerly a firehouse) currently being used for storage by Maintenance.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

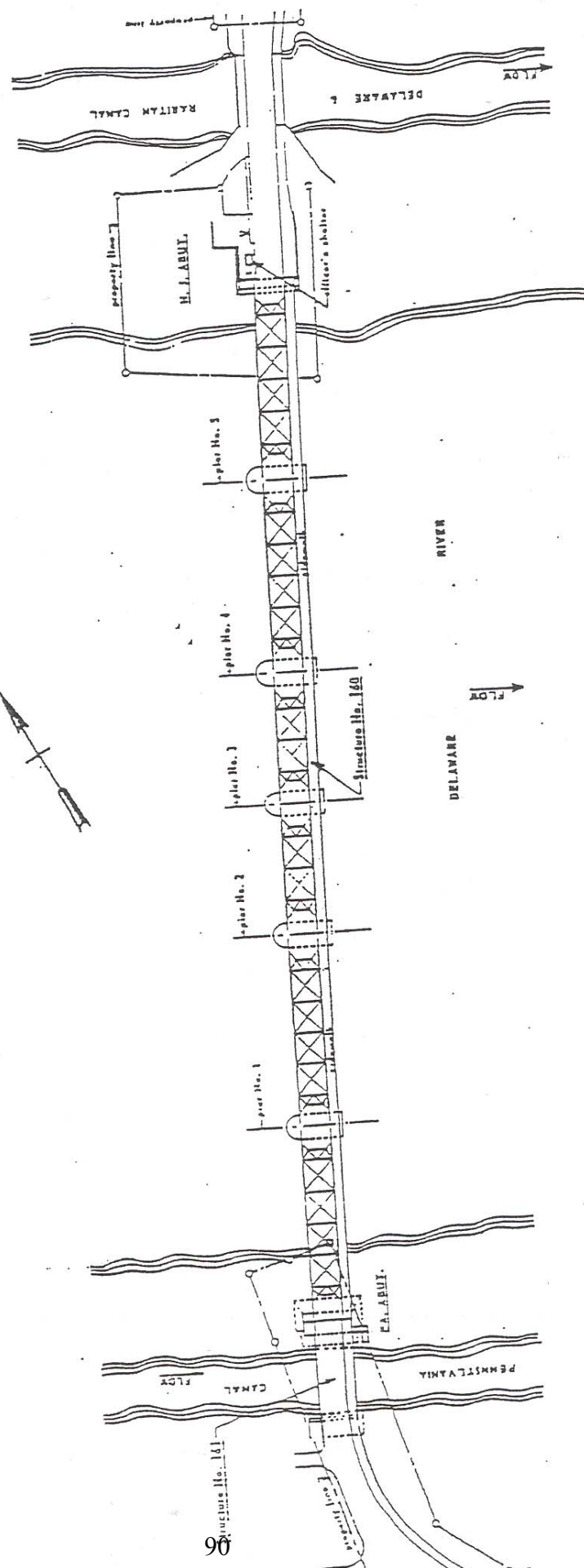
New Hope-Lambertville Toll Supported Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
The bridge was recently rehabilitated in 2004				
BRIDGES SUB TOTAL		\$0	\$0	\$0
<u>Facilities and Grounds</u>				
NHLTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$131,000	\$10,000	\$11,000
TOTAL COST		\$131,000	\$10,000	\$11,000

CENTRE BRIDGE-STOCKTON
TOLL SUPPORTED BRIDGE
(Structure No. 160)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF WICKS
TOWNSHIP OF SOLEBURY
CENTRE BRIDGE



CENTRE BRIDGE - STOCKTON TOLL SUPPORTED BRIDGE

CENTRE BRIDGE-STOCKTON BRIDGE

GENERAL

CENTRE BRIDGE-STOCKTON TOLL SUPPORTED BRIDGE

(6 span, riveted steel Warren Truss)

The Centre Bridge-Stockton Bridge (Structure No. 160) connects PA Route 32 in Solebury Township, Pennsylvania to NJ Route 29 in Stockton, New Jersey. The bridge, opened to traffic in 1927, is a six-span, riveted steel Warren truss structure, with a total length of 825 feet. The steel open-grate deck, added to the bridge in 1990, provides a clear roadway width of 20 feet between thrie-beam railings. In addition, a six-foot timber-plank sidewalk, replaced in 1990, is supported on the downriver truss on steel cantilever brackets.

The piers and abutments were originally constructed in 1814 from random ashlar masonry, are stone-filled and rest upon timber crib foundations. In 1926 portions of the piers were encased with reinforced concrete.

The bridge is currently posted for a twenty-five mile per hour speed limit and a twenty-ton weight limit restriction (6 tons maximum per axle).

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection involved a one-day cursory visual walk through of the main bridge. The Pennsylvania Canal Overpass (Structure No.161) was also inspected in 2006.

PENNSYLVANIA CANAL OVERPASS

(1 span, prestressed concrete adjacent box beams)

The Centre Bridge-Stockton Pennsylvania Canal Overpass (Structure No. 161) carries traffic over the Pennsylvania Canal in Solebury Township, PA. The structure is an approach bridge to the main Centre Bridge-Stockton Bridge that crosses the Delaware River.

The Pennsylvania Canal Overpass is a simple span, prestressed adjacent concrete box beam bridge. The roadway width is 20'-0" and the span length is 63'-0".

SIGNIFICANT FINDINGS

CENTRE BRIDGE-STOCKTON BRIDGE

A comprehensive rehabilitation of Centre Bridge-Stockton was completed in 2007 under Contract TS-429A. The scope of the rehabilitation included noted deficiencies from the previous inspection.

During an in-depth inspection in the Fall of 2005, it was determined that the lower chord members of the south truss exhibited advanced section loss that would require emergency interim repairs until the rehabilitation project was underway. The interim repairs were performed under Contract TS-429B in late 2006.

CENTRE BRIDGE-STOCKTON BRIDGE

Due to the upcoming rehabilitation and recent in-depth inspection, this structure was the subject of a cursory visual inspection.

The following significant findings have been transposed from the previous inspection reports for a general overview of the bridge's condition. For the most in-depth evaluation of this bridge, refer to Contract TS-429A's in-depth inspection report.

Repairs to the bottom chords were completed in 1998 (under Contract No. 344). The repairs included portions of the members of lower truss connections in spans one, two, four and five. Previous repairs under a separate contract include fascia portions of floorbeam bottom flanges, lower wind bracing, fascia stringer replacements, and a new guide rail system. Rust staining on the new galvanized members was typically noted.

The bridge was last painted in 1990 under Contract No. 304. The overall paint system, however, is fair above the roadway deck and poor below the roadway with peeling and blistering paint throughout. ***This condition was repaired under Contract TS-429A.***

Although the structural repairs done in 1998 have improved the overall condition of the bridge, the remaining bottom chord members, more so on the downstream side, still exhibit severe rust with significant section loss. Floorbeam steel adjacent to previous repairs to the floorbeams or horizontal gusset plates also exhibit severe section loss, up to 60% at some locations (some with perforations) of the bottom flanges and rivets to the bottom flange. The locations with the greatest section loss adjacent to a previous repair were noted at the west floorbeam of pier three and the east floorbeam over pier four. Section losses were noted to be up to 60% in the bottom flanges. ***This condition was repaired under Contract TS-429A.***

Upper horizontal tie plates of floorbeam and post connections (below the edge of the sidewalk) at the ends exhibit rivet head losses up to 80% as well as impacted rust and steel section losses up to 30%. ***This condition was repaired under Contract TS-429A.***

Increased structural losses were located in the first bay adjacent to the west abutment (Span one), all bays of Span 3, and near the east abutment (Span six as noted in previous inspection). The end floorbeams and their stringer seat connections exhibit moderate to severe rust with section losses up to 20%. East abutment bearings and horizontal gusset plates were also noted to be full of debris. ***This condition was repaired under Contract TS-429A.***

Sidewalk overhang brackets exhibit up to 40% section loss to the top flanges at intermittent locations. Channel sidewalk stringers exhibit moderate rust at localized areas with moderate to severe rust to seat angles/plates over floorbeam brackets. The worst condition of this was noted over pier four. Sidewalk stringers are also showing signs of bowing. Tie back bracket straps, as well as rivets heads, exhibited moderate to severe rust and necking with section losses up to 80%. Timber deck planks appeared to be in satisfactory condition. The substructures typically exhibit incipient spalling at upper portions of the pier caps, including efflorescence, scaling and rust stains. Loose, deteriorated and missing mortar

CENTRE BRIDGE-STOCKTON BRIDGE

joints were also observed. Pier three and four appeared to be in the worst condition. The water level was too high to view the aprons at the time of the inspection. ***This condition was repaired under Contract TS-429A.***

A staircase exists at the southwest corner of the main bridge, which provides access from the sidewalk above to the Pennsylvania Canal towpath below. In general the steel frame of the sidewalk exhibits moderate heavy rust and moderate exfoliated rust throughout. The staircase is not in compliance with building codes as related to, rise to run ratio, tread depth, and hand railing dimensions. Maintenance forces have performed some repairs to damaged areas of the staircase. ***This condition was repaired under Contract TS-429A.***

In addition to the general description of the significant findings above, additional inspections have been performed due to the Flood of June 2006. Such inspections noted debris buildup and damaged pier-mounted conduits. ***This condition was repaired under Contract TS-429A.***

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., has found the substructures to be in fair condition. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL BRIDGE

No significant findings were observed at the time of the walk through inspection.

The north ends of the east and west abutments exhibit minor spalling and mapcracking with efflorescence. Maintenance should continue to patch spalls as needed. The concrete deck is in good condition with fine cracking on the deck.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc. and submitted to the Commission in 2006, has found the substructures to be in good condition. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CONCLUSIONS

CENTRE BRIDGE-STOCKTON BRIDGE

The bridge is in overall fair condition. Bottom chords, although partially rehabilitated, require additional repair work to be in satisfactory condition, such as the lacing bars and localized portions of angle members. Floorbeams, bottom flanges especially, also require strengthening or replacement, including high-strength bolts at areas adjacent to previous repairs. Areas mentioned in Significant Findings with severe deterioration and section loss should also be blast cleaned and painted. Rivets with greater than 50% section loss should be replaced with high-strength bolts. Additionally, the southwest staircase is in fair condition and should be replaced to meet current building codes. ***These conditions were repaired under Contract TS-429A.***

CENTRE BRIDGE-STOCKTON BRIDGE

An in-depth inspection and Rehabilitation Contract is recommended for this bridge. Since the floor system (stringers, floorbeams, etc.) of the bridge is in overall fair condition and several repairs have already been made in the 1998 Repair Contract, a complete replacement of the superstructure should not be required. This contract should include an In-Depth Inspection and Rating to determine the extent of repairs and verify the current and proposed available rating. Repair plans should be developed, and should include structural steel repairs, the southwest staircase replacement, and substructure repairs. Blast cleaning and painting of the bridge should be included. ***These conditions were included under Contract TS-429A.***

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of the substructure deterioration noted in the 2005 Underwater Inspection Report.

CENTRE BRIDGE-STOCKTON PENNSYLVANIA CANAL OVERPASS

The bridge is in overall good condition, with minor spalling and map cracking at the northern end of the east and west abutments.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Centre Bridge-Stockton Toll Supported Bridge

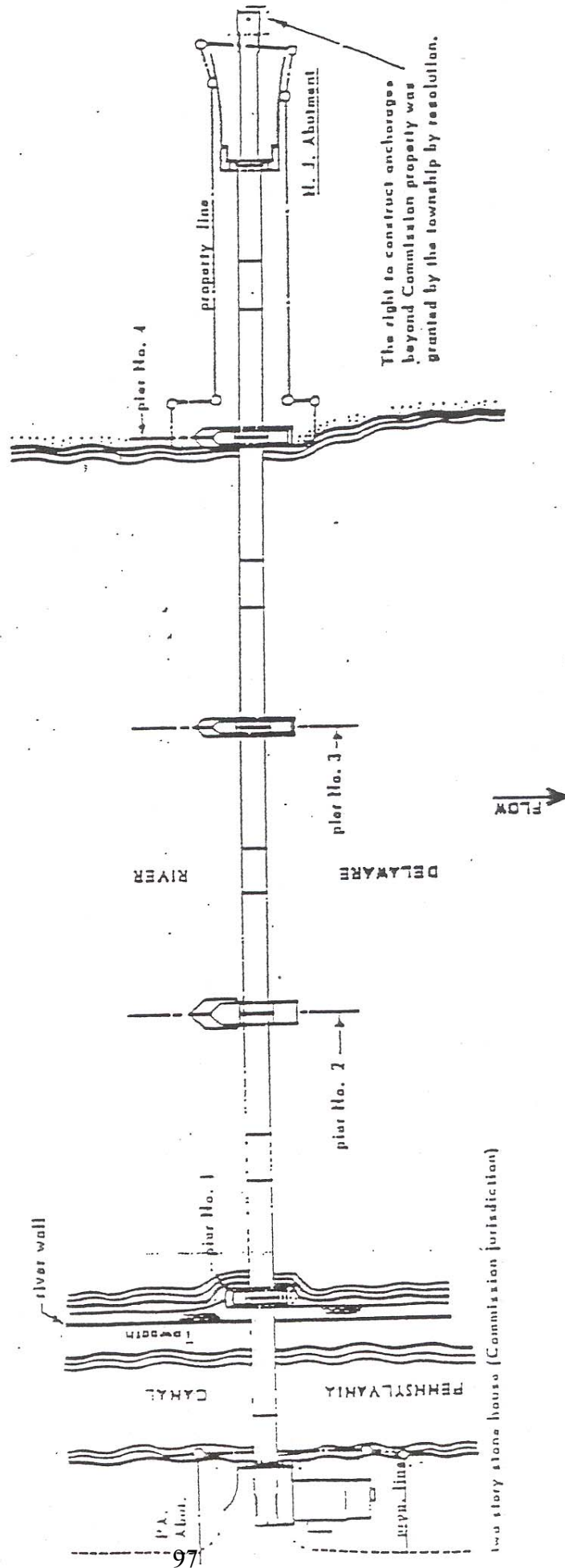
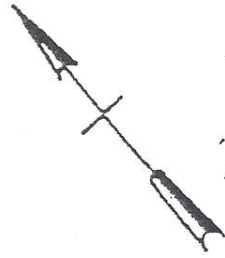
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund 2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
The bridge was recently rehabilitated in 2007				
BRIDGES SUB TOTAL		\$0	\$0	\$0
<u>Facilities and Grounds</u>				
CBSTSB	Miscellaneous Projects (less than \$100k each)	\$66,000	\$5,000	\$6,000
FACILITIES AND GROUNDS SUB TOTAL		\$66,000	\$5,000	\$6,000
TOTAL COST		\$66,000	\$5,000	\$6,000

LUMBERVILLE-RAVEN ROCK
PEDESTRIAN BRIDGE
(Structure No. 180)

STATE OF NEW JERSEY
COUNTY OF HUNTERDON
TOWNSHIP OF DELAWARE
RAVEN ROCK

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
TOWNSHIP OF SOLEBURY
LUMBERVILLE



LUMBERVILLE - RAVEN ROCK TOLL SUPPORTED BRIDGE

LUMBERVILLE - RAVEN ROCK BRIDGE

GENERAL

LUMBERVILLE-RAVEN ROCK

(5 span suspension bridge)

The Lumberville-Raven Rock Pedestrian Bridge (Structure No.180) connects Solebury Township (Lumberville) in Pennsylvania with Delaware Township (Raven Rock) in New Jersey.

This pedestrian bridge is a five-span suspension bridge with straight backstays and a precast waffle-style concrete slab held together by longitudinal post-tensioning web cables. The floor system is strengthened by cable trusses along each suspension cable.

The bridge was closed to vehicular traffic in February of 1944. In 1947, the superstructure was re-built on the original 1856 masonry substructure. A major rehabilitation contract was completed in 1993 that included the new deck slab, pier and abutment repointing, approach sidewalks, and bridge lighting. The entire bridge was last painted in 1980 by Maintenance forces and the towers were again painted in 1990.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all five (5) spans, the substructure units and both approach roadways

SIGNIFICANT FINDINGS

The deck is in good condition with some locations of water ponding, despite several drainage openings at the deck's edge.

The general condition of the paint system at the towers is poor. Upper structural steel, such as cables, suspension hangers and fencing exhibit moderate paint peeling. Upper and lower portions of suspension towers (including bearings) typically exhibit light rust and debris accumulation at the upper portions. Moderate rust was also noted at the tower base steel at the east abutment. Below deck (fascia) steel exhibits moderate random flange and bolted splice rust of transverse tee sections due to water infiltration at the ends of the deck and exposure.

Pitting with light to moderate section loss was exhibited on the lower horizontal wind bracing rods (below deck), several appearing to be caused by direct contact with the wood spacers or previous damage. Water infiltration through the construction joints at these locations seems to contribute to this problem. A sealant has been applied to these locations. Although appearing intact, the seal seems to be leaking as evidenced by moisture on the formwork and concrete.

The end sockets for the post tensioning at pier locations are heavily corroded as observed from below the deck. This condition appears to occur at all of the socket locations.

LUMBERVILLE - RAVEN ROCK BRIDGE

Considering no evident damage to the deck panels, it does not appear to affect the structural integrity of the structure.

Gusset plates of the lower towers at the piers (below deck) typically exhibit moderate corrosion of the steel and rivets.

Pier concrete aprons, though underwater at the time of our inspection, were noted to be in fair to poor condition with sections washed away, spalled or cracked.

In addition to the routine inspection findings, a post Flood of June 2006 inspection was performed and some minor damage was observed. Debris accumulation was observed at the piers and on the deck. The bridge fencing was damaged due to debris impacting the bridge.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in poor condition. The underwater inspection report indicated that scour with subsequent undermining was noted at Piers 1, 2 and 3. Most locations of rock protection have been washed away and some timber cribbing has been exposed. The Pier 3 condition of undermining appears to be the most critical. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

At the southwest corner of the bridge, the Commission-owned stone retaining wall appears to be distorted. However, at the time of the routine inspection and again after the Flood of June 2006 Inspection, the wall appeared to be intact and stable.

CONCLUSIONS

The bridge is in good condition and is structurally capable of carrying legal pedestrian loading. The bridge is in generally good structural condition.

Necking or corrosive section loss to the ends of lower horizontal wind bracing or fascia T's was observed at several locations. No increase in deterioration was noted from previous inspections.

The paint system is in poor condition. A cleaning and painting contract is recommended, especially for the towers and bearings. At minimum the upper and lower portions of the towers and bearings should be blast cleaned and painted. Recoating of the cables, hangers and fencing should also be included.

The southwest retaining wall along the Pennsylvania Canal and adjacent to Commission owned property should be reconstructed. A study should be undertaken to consider alternate solutions of repair. In addition, a cursory visual inspection of the exterior of the Commission owned house located on the Pennsylvania side, indicated that the above ground oil tank foundation is not level. However, it appeared to be stable at the time of inspection. A study should be undertaken to determine if any routine and/or necessary repairs need to be made.

LUMBERVILLE - RAVEN ROCK BRIDGE

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2006 Underwater Inspection Report.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

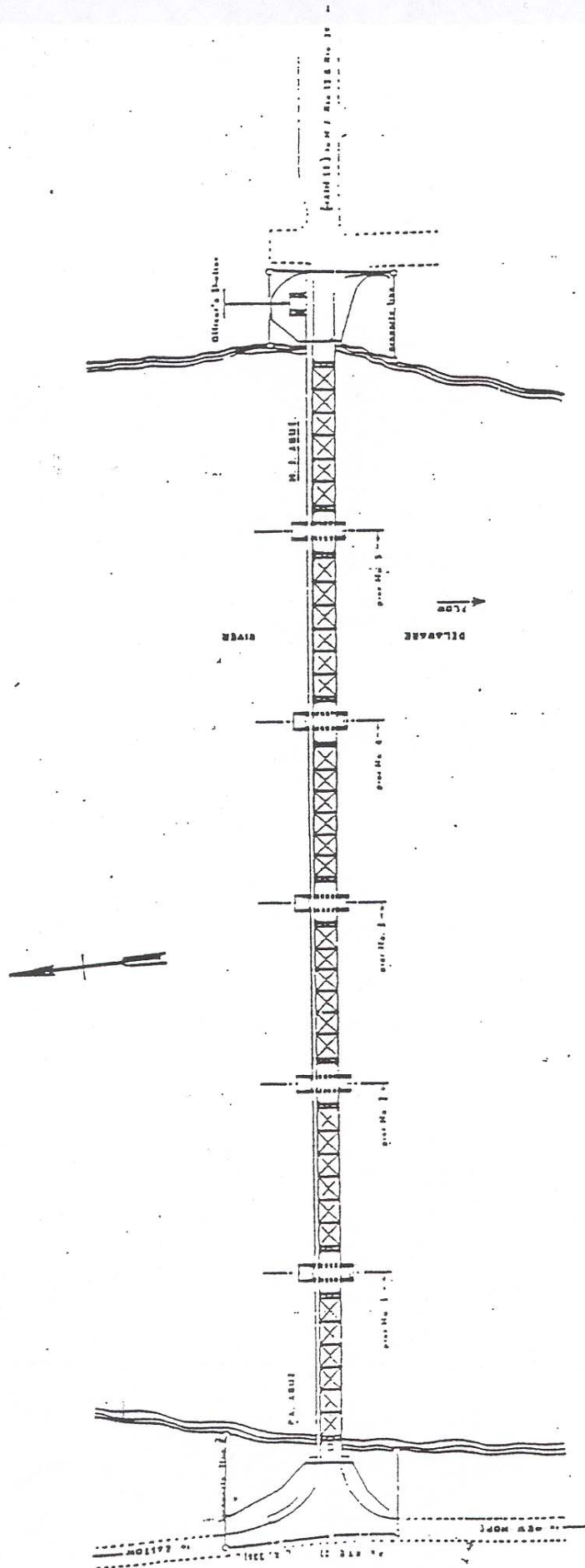
Lumberville-Raven Rock Pedestrian Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
443	L-RR TSB Rehabilitation & Retaining Wall Reconstruction	\$3,039,000	\$290,000	\$581,000
BRIDGES SUB TOTAL		\$3,039,000	\$290,000	\$581,000
<u>Facilities and Grounds</u>				
LRRTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$131,000	\$10,000	\$11,000
TOTAL COST		\$3,170,000	\$300,000	\$592,000

UHLERSTOWN-FRENCHTOWN
TOLL SUPPORTED BRIDGE
(Structure No. 220)

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
TOWNSHIP OF THIRDCUM
WILBERTOWN



UHLERSTOWN – FRENCHTOWN TOLL SUPPORTED BRIDGE

UHLERSTOWN - FRENCHTOWN BRIDGE

GENERAL

UHLERSTOWN-FRENCHTOWN TOLL SUPPORTED BRIDGE

(6 span, riveted steel Warren Truss)

The Uhlerstown-Frenchtown Bridge (Structure No. 220) carries Bridge Street traffic from Uhlerstown, Tinicum Township in Pennsylvania to Frenchtown, New Jersey.

The bridge, which rests on the original masonry substructure built in 1843, consists of a six-span riveted steel Warren truss structure, built in 1931. The steel open-grate deck, added in 1949, provides a clear roadway width of 16 feet 6 inches curb to curb. A concrete-filled steel grating sidewalk is supported by the upstream truss on steel cantilever brackets.

The bridge was rehabilitated in 2001 under Contract No. TS-363. The bridge is currently posted at a 15-ton weight limit and a 15 mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all six (6) spans, the substructure units and both approach roadways

SIGNIFICANT FINDINGS

When performing post Flood of June 2006 Inspections, only minor damage was observed. In the 2nd bay from pier 1 in span 2 at the 2nd stringer from the north, a small area of impact damage was observed near the midspan of the stringer with damaged galvanized coating and adjacent wood debris. No indentations or other significant damage were noted. Maintenance forces can coat the damaged area of steel with a cold applied zinc compound.

During the post flood inspections performed in early April 2005, flood damage was observed to the upstream side of the railing and sidewalk. The damage was caused by debris that drifted downstream at high velocity. At the time of the 2006 routine inspection, the damaged sidewalk railing was under repair.

Bird debris and nests were observed on many of the truss verticals and diagonals, as well as under the sidewalk. The east approach pavement is showing signs of wear.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. The underwater inspection report noted that the concrete aprons exhibited medium to wide cracks with undermining of the aprons and various locations due to washing away of the rock protection. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CONCLUSIONS

The bridge is in good condition.

UHLERSTOWN - FRENCHTOWN BRIDGE

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report.

Repairs to the damage to the sidewalk and railing caused by the 2004 Flood should be completed.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Uhlerstown-Frenchtown Toll Supported Bridge

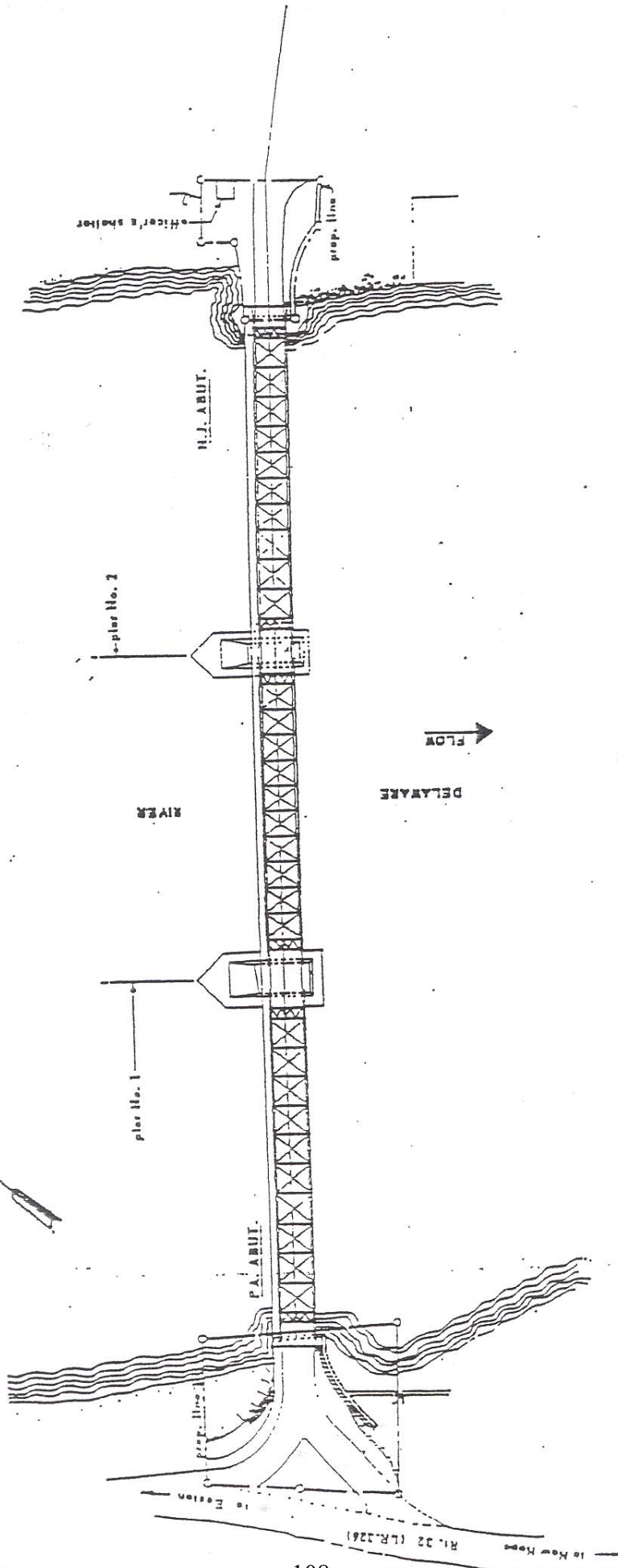
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
The bridge was rehabilitated in 2001				
BRIDGES SUB TOTAL		\$0	\$0	\$0
<u>Facilities and Grounds</u>				
UFTSB	Miscellaneous Projects (less than \$100k each)	\$392,000	\$30,000	\$32,000
FACILITIES AND GROUNDS SUB TOTAL		\$392,000	\$30,000	\$32,000
TOTAL COST		\$392,000	\$30,000	\$32,000

UPPER BLACK EDDY-MILFORD
TOLL SUPPORTED BRIDGE
(Structure No. 240)

STATE OF NEW JERSEY
COUNTY OF HUNTERDON
BOROUGH OF MILFORD

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
TOWNSHIP OF BRIDGETON
UPPER BLACK EDDY



UPPER BLACK EDDY - MILFORD TOLL SUPPORTED BRIDGE

UPPER BLACK EDDY - MILFORD BRIDGE

GENERAL

UPPER BLACK EDDY- MILFORD TOLL SUPPORTED BRIDGE

(3 span, Warren Truss)

The Upper Black Eddy-Milford Bridge (Structure No. 240) extends over the Delaware River and connects PA Route 32 and Hunterdon County Route 619 via Bridge Street from Upper Black Eddy, Bridgeton Township, Pennsylvania to Milford Borough, New Jersey.

The bridge, constructed in 1933, is a three-span Warren truss structure, with a total length of 700 feet. The deck consists of concrete-filled steel inverted “T’s” and provides a clear roadway width of 20 feet between steel channel rubrails. In 1996 a new galvanized plate sidewalk was added to the bridge and is supported on the upriver truss on steel cantilever brackets.

Both abutments, recapped with reinforced concrete following flood damage, were originally built in 1842 with rubble-faced masonry. The piers, built in 1842, are stone-filled having also been recapped with reinforced concrete.

The bridge is currently posted for a fifteen mile per hour speed limit with no weight limit restriction.

In accordance with Commission’s bridge inspection policy, this structure was inspected in 2006. This inspection included all three (3) spans, the substructure units and both approaches.

SIGNIFICANT FINDINGS

Impact damage to the north bottom chord of the north truss was observed during the routine inspection and was most likely caused by the flooding that occurred in 2005. The damage is not critical and does not threaten the structural integrity of the bridge.

Severe rusting was found at the bays adjacent to both abutments. The north and south fascia stringers and their steel shims, the steel formwork for the deck and the adjacent ends of floorbeams and horizontal gusset plates (and rivet heads) were heavily corroded and delaminating. The westernmost bay in span one (1) exhibited the worst case of rust.

Light to moderate rusting was exhibited at most of the fascia stringers (and shim plates) and in localized areas throughout the remaining structural steel. More severe rusting was observed at adjacent and underlying steel beneath openings at the rubrails (edge of roadway) and at the exposed fascia steel of the bottom chord and adjacent vertical post. Lower horizontal gusset plate connections to the floorbeams were observed to exhibit light to moderate rust with debris accumulation. Batten/tie plates of bottom chord exhibit impacted rust

UPPER BLACK EDDY - MILFORD BRIDGE

Several bays of the below-deck superstructure were noted to contain bird nests and associated debris.

The stub stringers over pier one at the expansion (west) side rest on support brackets. The support bracket is in direct contact with the bottom flange of the floorbeam and is causing it to bend downward slightly.

Some locations of the galvanized steel sidewalk plates exhibited loss of galvanizing with minor section losses.

The concrete-filled steel deck is showing signs of wear, especially along the wheel lines. Edges of deck also exhibit minor concrete scaling with debris allowing water to infiltrate below deck. Steel deck joint sliding plates also show signs of wear specifically at the west abutment.

Substructure units were re-pointed in 1998 (Contract No. 347) and appear to be in satisfactory condition, except for pier one which exhibits signs of 'bulging' at the west side, no signs of distress were noticed in the pier cap. This bulging has been present since approximately 1970. This area should be visually monitored in future inspections. The west abutment, east side of pier one and west side of pier two, showed some minor mortar loss.

The east and west abutment backwalls exhibit heavy map cracking and spalling, especially on the south side. Two vertical cracks in the west abutment backwall and three vertical cracks in the east abutment backwall were also noted with efflorescence. The west face of pier 2 exhibited spalling at the north end. Similar conditions were noted at the upper portions of piers.

During the post flood inspection performed in early April 2005, minor damage was noted to the upstream railing caused by debris floating downstream. Again, following the post Flood of June 2006 Inspections, minor debris buildup on the piers was observed.

The officer's shelter septic sewer system has been reported to be malfunctioning.

The post Flood of June 2006 Inspection did not identify any deficiencies. The condition of the mortar loss of the stone facing and random loosening at the substructure units do not appear to have worsened due to the flood.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. It was recommended that scour countermeasures be put into place to prevent degradation up and downstream of the bridge. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

UPPER BLACK EDDY - MILFORD BRIDGE

CONCLUSIONS

The bridge is in overall good condition, having been well maintained throughout the years. The steel paint condition of the truss and floor system is overall satisfactory to good, having been painted in 1992. Several areas of localized rusted and corroded steel should be spot cleaned and painted, especially in the first bays adjacent to both abutments.

It is recommended that an in-depth inspection and rating be performed for this bridge. Although this bridge is not currently posted for a weight restriction, heavy truck traffic is typical and ratings should determine if posting is necessary.

A rehabilitation contract should be considered for a complete bridge deck replacement. The new deck should provide increased protection to underlying steel. The in-depth inspection and rating should be included to study the possible alternatives (if any) for the superstructure. Based upon the current condition of the bridge, its superstructure and the current load posting, a complete superstructure replacement is not anticipated. In the interim, maintenance should repair the damaged railing caused by the 2005 flood.

The officer's shelter septic system should be properly abandoned and a new sewer line should be installed to connect into the municipal sewer system.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Upper Black Eddy-Milford Toll Supported Bridge

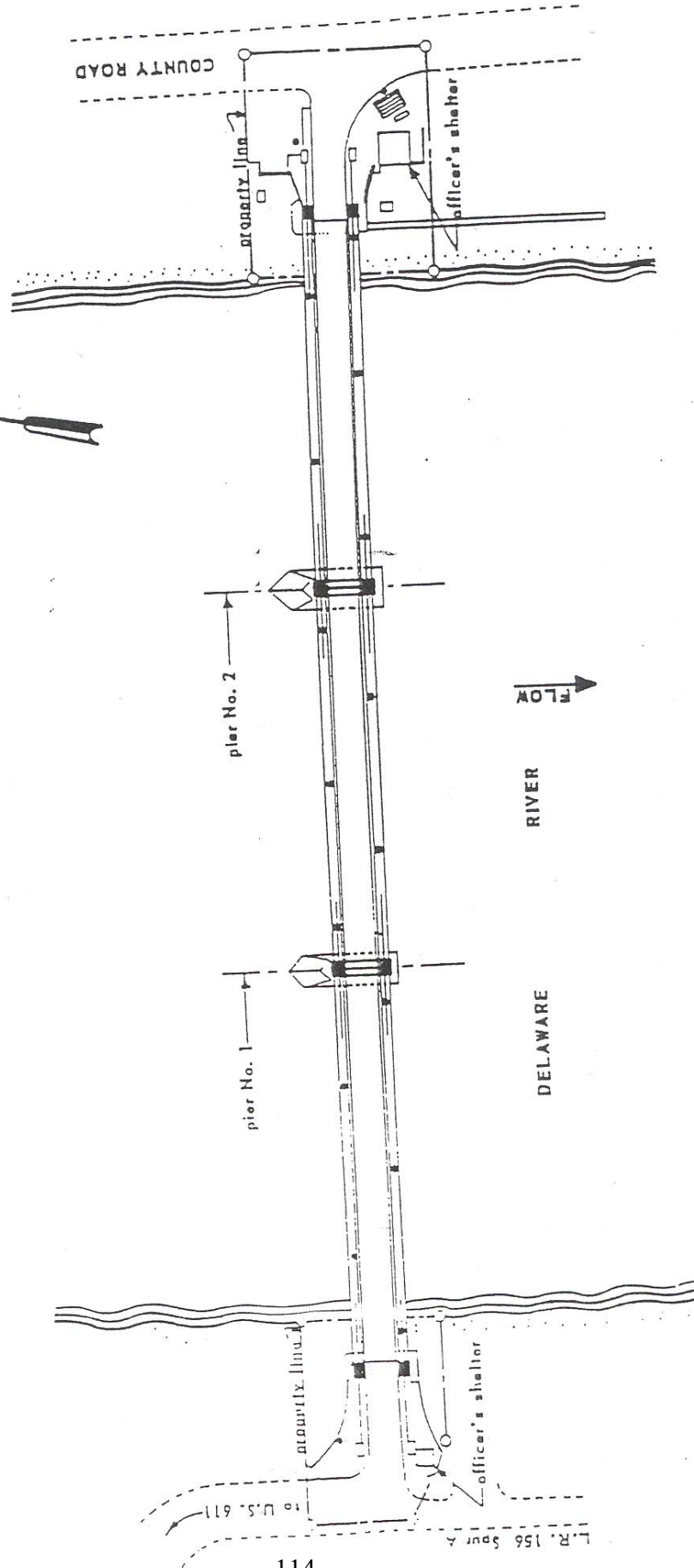
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
444	Upper Black Eddy - Milford TSB Rehabilitation	\$13,948,000	\$509,000	\$1,578,000
	BRIDGES SUB TOTAL	\$13,948,000	\$509,000	\$1,578,000
<u>Facilities and Grounds</u>				
UBEMTSB	Miscellaneous Projects (less than \$100k each)	\$196,000	\$15,000	\$16,000
	FACILITIES AND GROUNDS SUB TOTAL	\$196,000	\$15,000	\$16,000
	TOTAL COST	\$14,144,000	\$524,000	\$1,594,000

RIEGELSVILLE
TOLL SUPPORTED BRIDGE
(Structure No. 260)

STATE OF NEW JERSEY
COUNTY OF WARREN
BOROUGH OF RIEGELSVILLE

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BUCKS
BOROUGH OF RIEGELSVILLE



RIEGELSVILLE TOLL SUPPORTED BRIDGE

RIEGELSVILLE BRIDGE

GENERAL

RIEGELSVILLE TOLL SUPPORTED BRIDGE

(3 span cable suspension bridge)

The Riegelsville Toll Supported Bridge (Structure No. 260) connects Durham Township in Pennsylvania with Pohatcong Township in New Jersey.

The bridge, constructed in 1904, is a three-span cable suspension bridge with straight backstays and a total length of 577 feet. The open-grid steel deck, supported by a king post floorbeam system, provides a roadway width of 16 feet between steel rubrails. A timber plank sidewalk rests on floorbeam cantilevers on both fascias. The sidewalk railing is actually a double-warren truss, assisting in strengthening the bridge roadway. The substructure, originally built in 1835, was raised and built-up in 1904.

The bridge is currently posted for a two and one-half ton weight limit and a fifteen mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all three (3) spans, the substructure units and the approach roadways.

SIGNIFICANT FINDINGS

Under Contract TS-391, the Riegelsville Bridge has undergone the first step in a full rehabilitation, as part of the Commission's 10-year capital program addressing improvements to many of the bridges. Work consisted of strengthening towers on the river piers, replacement of hanger blocks connecting vertical hangers to the floor beams, repair of floor beam bearings at each end of the floor beams of the three spans, concrete repair on pier two, and concrete crack repairs at the anchorages.

The bridge was last painted by contract in 1985. The structural steel paint condition is fair above the bridge deck and poor below the bridge deck. The cable and upper suspension rods coating is in satisfactory condition.

Under vehicular impact, excessive vibrations were previously noted in spans 1 and 2, especially at pier 1 and pier 2, however the addition of the elastomeric floorbeam bearings has lessened the effect. Two (2) vertical suspension rod hangers adjacent to the towers in each span were noted to be loose. The tension in the rod hangers was reduced due to the addition of the elastomeric bearings, therefore no repair is required.

Both the north and south ends of several channel floorbeams have previously had web plates and/or replacement channels welded to the existing beams. Several floorbeams exhibit rusting and a failed zinc-coated paint system.

RIEGLSVILLE BRIDGE

The majority of the perforations in the lower web of the floorbeam channels, mainly above king posts, have been repaired. However, there are a few locations where perforations exist, above the king posts and near the south suspenders anchor points. The lower wind bracing angles exhibit peeling and blistering paint and exhibit moderate to locally severe rusting with subsequent section loss throughout. These conditions occur mostly beneath the sidewalks. These losses to the wind bracing do not impact the structural rigidity of the bridge at this time.

Medium transverse cracks were observed in the upriver tower horizontal saddle plates at piers 1 and 2. These cracks have been present for at least the past 9 years and have not increased in size, and therefore do not affect the structural integrity of the bridge.

At the southern lower diagonal brace at the north tower of the east abutment, as well as the northern lower diagonal brace at the south tower of pier two, signs of bending or possibly vehicular impact were noted.

Several U-shaped hangers connecting cables, more prevalent at the midspan locations, exhibited rusting and minor necking. With the present posting, repairs are not required at this time.

The following locations exhibited areas of deterioration and corrosion:

- Several floorbeam channels above the king post in span 3 exhibited perforations through the web.
- Bottom flanges and webs of floorbeams, especially near horizontal gusset plates and suspension hanger lower connections to floorbeams with poor weld conditions.
- Horizontal bracing angles at tower upper lateral struts.
- Top of sidewalk floorbeams and shim plates beneath timber nailers.
- Several lower wind bracings (also pitting and perforations)
- Lower hanger rod blocks.

A cleaning and pointing contract was completed for the substructure in 1998 and mortar joints are typically in good condition. However the tops of piers and abutments still exhibit severe scaling and spalling throughout bridge seats and backwalls in the area directly below the end floor beams. The spalling varies in depth from 2 inches to over 6 inches. The spalling does not occur near the tower supports. Concrete apron slabs above the water line at the base of piers were noted in the past to also exhibit undermining, scaling and cracking that do not effect the structural integrity of the bridge at this time.

A portion of the pier apron was washed away during the rains of Hurricane Ivan in the early fall of 2004. Further damage was sustained during the Flood of June 2006, which washed away an additional section of concrete apron.

Construction Contract TS-461A is currently in progress to repair the damaged concrete aprons and address the additional damage due to the Flood of June 2006. Construction is scheduled to commence in late 2006.

RIEGELSVILLE BRIDGE

During the post Flood of June 2006 Inspection, only minor damage was observed. The lower rail of the upstream sidewalk railing exhibited minor impact damage and did not require immediate repair. Additionally, debris accumulation had occurred and should be addressed by Maintenance.

Both approach roadways exhibit cracking, unevenness and general deterioration, more so at the New Jersey approach and adjacent sidewalk/parking area.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in fair condition. A section of the concrete apron at pier 2 has been washed away. The east abutment exhibited moderate erosion and loss of concrete slope protection. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CONCLUSIONS

The bridge is in fair condition, with an overall fair to poor paint condition.

It is recommended that a complete bridge rehabilitation contract be performed. The purpose of the rehabilitation contract should not only address the deficiencies of the bridge, but also investigate the possibility of increasing the current load rating of 2-1/2 tons.

The design for the Rehabilitation Project should begin with an In-Depth Inspection and Rating to determine the extent of required repairs. A study should be included with this inspection contract to determine the feasibility of a floor system rehabilitation. It is assumed that the suspension cable system will not be modified. A contract to develop rehabilitation plans and specifications should then be completed, which is assumed to include as a minimum, floorbeam replacement along with the associated hanger rod attachment blocks, blast cleaning and painting steel of the suspension cable and hangers, substructure repairs and milling and repaving the approaches and NJ Officers' shelter parking area.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report. In the interim, the washout of the pier apron that occurred during the rains of Hurricane Ivan in the early fall of 2004, and again in June 2006, should be repaired.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Riegelsville Toll Supported Bridge

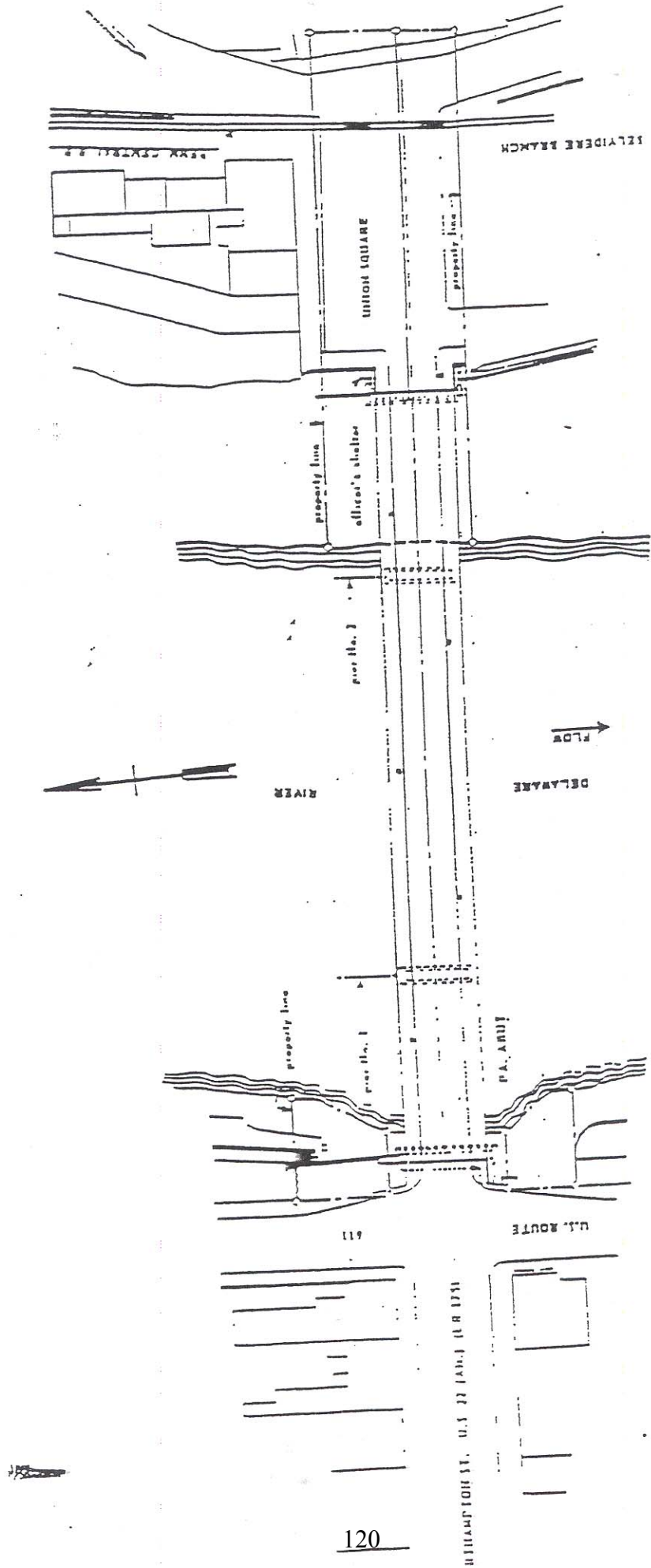
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
445	RGL Rehabilitation	\$6,974,000	\$0	\$0
BRIDGES SUB TOTAL		\$6,974,000	\$0	\$0
<u>Facilities and Grounds</u>				
RTSB	Miscellaneous Projects (less than \$100k each)	\$131,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$131,000	\$10,000	\$11,000
TOTAL COST		\$7,105,000	\$10,000	\$11,000

NORTHAMPTON STREET
TOLL SUPPORTED BRIDGE
(Structure No. 280)

STATE OF NEW JERSEY
COUNTY OF WARREN
TOWN OF PHILLIPSBURG

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF NORTHAMPTON
CITY OF EASTON



NORTHAMPTON STREET TOLL SUPPORTED BRIDGE

NORTHAMPTON STREET BRIDGE

GENERAL

NORTHAMPTON STREET TOLL SUPPORTED BRIDGE

(3 span, cantilevered truss)

The Northampton Street Toll Supported Bridge (Structure No. 280), just south of the Easton-Phillipsburg Toll Bridge, connects Easton, Pennsylvania to Phillipsburg, New Jersey.

The bridge, although aesthetically resembling a suspension bridge, is a double cantilever truss structure, adjoined by a center (main) suspended span. The three-lane open-grid steel grate deck provides a clear roadway width of 32 feet and a total bridge length of 550 feet. The current bridge was constructed in 1895, with major rehabilitation and repairs done due to flood damages.

The bridge is currently posted for a three-ton weight limit and a twenty-five mile per hour speed limit.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all three (3) spans, the substructure units and the approach roadways.

At the request of the Commission, Transystems/Lichtenstein conducted a special inspection of the Northampton Street Toll Supported Bridge. The reason for this special inspection was that an audible noise was being heard at the west abutment (PA side) below the south sidewalk. The scope of this special inspection was to determine the condition causing the noise. For complete inspection findings, see Appendix A.

SIGNIFICANT FINDINGS

The bridge is in satisfactory condition due to the recent damage caused by the Flood of June 2006, which resulted in several damaged stringers with the most severely damaged stringer in span 2, which is approximately 5" out of plane. Due to the redundancy of the floor system, the stringers remain functional in this current state.

A new safety line was recently installed along both the upstream and downstream lower chords. These new safety lines allow maintenance and inspection access to the underside of the bridge.

An eyebar on the north truss is slightly bowed in the direction of the roadway, however not directly in the path of traffic. The deficiency does not affect the structural integrity of the structure.

Following the Flood of June 2006, inspections were performed to evaluate the flood damage. The initial investigation from the roadway and sidewalks revealed several areas of damaged sidewalk planks located on the north side of all 2 spans.

NORTHAMPTON STREET BRIDGE

Upon visual inspection of the bottom chords and surrounding areas, no evidence was found of any significant structural damage caused by the flood which would warrant bridge closure. General impact scrapes, scratched paint and minor localized dents/bends to the steel members were noted. There were several missing navigational lights and damaged/missing architectural lights beneath the bridge, including several broken electrical conduits and exposed wires. The electrical panel near the upstream side of Pier 1 was also damaged. Most of the damage noted, including the navigational lights and abrasions/paint scrapes, appears to have been caused by the Flood of 2005.

The most significant damage appears to be damaged/twisted fascia roadway stringer in span 2 at the north side in bay L9-L10. The stringer was impacted approximately 5 feet from L9 and was noted to be approximately 5" out of plane. Although no apparent damage was noted to the connections, one (1) of the riser beams sustained a 4" long broken weld.

Subsequent to the inspections, an additional walk-through inspection was performed to determine the extent of damage to the bridge lighting and whether the current Construction Contract TS-393F needed to be modified as a result of the flooding damage. This visual inspection was limited to the roadway and two (2) access roads beneath the bridge. Additional damage was noted to the downstream fluorescent lighting fixtures. However, since the decorative lighting was not de-energized or re-lamped since the flood, it is difficult to determine if the lighting fixtures which do not show physical damage are not operating.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. No additional damage was found following a subsequent inspection due to the Flood of June 2006.

CONCLUSIONS

The bridge is in satisfactory condition. Damage caused by the flood to the main superstructure (bottom chord) does not require repairs at this time. However, the damage to the northern sidewalk railing, sidewalk planks and stringers should be repaired by heat straightening or other acceptable method.

It is recommended that the fluorescent fixtures on the downstream side of the bridge be re-lamped and tested. Any fixture or wiring found to be defective should be replaced for a complete operating system.

For a list of required maintenance repair items, see the Tenth Annual Maintenance Report.

Northampton Street Toll Supported Bridge

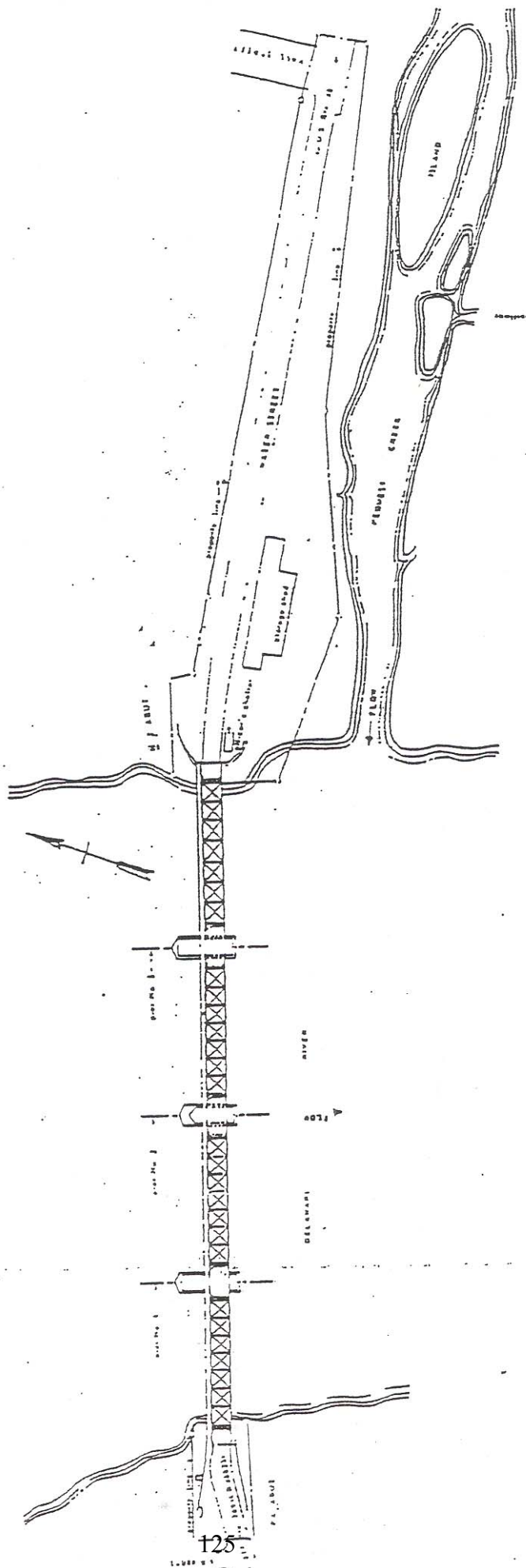
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
The bridge was recently rehabilitated in 2002				
BRIDGES SUB TOTAL		\$0	\$0	\$0
<u>Facilities and Grounds</u>				
NHSTSB	Miscellaneous Projects (less than \$100k each)	\$667,000	\$50,000	\$52,000
FACILITIES AND GROUNDS SUB TOTAL		\$667,000	\$50,000	\$52,000
TOTAL COST		\$667,000	\$50,000	\$52,000

RIVERTON-BELVIDERE
TOLL SUPPORTED BRIDGE
(Structure No. 320)

STATE OF NEW JERSEY
COUNTY OF WARREN
TOWN OF BELVIDERE

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF NORTHAMPTON
TOWNSHIP OF LOWER MOUNT BETHEL
RIVERTON



RIVERTON - BELVIDERE TOLL SUPPORTED BRIDGE

RIVERTON-BELVIDERE BRIDGE

GENERAL

RIVERTON-BELVIDERE TOLL SUPPORTED BRIDGE

(4 span, riveted steel, double Warren Truss)

The Riverton-Belvidere Toll Supported Bridge (Structure No. 320) carries Water Street across the Delaware River and connects Riverton, Lower Mount Bethel Township, Pennsylvania with the Town of Belvidere, New Jersey.

The bridge, constructed in 1904, is a four-span, riveted steel, double Warren truss structure, with a total length of 653 feet. The steel open-grate deck provides a clear roadway width of 16 feet between three-beam railings. In addition, a concrete-filled steel-grating sidewalk is supported on the upriver truss with steel cantilever brackets.

The piers and the Pennsylvania abutment are rough ashlar-faced masonry and stone-filled. The piers are supported on timber cribs and lower portions are concrete-filled steel sheet piling (1929-32). The New Jersey abutment, including its wingwalls, is constructed of concrete on timber piles.

The bridge is currently posted for a fifteen-mile per hour speed limit and an eight-ton weight limit restriction.

Due to the upcoming rehabilitation project under Contract C-371A and the in-depth inspection involved with that contract, a one-day cursory visual walk-through inspection of the bridge was performed during the 2006 Annual Inspections.

SIGNIFICANT FINDINGS

A comprehensive rehabilitation of Riverton-Belvidere was completed in 2007 under Contract TS-371A. The scope of the inspection included all noted deficiencies noted from the previous inspection.

The following significant findings have been transposed from the previous inspection report to give a general description of the condition of the bridge. The in-depth inspection performed under Contract C-371A would be the most current re-evaluation of this bridge. The bridge will be rehabilitated under Contract TS-371A.

The paint condition has localized areas of poor conditions at supports and intermittent locations. Paint peeling was noted at upper and lower steel locations exposed to the elements. The bridge was last cleaned and painted in 1981. The upper superstructure paint system is satisfactory to fair. ***This condition was repaired under Contract TS-371A.***

Moderate to heavy impacted rust and deterioration was noticed in the lower chord batten plates and angle members. Debris accumulation has clogged drain (weep) holes in the bottom chords. Connections of the bottom chord and vertical truss members are severely deteriorated with rivet head losses and moderate to severe impacted rust. ***This condition was repaired under Contract TS-371A.***

RIVERTON-BELVIDERE BRIDGE

Localized rust was exhibited throughout stringers, floorbeams and lower wind bracing. Typically little or no losses were observed but there are random areas with moderate losses to the stringer webs. Increased deterioration was observed in the first bay adjacent to the west abutment (span one), on the flanges and lower webs of stringers and floorbeams, as well as the end of deck bearing bars exhibited heavy rust. Perforations were also noted in the webs of several sidewalk brackets and at the north end of the east abutment floorbeam. In the first bay of span one, maintenance forces have performed remedial repairs to several steel members. Some areas, however, still require repair, especially perforations in stringers (and their riser beams) and the end floorbeam. ***This condition was repaired under Contract TS-371A.***

The underside of the sidewalk generally exhibits severe corrosion to the metal forms, especially at the outer edges. The top surface of the sidewalk exhibits heavy concrete scaling throughout with locations of exposed steel grating (rusted) and overall unevenness. The edge of the sidewalk steel grate and fascia plate exhibit heavy rusting and section losses due to water infiltration from the concrete deck. The approach sidewalk is in poor condition exhibiting deterioration and cracking throughout. ***This condition was repaired under Contract TS-371A.***

The upper lateral wind bracing is in fair condition, exhibiting corrosion and necking at end connections. ***This condition was repaired under Contract TS-371A.***

Several finger joint teeth of the pier 2 tooth dam, especially at the north side, have broken off due to corrosion and the area filled in with bituminous patch material. The tooth dam and some additional teeth remain lifted/buckled at some locations from impacted rust. The east support riser beam for the deck joint also exhibits severe section loss and corrosion, which may have contributed to the problem. The bituminous patch material may prevent proper thermal expansion of the bridge. ***This condition was repaired under Contract TS-371A.***

The thermal relief joint at Pier 2 is comprised of stub stringers seated on brackets attached to the floorbeam. The stub stringers are loosely bolted to the brackets through slotted holes with the shim plates also becoming loose. ***This condition was repaired under Contract TS-371A.***

The vertical diagonal truss members at the sidewalk level have connection tie plates in which several exhibit impacted rust, corrosion and subsequent bending. ***This condition was repaired under Contract TS-371A.***

The bridge railing behind the newly installed three-beam guide rail on the south side of the bridge is rusted throughout and is staining the guide rail with rust. ***This condition was repaired under Contract TS-371A.***

The officer's shelter at the New Jersey approach is not protected from traffic impact by means of guide rail or other device. Moreover, the New Jersey approach pavement is in fair to poor condition with cracking, rutting and spalling. The interface of the east abutment deck joint with the approach pavement is worn and discontinuous. The Pennsylvania approach pavement is in fair to poor condition.

RIVERTON-BELVIDERE BRIDGE

Adjacent to the southeast retaining wall at the rear of the officer's shelter, the embankment and neighboring sidewalk have settled. Additional riprap has been added to the embankment by Maintenance forces and appears to have stabilized the slope. The concrete sidewalk has settled and cracked and appeared to have stabilized during at the time of inspection. The base of the outer concrete foundation appears to be at an inadequate depth and too close to the edge of the embankment. The shelter's foundation appears satisfactory. ***This condition was repaired under Contract TS-371A.***

Commission owned property also includes a storage garage located on the New Jersey side of the bridge. The roof of the structure is comprised of a corrugated material. Heavy moss growth was observed throughout the roof. Maintenance has indicated that repairs have been performed to prevent leaks in the roof and additional repairs are required.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in satisfactory condition. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CONCLUSIONS

A comprehensive rehabilitation of Riverton-Belvidere was completed in 2007 under Contract TS-371A. The scope of the inspection included all noted deficiencies noted from the previous inspection.

The bridge is in overall fair condition due to the condition of the superstructure and deck joints. It is recommended that a bridge rehabilitation contract be performed.

The overall rehabilitation should begin with an in-depth inspection and rating to determine the extent of the required repairs. Based on the current condition of the bridge, it is assumed that the entire floor system will be replaced to improve the current condition and rating of the bridge. This method will also remove the lead based paint on the bridge combined with blast cleaning. Repair plans should be developed for replacement of the stringers, floorbeams, and the sidewalk, blast cleaning and painting of the truss, expansion tooth dam replacement, substructure repairs, approach milling and repaving, and guide rail at the officer's shelter. ***These conditions were repaired under Contract TS-371A.***

A separate contract should be issued to replace the roof of the storage garage in order to protect equipment being stored in the structure.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed and should include repair of any substructure deterioration noted in the 2005 Underwater Inspection Report.

The embankment behind the Officer's shelter should continue to be monitored by Maintenance forces as well as during annual inspections.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Riverton-Belvidere Toll Supported Bridge

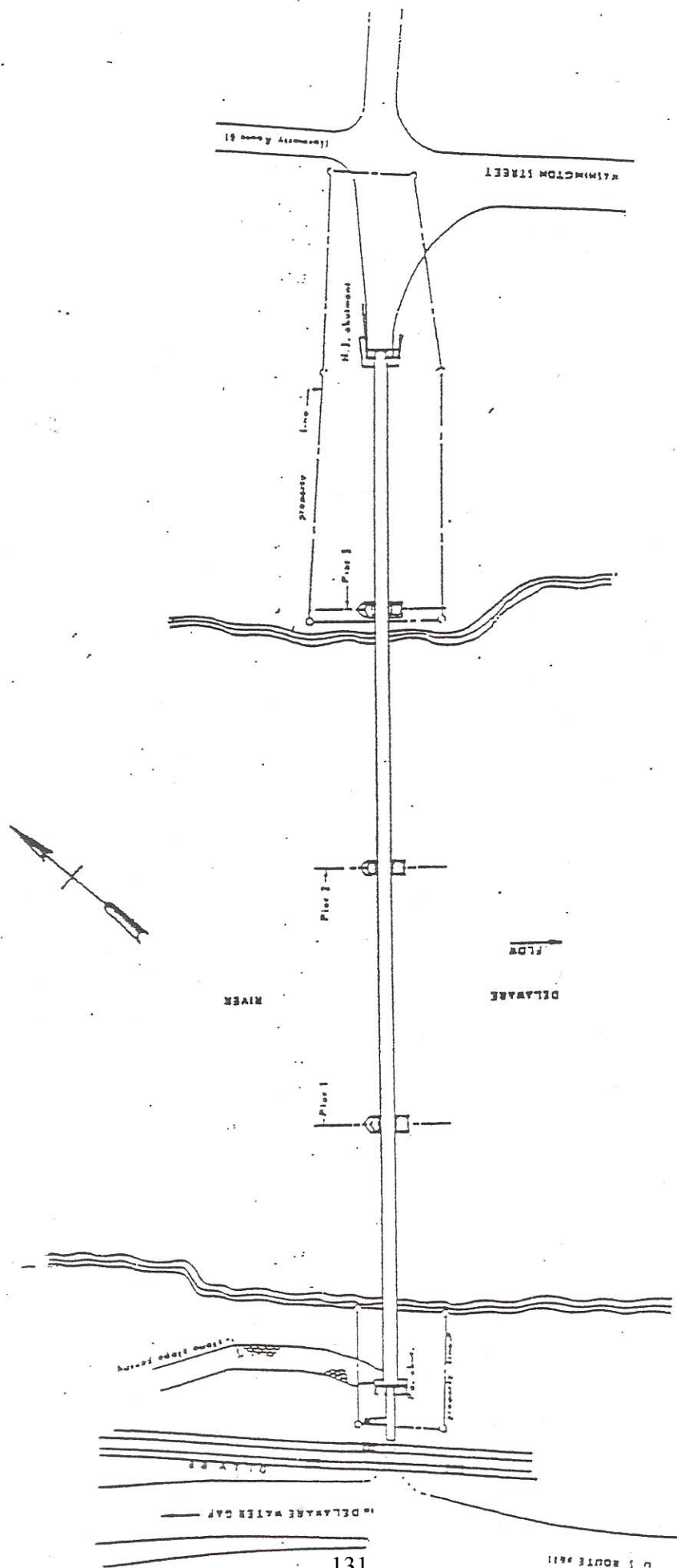
ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
371	R-B TSB Rehabilitation Contract (Design / Construction)	\$782,000	\$782,000	\$0
BRIDGES SUB TOTAL		\$782,000	\$782,000	\$0
<u>Facilities and Grounds</u>				
RBTSB	Miscellaneous Projects (less than \$100k each)	\$5,000	\$5,000	\$6,000
FACILITIES AND GROUNDS SUB TOTAL		\$5,000	\$5,000	\$6,000
TOTAL COST		\$787,000	\$787,000	\$6,000

PORTLAND-COLUMBIA
PEDESTRIAN BRIDGE
(Structure No. 360)

STATE OF NEW JERSEY
COUNTY OF WARREN
TOWN OF COLUMBIA

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF NORTHAMPTON
BOROUGH OF PORTLAND



PORTLAND - COLUMBIA TOLL SUPPORTED BRIDGE

PORTLAND-COLUMBIA PEDESTRIAN BRIDGE

GENERAL

PORTLAND-COLUMBIA PEDESTRIAN BRIDGE

(4 span, continuous, steel, thru-deck girder)

The Portland-Columbia Pedestrian Bridge (Structure No. 360) connects Portland Borough (Upper Mount Bethel Township), Pennsylvania with Columbia (Knowlton Township), New Jersey, just north of the Portland-Columbia Toll Bridge.

The Pedestrian Bridge is a four-span continuous, thru-deck steel girder system, with a concrete deck and built-up girders with a total length of 770 feet. The width of the walkway is 9'-6" between girder centers. The present bridge was reconstructed in 1958, following the flood of 1955, and original vehicular traffic was diverted to the main river bridge.

The former bridge lighting was removed and replaced, under contract in 1990, with high-mast lighting at each approach. In 1996, new approach guide rails and an ADA access ramp were added to the New Jersey side. More recently in 1998, this bridge, as well as the main river bridge and its approaches, were blast cleaned and painted under Contract No. 346

In 2003, Contract TS-388 was completed for the construction of a handicap accessible ramp at the west approach and bridge deck modifications.

In accordance with Commission's bridge inspection policy, this structure was inspected in 2006. This inspection included all four (4) spans, substructure units, and both approaches.

SIGNIFICANT FINDINGS

The bridge paint system is currently in good condition, having been painted recently. Light rust was exhibited below the bridge deck on the cross frames and adjacent to open steel grate drains from water flow through the drains and collecting on steel members.

The concrete deck remains in satisfactory condition, with moderate scaling, unevenness and random transverse cracks and spalls. Minor areas of under-deck spalling were noticed at random locations, some with slightly exposed rebar. Random transverse joints were noticed to allow water to infiltrate resulting in incipient spalling and moist concrete below. The concrete adjacent to open steel grates exhibits light to moderate scaling and deterioration resulting from deteriorated seals. No trough system is present beneath the open steel grates.

The substructures are in generally satisfactory condition. Mortar joints on the upstream side of the piers have deteriorated.

The northwest wingwall exhibited signs of movement (approx. 2" outward). The wall appears stable and no threat is apparent. No change in movement was noted.

PORTLAND-COLUMBIA PEDESTRIAN BRIDGE

No apparent damage from the Flood of June 2006 was observed. Minor accumulation of debris was noted at the north sides of the piers. No significant changes were noted to the erosion at the southeast and southwest corners of the bridge.

The 2006 Underwater Inspection Report prepared by The Louis Berger Group, Inc., found the substructures to be in good condition. The underwater inspection report indicated that all piers were noted to have broken, missing or undermined sections of concrete aprons, with marine growth and debris. Estimated repair costs from the 2005 Underwater Inspection Report have been included in this report.

CONCLUSIONS

The overall condition of the bridge is good. The bridge has been well maintained and is structurally capable of carrying legal pedestrian loading at the time of this year's inspection.

Drainage troughs should be considered beneath the open steel grates to protect underlying steel. Deck remediation should also be included to extend its useful life.

An overall deck and deck drainage enhancement project should be considered, which should include repair plans, drainage system options and feasibility, deck waterproofing alternatives and construction.

A Substructure and Scour Remediation Contract (Below Water Line) should be performed to repair any substructure deterioration noted in the 2005 Underwater Inspection Report.

For a list of the required maintenance repair items, see the Tenth Annual Maintenance Report.

Portland-Columbia Pedestrian Bridge

ESTIMATED COST OF RECOMMENDED IMPROVEMENTS FUNDED BY THE GENERAL RESERVE FUND

Contract No.	Bridge and Roadway Recommended Improvements	Program Cost	General Reserve Fund	
			2008	2009
<u>Bridges, Roadways, Sidewalks, and Approaches</u>				
412A-10	Portland - Columbia Pedestrian Bridge, PA Approach Vehicle Access	\$87,000	\$5,000	\$63,000
BRIDGES SUB TOTAL		\$87,000	\$5,000	\$63,000
<u>Facilities and Grounds</u>				
PCTSB	Miscellaneous Projects (less than \$100k each)	\$153,000	\$10,000	\$11,000
FACILITIES AND GROUNDS SUB TOTAL		\$153,000	\$10,000	\$11,000
TOTAL COST		\$240,000	\$15,000	\$74,000

VEHICLES AND EQUIPMENT

The following section identifies vehicles and equipment that have reached their useful life and are in need of being replaced. The section also recommends the addition of vehicles and equipment that will aid the Commission with daily operations.

VEHICLES AND EQUIPMENT

TRENTON-MORRISVILLE TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
Salt Hopper/Spreader for F550	New Items	\$5,000	\$0	\$5,000
Oce' Copier	New Item	\$56,325	\$0	\$56,325
Konica-Minolta Scanner Wide format Printer, Copier & Scanner Model No.KIP3002	New Item	\$15,000	\$0	\$15,000
2008 4WD Vehicle	2000 Sedan Ser. No. 2FAFP74WTYX214497 Lic. No. MG0507B Mileage 85205 TM 10005	\$25,000	\$1,500	\$23,500
2008 Crew Cab Pick-up with Plow	2000 Ford Dump Truck, 4WD, F450 Ser. No. 1FDXF47F5YEA73 Lic. No. SG16926 Mileage 24578 TM 15001	\$40,000	\$8,000	\$32,000
2008 Dump Truck	1995 Ford Dump Truck, L8000 Ser. No. 1FDYK82EXSVA12727 Lic. No. SG10930 Mileage 18725 TM 15004	\$115,000	\$10,000	\$105,000
2008 Medium Dump Truck	1997 Ford Medium Dump Truck, L8000 Ser. No. 1FDYK82E2VVA19787 Lic. No. SG12152 Mileage 8495 TM 15034	\$115,000	\$12,000	\$103,000
Welder	1974 Miller Welder DC, 2500-2,300 Ser. No. HE784668 Lic. No. SGH133 TM 20009	\$14,000	\$1,500	\$12,500
2008 Zero Turn Mower	2001 John Deere, Tractor/Riding Mower Ser. No. M00455C093030 Runtime 608 TM 52019	\$7,000	\$1,000	\$6,000
Estimated Total		\$397,325	\$34,000	\$363,325

VEHICLES AND EQUIPMENT

NEW HOPE-LAMBERTVILLE TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
Arrow Board	New Item	\$5,000	\$0	\$5,000
Arrow Board	New Item	\$5,000	\$0	\$5,000
2008 4WD Vehicle	2002 Chevrolet Blazer, 4WD Ser. No. 1GNDT13W12K23 Lic. No. SG21184 Mileage 52112 NHL 11008	\$28,000	\$8,000	\$20,000
2008 Pick-up Truck with Plow	2000 Chevrolet CK30943, 4WD Pick-up Ser. No. 1GCHK33F3YF473 Lic. No. SG17685 Mileage 80404 NHL 12007	\$40,000	\$8,000	\$32,000
2008 Utility Boat	2001 Prince Craft Yukon 15' Utility Boat Ser. No. ZZA76055H001 Lic. No. 8144GM NHL 16010	\$15,000	\$950	\$14,050
2008 Welder	1976 Lincoln Welder DC, SA-200-F-16 Ser. No. A767950 Lic. No. SGA56D NHL 20019	\$14,000	\$1,000	\$13,000
Estimated Total		\$112,000	\$17,950	\$94,050

VEHICLES AND EQUIPMENT

SOUTHERN DIVISION TOLL SUPPORTED BRIDGES

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Utility Truck	1999 GMC 3500, Utility Crew Cab Ser. No. 1GDGC33FOXF04 Lic. No. SG14801 Mileage 76000 SDT 12005	\$65,000	\$10,000	\$55,000
	Estimated Total	\$70,000	\$10,000	\$60,000

VEHICLES AND EQUIPMENT

INTERSTATE 78 TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
John Deere 4x4 Gator with trailer	New Item	\$11,000	\$0	\$11,000
2008 Utility Tractor	1993 John Deere Utility Tractor Ser. No. L06300H114993 Lic. No. SG10662 Runtime 3330 I78 50004	\$82,000	\$8,000	\$74,000
2008 Loader	1990 Case Loader Ser. No. JAK0018702 Lic. No. SGH177 Runtime 4588 I78 50011	\$120,000	\$8,000	\$112,000
2008 Riding Mower	2000 John Deere Riding Mower Ser. No. M01145X185925 Lic. No. SG21380 Runtime 442 I78 52023	\$10,000	\$1,000	\$9,000
Estimated Total		\$228,000	\$17,000	\$211,000

VEHICLES AND EQUIPMENT

EASTON-PHILLIPSBURG TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Medium Dump Truck	1997 Ford F800 Medium Dump Truck Ser. No. 1FDXF80EXVVA16 Lic. No. SG12123 Mileage 23393 EP 15033	\$85,000	\$12,000	\$73,000
Street Sweeper/ Sewer Vacuum	2000 Elgin Street Sweeper Ser. No. 49H6WFAA2YHF8 Lic. No. SG17045 Mileage 9658 Runtime 1427 EP 20048	\$185,000	\$30,000	\$155,000
Large VMS Sign	2001 Trailer Mounted Message Board speed signal Trafcon Dynamic Ser. No. 1001ADS5550 Lic. No. SG20795 EP 20124	\$20,000	\$100	\$19,900
Estimated Total		\$295,000	\$42,100	\$252,900

VEHICLES AND EQUIPMENT

NORTHERN DIVISION TOLL SUPPORTED BRIDGES

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
	Estimated Total	\$5,000	\$0	\$5,000

VEHICLES AND EQUIPMENT

PORTLAND-COLUMBIA TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or *Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 4WD Utility Vehicle	*2002 Ford Explorer, 4WD Ser. No. 1FMZU73E92ZB54 Lic. No. 96400MG Mileage 60922 PC 11006	\$25,000	\$0	\$25,000
Estimated Total		\$30,000	\$0	\$30,000

VEHICLES AND EQUIPMENT

DELAWARE WATER GAP TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Ford F350 Truck	2001 Ford F350 Pick-up Ser. No. 1FTSF31F21EC66 Lic. No. SG20431 Mileage 47558 DWG 12017	\$38,000	\$5,000	\$33,000
Craftco Tar Wagon	1999 Craftco Melter Applicator Ser. No. 1C9SY1018X1418 Lic. No. SG16068 Runtime 472 DWG 20042	\$35,000	\$3,000	\$32,000
Power Pusher	1990 Nu Star Power Pusher Ser. No. 44-165 DWG 20123	\$5,500	\$500	\$5,000
Estimated Total		\$83,500	\$8,500	\$75,000

VEHICLES AND EQUIPMENT

MILFORD-MONTAGUE TOLL BRIDGE

Vehicular and Maintenance Equipment

Recommended New Units	Items To Be Replaced, Sold, or Transferred	Estimated Purchase	Estimated Sale	Estimated Net
Small Tools/Misc. Equipment	New Items	\$5,000	\$0	\$5,000
2008 Utility Vehicle, 4WD	2002 Chevrolet Blazer, 4WD Ser. No. 1GNDT13W82K209967 Lic. No. SG21313 Mileage 84108 MM 11011	\$25,000	\$1,000	\$24,000
Flat Bed with Lift Gate and Snow Plow	1994 GMC Dump Truck Ser. No. 1GDP7H1J7RJ505 Lic. No. SG10765 Mileage 33371 MM 15012	\$86,000	\$10,000	\$76,000
Estimated Total		\$116,000	\$11,000	\$105,000

VEHICLES AND EQUIPMENT

SUMMARY BY DISTRICT

LOCATION	Estimated Pur. Price	Estimated Sale Price	Estimated Net Price
Trenton-Morrisville	\$397,325	\$34,000	\$363,325
New Hope-Lambertville	\$112,000	\$17,950	\$94,050
Southern Div. Toll Supported	\$70,000	\$10,000	\$60,000
<i>District 1 Total</i>	\$579,325	\$61,950	\$517,375
Interstate 78	\$228,000	\$17,000	\$211,000
Easton-Phillipsburg	\$295,000	\$42,100	\$252,900
Northern Div. Toll Supported	\$5,000	\$0	\$5,000
<i>District 2 Total</i>	\$528,000	\$59,100	\$468,900
Portland-Columbia	\$30,000	\$0	\$30,000
Delaware Water Gap	\$83,500	\$8,500	\$75,000
Milford-Montague	\$116,000	\$11,000	\$105,000
<i>District 3 Total</i>	\$229,500	\$19,500	\$210,000
TOTAL	\$1,336,825	\$140,550	\$1,196,275
NET PURCHASES (Vehicles & Equipment)			\$1,196,275

ESTIMATED EXPENDITURES SUMMARY

GENERAL RESERVE FUND

<u>TOLL BRIDGES</u>	<u>2008</u>	<u>2009</u>
<u>Trenton-Morrisville</u>	\$32,288,000	\$33,489,000
<u>New Hope-Lambertville Toll Supported Bridge</u>	\$7,793,000	\$3,422,000
<u>Interstate 78</u>	\$30,555,000	\$37,210,000
<u>Easton-Phillipsburg</u>	\$579,000	\$791,000
<u>Portland-Columbia</u>	\$364,000	\$555,000
<u>Delaware Water Gap</u>	\$2,009,000	\$3,552,000
<u>Milford-Montague</u>	\$14,357,000	\$4,106,000
<i>Subtotal (Toll Bridges)</i>	<i>\$87,945,000</i>	<i>\$83,125,000</i>
<u>TOLL SUPPORTED BRIDGES</u>	<u>2008</u>	<u>2009</u>
<u>Lower Trenton</u>	\$10,000	\$11,000
<u>Calhoun Street</u>	\$513,000	\$399,000
<u>Scudder Falls</u>	\$11,875,000	\$12,640,000
<u>Washington Crossing</u>	\$610,000	\$2,255,000
<u>New Hope-Lambertville</u>	\$10,000	\$11,000
<u>Centre Bridge-Stockton</u>	\$5,000	\$6,000
<u>Lumberville-Raven Rock Pedestrian Bridge</u>	\$300,000	\$592,000
<u>Uhlerstown-Frenchtown</u>	\$30,000	\$32,000
<u>Upper Black Eddy-Milford</u>	\$524,000	\$1,594,000
<u>Riegelsville</u>	\$10,000	\$11,000
<u>Northampton Street</u>	\$50,000	\$52,000
<u>Riverton-Belvidere</u>	\$787,000	\$6,000
<u>Portland-Columbia</u>	\$15,000	\$74,000
<i>Subtotal (Toll Supported Bridges)</i>	<i>\$14,739,000</i>	<i>\$17,683,000</i>
	<i>2008</i>	<i>2009</i>
<u>TOTAL GENERAL RESERVE FUND</u>	<u>\$102,684,000</u>	<u>\$100,808,000</u>

ESTIMATED EXPENDITURES SUMMARY

Bridges, Roadways, Sidewalks, and Approaches Summary

<u>DISTRICT I</u>	<u>2008</u>	<u>2009</u>
<u>Trenton-Morrisville Toll Bridge</u>	\$31,998,000	\$31,358,000
<u>Lower Trenton Toll Supported Bridge</u>	\$0	\$0
<u>Calhoun Street Toll Supported Bridge</u>	\$503,000	\$388,000
<u>Scudder Falls Toll Supported Bridge</u>	\$11,865,000	\$12,629,000
<u>Washington Crossing Toll Supported Bridge</u>	\$600,000	\$2,244,000
<u>New Hope-Lambertville Toll Supported Bridge</u>	\$0	\$0
<u>New Hope Lambertville Toll Bridge</u>	\$2,945,000	\$2,952,000
<u>Centre Bridge-Stockton Toll Supported Bridge</u>	\$0	\$0
<u>Lumberville-Raven Rock Pedestrian Bridge</u>	\$290,000	\$581,000
District I Total	\$48,201,000	\$50,152,000
<u>DISTRICT II</u>	<u>2008</u>	<u>2009</u>
<u>Uhlerstown-Frenchtown Toll Supported Bridge</u>	\$0	\$0
<u>Upper Black Eddy-Milford Toll Supported Bridge</u>	\$509,000	\$1,578,000
<u>Riegelsville Toll Supported Bridge</u>	\$0	\$0
<u>Interstate 78 Toll Bridge</u>	\$30,365,000	\$36,912,000
<u>Northampton Street Toll Supported Bridge</u>	\$0	\$0
<u>Easton-Phillipsburg Toll Bridge</u>	\$447,000	\$749,000
<u>Riverton-Belvidere Toll Supported Bridge</u>	\$782,000	\$0
District II Total	\$32,103,000	\$39,239,000

ESTIMATED EXPENDITURES SUMMARY

<u>DISTRICT III</u>	<u>2008</u>	<u>2009</u>
<u>Portland-Columbia Toll Bridge</u>	\$20,000	\$534,000
<u>Portland-Columbia Pedestrian Bridge</u>	\$5,000	\$63,000
<u>Delaware Water Gap Toll Bridge</u>	\$1,959,000	\$3,333,000
<u>Milford-Montague Toll Bridge</u>	\$14,040,000	\$3,752,000
<i>District III Total</i>	<i>\$16,024,000</i>	<i>\$7,682,000</i>
	<i>2008</i>	<i>2009</i>
<i>TOTAL FOR BRIDGES, ROADWAYS, SIDEWALKS,& APPROACHES</i>	<i>\$96,328,000</i>	<i>\$97,073,000</i>

ESTIMATED EXPENDITURES SUMMARY

Facilities and Grounds Summary

<u>DISTRICT I</u>	<u>2008</u>	<u>2009</u>
<u>Trenton-Morrisville Toll Bridge</u>	\$290,000	\$2,131,000
<u>Lower Trenton Toll Supported Bridge</u>	\$10,000	\$11,000
<u>Calhoun Street Toll Supported Bridge</u>	\$10,000	\$11,000
<u>Scudder Falls Toll Supported Bridge</u>	\$10,000	\$11,000
<u>Washington Crossing Toll Supported Bridge</u>	\$10,000	\$11,000
<u>New Hope-Lambertville Toll Supported Bridge</u>	\$10,000	\$11,000
<u>New Hope Lambertville Toll Bridge</u>	\$4,848,000	\$470,000
<u>Centre Bridge-Stockton Toll Supported Bridge</u>	\$5,000	\$6,000
<u>Lumberville-Raven Rock Pedestrian Bridge</u>	\$10,000	\$11,000
<i>District I Total</i>	<i>\$5,203,000</i>	<i>\$2,673,000</i>

<u>DISTRICT II</u>	<u>2008</u>	<u>2009</u>
<u>Uhlerstown-Frenchtown Toll Supported Bridge</u>	\$30,000	\$32,000
<u>Upper Black Eddy-Milford Toll Supported Bridge</u>	\$15,000	\$16,000
<u>Riegelsville Toll Supported Bridge</u>	\$10,000	\$11,000
<u>Interstate 78 Toll Bridge</u>	\$190,000	\$298,000
<u>Northampton Street Toll Supported Bridge</u>	\$50,000	\$52,000
<u>Easton-Phillipsburg Toll Bridge</u>	\$132,000	\$42,000
<u>Riverton-Belvidere Toll Supported Bridge</u>	\$5,000	\$6,000
<i>District II Total</i>	<i>\$432,000</i>	<i>\$457,000</i>

ESTIMATED EXPENDITURES SUMMARY

<u>DISTRICT III</u>	<u>2008</u>	<u>2009</u>
<u>Portland-Columbia Toll Bridge</u>	\$344,000	\$21,000
<u>Portland-Columbia Pedestrian Bridge</u>	\$10,000	\$11,000
<u>Delaware Water Gap Toll Bridge</u>	\$50,000	\$219,000
<u>Milford-Montague Toll Bridge</u>	\$317,000	\$354,000
<i>District III Total</i>	<i>\$721,000</i>	<i>\$605,000</i>
	<i>2008</i>	<i>2009</i>
<i>TOTAL FOR FACILITIES AND GROUNDS</i>	<i>\$6,356,000</i>	<i>\$3,735,000</i>

ESTIMATED EXPENDITURES SUMMARY

EQUIPMENT PURCHASES

Vehicular Maintenance Equipment

<u>Toll Facility</u>	Estimated Purchase Price of New Units	Estimated Sell Price of Used Units	Estimated Net Cost
Trenton-Morrisville	\$397,325	\$34,000	\$363,325
New Hope-Lambertville	\$112,000	\$17,950	\$94,050
Interstate Route 78	\$228,000	\$17,000	\$211,000
Easton-Phillipsburg	\$295,000	\$42,100	\$252,900
Portland-Columbia	\$30,000	\$0	\$30,000
Delaware Water Gap	\$83,500	\$8,500	\$75,000
Milford-Montague	\$116,000	\$11,000	\$105,000
Southern - Toll Supported Bridges	\$70,000	\$10,000	\$60,000
Northern - Toll Supported Bridges	\$5,000	\$0	\$5,000
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Subtotal Maintenance	\$1,336,825	\$140,550	\$1,196,275
2007 TOTAL NET PURCHASES (Vehicles & Equipment)			<u>\$1,197,000</u>

ESTIMATED EXPENDITURES SUMMARY

SUMMARY OF EXPENDITURES

2008 VEHICLE / EQUIPMENT NET PURCHASES

	<u>2008</u>
Vehicular and Maintenance Equipment	<u>\$1,197,000</u>
<i>Subtotal</i>	<i>\$1,197,000</i>

GENERAL RESERVE FUND

	<u>2008</u>	<u>2009</u>
Toll Bridge Facilities	\$87,945,000	\$83,125,000
Toll Supported Bridge Facilities	\$14,739,000	\$17,683,000
Commission Initiatives & System-Wide Projects	\$47,049,000	\$26,759,000
<i>Subtotals</i>	<i>\$149,733,000</i>	<i>\$127,567,000</i>

***2008 Total General Reserve Budget Including Vehicle
and Equipment Purchases*** **\$150,930,000**

SCHEDULE OF INSURANCE

I. CURRENT SCHEDULE OF INSURANCE (2007)

The Delaware River Joint Toll Bridge Commission currently has in effect the following principle types and amounts of insurance coverage:

A. General Liability

\$	2,000,000	General Aggregate Limit
\$	2,000,000	Products/Completed Operations Aggregate Limit
\$	1,000,000	Personal/Advertising Injury Limit
\$	1,000,000	Each Occurrence Limit
\$	300,000	Fire Damage Limit, Any One Fire
\$	15,000	Medical Expense Limit, Any One Person

The above General Liability limits apply for all bridges (Toll and Toll Supported Bridges).

The above General Liability limits apply per each location.

Coverage includes Independent Contractors, Medical Payments, Contractual Liability, Fire Damage Legal Liability, Employees as Additional Insured, Host Liquor Liability, Incidental Medical Malpractice, Broad Form Property Damage Liability, Non-owned Watercraft Liability (under 26ft), Limited Worldwide Products Liability and Extended Bodily Injury Liability.

B. Commercial Automobile Liability

\$	1,000,000	Bodily Injury/Property Damage Combined Single Limit, Each Accident
\$	35,000	Uninsured/Underinsured Motorist Coverage (PA & NJ) (\$1,000,000 applies to PPV's, \$35,000 applies to all other vehicles)
\$	50,000	Garagekeepers Liability
(Lesser of ACV or Cost of Repair)		Hired Car Physical Damage Coverage

Deductible on Comprehensive and Collision

\$	500	Cost New Less than \$29,999
\$	1,000	Cost New \$30,000-\$49,999
\$	2,000	Cost New Greater Than 50,000

C. Umbrella Liability

\$	25,000,000	Each Occurrence, Annual Aggregate
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There is an excess umbrella policy with a \$25,000,000 limit. The total coverage of \$50,000,000 is inclusive of all Bridges, Vehicles, and Operations.

SCHEDULE OF INSURANCE

D. Building & Contents Insurance

\$	1,000,000	Extra Expense
\$	10,000,000	Loss Limit Location #1
\$	5,000,000	Loss Limit Locations 2-7
\$	500,000	Unnamed Locations
\$	5,000	Deductible

(Additional sub-limits and deductibles apply)

Coverage extensions include: Debris Removal, Pollutant Cleanup and Removal, Newly Acquired Buildings and Personal Property, Personal Property of Others/Employees, Valuable papers-Cost of Research, Property Off Premises within 1,000 feet, Outdoor Property - Trees, Shrubs and Plants, Property in Transit (Special Form Only) and Standards, Light Posts, Fences, Guide rails and Signs.

E. Equipment Floater Limits (Included in Building Policy)

\$	2,094,361	Specific Limits Apply Per Schedule
\$	449,490	Miscellaneous Unscheduled Tools
\$	1,000	Deductible

F. Bridge Property Coverage

Loss Limits:

\$	50,000,000	Loss Limit – Primary
\$	50,000,000	Loss Limit – Excess of \$50,000,000 per Occurrence
\$	375,000,000	Loss Limit – Excess of \$100,000,000 per Occurrence

Values:

Toll Bridge Summary

Trenton-Morrisville Facility

\$	23,700,000	Bridge
\$	17,800,000	Viaducts
\$	8,963,000	Use/Occupancy

New Hope-Lambertville Facility

\$	30,000,000	Bridge
\$	6,700,000	Viaducts
\$	2,012,976	Use/Occupancy

SCHEDULE OF INSURANCE

Interstate Route 78 Facility

\$	33,800,000	Bridge
\$	25,700,000	Viaducts
\$	34,445,026	Use/Occupancy

Easton-Phillipsburg Facility

\$	17,900,000	Bridge
\$	3,900,000	Viaducts
\$	9,151,577	Use/Occupancy

Portland-Columbia Facility

\$	16,100,000	Bridge
\$	4,100,000	Viaducts
\$	1,610,266	Use/Occupancy

Delaware Water Gap Facility

\$	44,300,000	Bridge
\$	23,096,374	Use/Occupancy

Milford-Montague Facility

\$	11,900,000	Bridge
\$	1,170,070	Use/Occupancy

All Seven (7) Bridges

\$	177,700,000	Bridges
\$	58,200,000	Viaducts
\$	80,449,289	Use and Occupancy
\$	316,349,289	<i>TOTAL (Toll Bridges)</i>

Toll Supported Bridge Summary

<u>Lower Trenton</u>	\$	13,800,000
<u>Calhoun Street</u>	\$	17,400,000
<u>Scudder Falls</u>	\$	53,300,000
<u>Washington Crossing</u>	\$	12,000,000
<u>New Hope-Lambertville</u>	\$	14,300,000
<u>Centre Bridge-Stockton</u>	\$	11,300,000
<u>Lumberville-Raven Rock</u>	\$	2,800,000
<u>Uhlerstown-Frenchtown</u>	\$	12,900,000
<u>Upper Black Eddy-Milford</u>	\$	9,800,000
<u>Riegelsville</u>	\$	8,400,000
<u>Northampton Street</u>	\$	12,000,000
<u>Riverton-Belvidere</u>	\$	9,300,000
<u>Portland-Columbia</u>	\$	3,100,000

SCHEDULE OF INSURANCE

All Thirteen (13) Bridges \$ 180,400,000

GRAND TOTAL: TWENTY (20) BRIDGES: \$496,749,289

Use and Occupancy Deductible – 5 days, All other 1% of Loss (\$50,000 Minimum)

Flood Coverage - \$250,000,000 Annual Aggregate - Multiple Policies

Earthquake Coverage – \$150,000,000 Annual Aggregate - Multiple Policies

Boiler & Machinery Coverage Insured under separate policy

G. Public Officials / Employee Liability

\$ 10,000,000 Each Loss

\$ 10,000,000 Aggregate

Officers Company

Retention

\$ 50,000 Corporate Reimbursement

\$ 50,000 Entity Coverage

\$ 35,000 Employee Coverage

Excess policy provides additional \$10,000,000 Per Claim/Annual Aggregate

H. Workers Compensation Coverage - The Graham Company is not the broker for this coverage

Statutory Benefits for Medical, Disability, Funeral Expenses and Rehabilitative Expenses

\$500,000 Bodily Injury by Accident – Each Accident

\$500,000 Bodily Injury by Disease – Policy Limit

\$500,000 Bodily Injury by Disease – Each Employee

I. Commercial Crime Coverage

\$ 10,000 Forgery or Alteration, No deductible

\$ 250,000 Money In-Out for Theft, Disappearance and Destruction

\$ 5,000,000 Employee Dishonesty, \$50,000 Deductible

Coverage includes all locations.

SCHEDULE OF INSURANCE

II. INSURANCE REQUIREMENTS FOR 2007

In accordance with Section 714 of the Bridge System Revenue Bond Resolution, the following types of insurance are required to be maintained by the Commission to the extent as reasonably obtainable:

MULTI-RISK INSURANCE

The Commission currently maintains insurance for full replacement of all twenty (20) Toll and Toll Supported Bridges and their approach structures (viaducts). In 1999 the Commission supplemented the full insurance coverage for the thirteen (13) Toll Supported Bridges. The full replacement costs are reviewed annually and updated accordingly to follow current inflation and construction costs.

Transsystems|Lichtenstein has re-assessed each of the twenty (20) Toll and Toll Supported Bridges and their associated approach structures (viaducts) with respect to the structures replacement costs. Most of the bridges, when and if replaced, will be required to be re-constructed in accordance with *current* standards, codes and practices, in lieu of a replacement in kind. A simple cost per square foot (the overall bridge length multiplied by its overall width) was used in the development of replacement costs for all of the toll and toll supported bridges and their approach structures (viaducts). Square foot unit costs may vary between bridges due to specific characteristics such as its height above the river, structure type, and aesthetics. The 2008 estimated replacement costs have been determined by increasing the previous years estimate by 1.5% and rounding.

The 2008 Estimated Replacement Costs for the twenty toll and toll supported bridge structures and their approaches are listed below:

<u>TOLL FACILITY</u>		<u>BRIDGE</u>		<u>APPROACH STRUCTURES</u>
Trenton-Morrisville	\$	24,100,000	\$	18,100,000
New Hope-Lambertville	\$	30,500,000	\$	6,800,000
Interstate Route 78	\$	34,300,000	\$	26,100,000
Easton-Phillipsburg	\$	18,200,000	\$	4,000,000
Portland-Columbia	\$	16,400,000	\$	4,200,000
Delaware Water Gap	\$	45,000,000	\$	0
Milford-Montague	\$	12,100,000	\$	0
<i>SUBTOTALS</i>	\$	<i>180,600,000</i>	\$	<i>59,200,000</i>

<u>TOLL SUPPORTED FACILITY</u>		<u>BRIDGE</u>
Lower Trenton	\$	14,100,000
Calhoun Street	\$	17,700,000
Scudder Falls	\$	54,100,000
Washington Crossing	\$	12,200,000
New Hope-Lambertville	\$	14,600,000
Centre Bridge-Stockton	\$	11,500,000
Lumberville-Raven Rock *	\$	2,900,000
Uhlerstown-Frenchtown	\$	13,100,000
Upper Black Eddy-Milford	\$	10,000,000
Riegelsville	\$	8,600,000
Northampton Street	\$	12,200,000

SCHEDULE OF INSURANCE

Riverton-Belvidere	\$	9,500,000
Portland-Columbia *	\$	3,200,000
<i>SUBTOTALS</i>	\$	<i>183,700,000</i>

* Pedestrian Bridge

Total (All Bridges) Replacement Cost for 2008 \$ 423,500,000

USE AND OCCUPANCY INSURANCE

The Commission currently maintains Use and Occupancy Insurance for all of its seven (7) Toll Facilities. The Commission has provided the anticipated 2008 revenues presented below.

<u>TOLL FACILITY</u>	<u>2008 ANTICIPATED REVENUE</u>
Trenton-Morrisville	\$ 9,378,237
New Hope-Lambertville	\$ 2,374,689
Interstate Route 78	\$ 38,881,866
Easton-Phillipsburg	\$ 9,404,786
Portland-Columbia	\$ 1,737,063
Delaware Water Gap	\$ 26,881,266
Milford-Montague	\$ 1,206,526
(Total Toll Revenue)	\$ 89,864,433
Interest on Investments	\$ 16,600,000
Other Income	\$ 265,000
(TOTAL PROJECTED REVENUE - 2008)	\$ 106,729,433

WAR-RISK INSURANCE

The Commission does not maintain this type of insurance for any of its bridges, as it is not reasonably obtainable due to its excessive cost. However the Commission does maintain coverage for terrorism.

PUBLIC LIABILITY – PROPERTY DAMAGE – BODILY INJURY

Public Liability and Property Damage are maintained by the Commission under its General Liability and Auto Liability insurance coverage, which provides a maximum coverage of \$1,000,000. In addition the Commission carries \$50,000,000 maximum coverage in Excess Liability Insurance on all Bridges, Vehicles and Operations and \$500,000 in Business Travel Accident Insurance.

SCHEDULE OF INSURANCE

BLANKET REAL AND PERSONAL PROPERTY INSURANCE- ADMINISTRATIVE & MAINTENANCE BUILDINGS, CONTENTS, TOLL BOOTHS, ETC.

The Commission currently maintains Building and Contents Insurance in the amount of \$27,189,000. Estimated replacement costs for all Toll Facility Administration Buildings, Maintenance Buildings and Garages and Toll Plazas were recalculated, based upon the overall square-foot area of each facility originally calculated and increased by a factor of 1.5% and rounded. The estimated replacement costs for 2008 are as follows:

<u>LOCATION</u>	<u>2008 ESTIMATED REPLACEMENT VALUE</u>
Trenton-Morrisville	\$ 8,319,000
New Hope-Lambertville	\$ 3,433,000
Interstate 78	\$ 3,984,000
Easton-Phillipsburg	\$ 4,019,000
Portland-Columbia	\$ 1,616,000
Delaware Water Gap	\$ 3,641,000
Milford-Montague	\$ 2,259,000
Belvidere (Storage Bldg.)	\$ 252,000
New Hope Toll Supported (Garage)	\$ 177,000
15 Toll Supported Bridge Officer Shelters	\$ 213,000
Lumberville-Raven Rock (Bridge Tender house)	\$ 262,000
TOTAL	\$ 28,175,000

OTHER INSURANCE

Following good business practice and conforming to the laws of the State of New Jersey and the Commonwealth of Pennsylvania, the Commission carries additional insurance to that which is required by the Bridge System Revenue Bond Resolution. Among this additional coverage is a \$10 million Public Officials Liability insurance.

SCHEDULE OF INSURANCE

III. CONCLUSIONS AND RECOMMENDATIONS FOR 2007

In general the Commission's overall insurance coverage is adequately provided; however, the amounts of the following coverages should be adjusted:

- The Multi-Risk Insurance coverage should be adjusted for each Toll and Toll-Supported Bridge Facility to reflect the estimated 2008 bridge (and approach structure) replacement costs, as outlined above.
- The Use and Occupancy Insurance should be adjusted to reflect the estimated 2008 anticipated revenues in conformance with the Bridge System Revenue Bond Resolutions.
- The Blanket Building and Contents Insurance should be adjusted to reflect the 2008 estimated property replacement values published above.

PAINT CONDITION RATINGS

- EXCELLENT** - No problems noted.
- GOOD** - Some minor problems, but paint is sound and functioning as intended to protect the metal surfaces.
- SATISFACTORY** - Surface or freckled rust has formed or is forming. The paint system may be chaulking, peeling or showing signs of paint distress, but there is no exposure of metal.
- FAIR** - Surface or freckled rust is prevalent. There may be exposed metal and/or beginning signs of active corrosion, but there is little to no section loss of steel members.
- POOR** - The overall paint system has failed which has consequently caused corrosion and significant section loss to steel members. Exposed metal and/or corrosion is typical throughout the bridge. A new paint system is required.

NOTE: Paint system ratings for a bridge will be an overall condition. Although localized areas may exhibit a better or worse condition, the rating encompasses the majority of the bridge paint system for the entire bridge.

BRIDGE CONDITION RATINGS

<u>EXCELLENT</u> -	New Bridge.
<u>VERY GOOD</u> -	No problems noted.
<u>GOOD</u> -	Some minor problems.
<u>SATISFACTORY</u> -	Some minor deterioration of structural elements.
<u>FAIR</u> -	Minor section loss, deterioration, spalling and/or scour of primary structural elements.
<u>POOR</u> -	Advanced section loss, deterioration, spalling and/or scour of primary structural elements.
<u>SERIOUS</u> -	Seriously deteriorated primary structural elements.
<u>CRITICAL</u> -	Facility should be closed until repairs are performed.
<u>IMMINENT FAILURE</u> -	Facility is closed. Study of repairs is feasible.
<u>FAILED</u> -	Facility is closed and beyond repair.

NOTE: These condition ratings are used to describe the existing, in-place bridge as compared to its as-built condition or its posted weight restriction. These ratings provide an overall characterization of the general condition of the entire bridge. These ratings do not describe a localized or nominally occurring instance of deterioration or disrepair or reflect structural or geometric adequacy.

COST ESTIMATING

The costs associated with the repairs and rehabilitation for various elements at the bridge facilities are estimated based upon the following criteria as applicable or available:

- 1) **BID PRICES**: Quantities are developed during routine inspections for the appropriate repair (square foot, cubic yard, etc.). A unit cost is developed using standard bid items most resembling the repair. Inflation, if required, is used to increase unit costs for repair next year.
- 2) **COMMISSION PERSONNEL/HISTORY**: Maintenance staff are interviewed about the materials and length of time required for certain repairs. Maintenance staff are also asked about previous work relating to the proposed work and the costs relating to them. Depending on the year and extent of the previous work, the proposed costs are adjusted accordingly.
- 3) **EXPERIENCE**: Some of the proposed repairs/rehabilitation cannot be accurately quantified and no previous related work is available. Costs are then developed based upon experience of similar tasks. A length of time to complete the job is assumed and costs are approximated.

NOTE: Cost Estimates for major rehabilitation work include a 20% increase in cost to account for engineering services to prepare the contract documents and supervise construction.

APPENDIX A
INTERIM/SPECIAL INSPECTIONS

DELAWARE
TOLL BRIDGE
ENGINEERING
2007 OCT -5 AM 11:30



MEMORANDUM

September 20, 2007

To:

Mr. George Alexandridis, P.E.
Chief Engineer Lichtenstein Consulting Engineers
Delaware River Joint Toll Bridge Commission
110 Wood Street
Morrisville, PA 19067

From:

William Clark, P.E.

Attention: Mr. Joseph Fazio, P.E.

Re: C-07-02 Annual Inspections

Scudders Falls Toll Supported Bridge

Gentlemen:

Lichtenstein has completed the special inspection of the Scudders Falls Toll Supported Bridge over the Delaware River. The bridge is a ten span structure with a total length of 1,740 feet. The steel superstructure is a riveted two girder / floorbeam / stringer system. The scope of this special inspection was limited to the cantilever brackets in the negative moment regions of the girders and the pin and hanger assemblies located at the north and south girders in Spans 1, 4, 7, and 10.

At each floorbeam location there are cantilever brackets supporting the roadway / shoulder. The cantilever brackets consist of welded plates with the top flange of the cantilever brackets extending across the top of the main girder top flange transitioning into a tie plate, which is connected to the interior floorbeam top flange with a bolted connection (See Photo 2). The cantilever bracket supports two roadway stringers.

The inspection revealed light to moderate rust throughout the cantilever brackets. Connection bolts at the top flange tie plates over the north girder were noted to be sheared off at two locations. 3 of 8 bolts are sheared at the north tie plate at the floorbeam over Pier 8 (See Photo 4). 1 of 8 bolts is sheared at the north tie plate at the first floorbeam to the east of Pier 8 (See Photo 5). A crack was noted at the south cantilever bracket tie plate at the first floorbeam to the east of Pier 5 (See Photo 3). The crack is arrested by a connection bolt hole and no signs of crack propagation were noted.

Pin and hanger connection assemblies are located at the north and south girders in Spans 1, 4, 7, and 10. The hanger plates exhibit light to moderate rust at all locations (See Photo 6). Minor pack rust was noted between the hanger plates and the pin caps. All of the locations exhibit seismic retrofits, with all steel of the seismic retrofit exhibiting light surface rust. Overall, there are no significant defects noted at the pin and hanger assemblies.

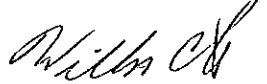
The bridge was last inspected in 2006. The inspection report states that there is light to moderate rust of the pin and hanger assemblies. No cracks or sheared bolts at the tie plate connections were noted during the previous inspection.

There are no priority 1 or 2 repairs recommended based on the findings of this special inspection. The sheared bolts noted at the north bracket at Pier 8 should be replaced on a Priority 3 basis. The crack noted in the south tie plate on the first tie plate east of Pier 5 should be monitored for further propagation during future inspections. The bridge should be inspected during the next regularly scheduled inspection, in 2008.

If you have any questions on the above, please contact our office.

Very truly yours,

LICHTENSTEIN CONSULTING ENGINEERS


William Clark, P.E.
Project Manager

cc: Mr. Roy Little



PHOTO 1 South elevation, looking north.



PHOTO 2 Typical Cantilever bracket (Floorbeam 3 at Span 1 shown), looking northeast.



PHOTO 3 Crack in the tie plate over the south girder at the first floorbeam east of Pier 5, looking east. The crack is arrested by a tie plate connection bolt hole and there are no signs of crack propagation.



PHOTO 4 3 of 8 connection bolts are sheared at the tie plate connection over the north girder at the floorbeam at Pier 8, looking west.



PHOTO 5 1 of 8 connection bolts is sheared at the tie plate connection over the north girder at the first floorbeam to the east of Pier 8, looking east.



PHOTO 6 General view of the pin and hanger assembly (North girder at Span 1 shown), looking south. Note the light to moderate rust throughout assembly and seismic retrofit.



October 10, 2007

Mr. George G. Alexandridis, P.E.
Chief Engineer
Delaware River Joint Toll Bridge Commission
110 Wood Street
Morrisville, PA 19067
Attention: Mr. Joseph Fazio, P.E.

Re: C-07-02 Annual Inspections
Northampton Street Toll Supported Bridge

Gentlemen:

Lichtenstein has completed the special inspection of the Northampton Street Toll Supported Bridge over the Delaware River. The inspection was at the request of the Commission due to an audible noise being heard by the bridge guards at the west abutment (Pennsylvania side) below the south sidewalk. The bridge guards reported hearing the noise at different times during the day, mostly around 11 am to 1 pm and 7pm to 8pm, with a few reported during the middle of the night. The scope of this special inspection was limited to discovering the condition causing the noise.

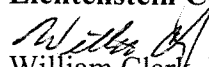
The superstructure below the sidewalk consists of 3 stringers connected to cantilever brackets with sliding plate expansion bearings at the abutments. The inspection revealed that the south fascia sidewalk stringer does not have a sliding plate between the masonry plate and sole plate (See Photo 1). The noise is believed occur when the bearing is trying to move in either expansion or contraction. Corrosion build-up between the two plates causes the bearing to be partially frozen until enough thermal force builds up to overcome the friction between the two plates, causing the noise. The remaining two stringers have a plate, either Teflon or stainless steel, between the masonry plate and sole plate which exhibit minor corrosion (See Photo 2). The north fascia stringer at the west abutment exhibits a similar condition although a noise has not been observed at this location. The south and north fascia stringers at the east abutment (New Jersey side) exhibit gaps between the masonry plate and sole plate due to pack rust.

There are no priority 1 or 2 repairs recommended based on the findings of this special inspection. The bearing at the south fascia stringer at the west abutment be retrofitted with either a stainless steel or Teflon coated sliding plate between the masonry plate and sole plate on a Priority 3 basis. Consideration should be given to retrofitting the north fascia bearing at the west abutment and the north and south fascia bearings at the east abutment. The bridge should be inspected during the next regularly scheduled inspection, in 2008.

If you have any questions on the above, please contact our office.

Very truly yours,

Lichtenstein Consulting Engineers


William Clark, P.E.
Project Manager

cc: Mr. Roy Little



PHOTO 1 General view of the south fascia sidewalk stringer bearing, looking west. Note there is no sliding plate or gap between the masonry plate and sole plate.



PHOTO 2 General view of the Sidewalk Stringer 2 (from south) bearing, looking west. Note the sliding plate between the masonry plate and sole plate.

APPENDIX B
BRIDGE LISTING

Bridge Name	Structure Type	No. Of Spans	Structure Length (FT - IN)
Trenton-Morrisville Toll Bridge	Steel Multi-girder	12	1324 - 6
Washington Street Overpass (Pa)	Steel Multi-girder	1	52 - 9 c-c brg.
South Pennsylvania Avenue Overpass (Pa)	Steel Multi-girder	1	63 - 7 c-c brg.
Ramp "IY" Overpass (NJ) {Bridge St.}	Steel Multi-girder	3	132 - 9 c-c brg.
Union Street Overpass (NJ)	Steel Multi-girder	1	74 - 6 c-c brg.
Ramp "N" Over Union Street (NJ)	P/S Concete Girder	3	168 - 0 c-c brg.
Center Street Underpass (NJ)	Riveted Steel Plate Girder	1	91 - 3 c-c brg.
Broad Street Underpass (NJ)	Steel Multi-girder	1	76 - 11 c-c brg.
Ramp 'N' Overpass (NJ)	Steel Multi-girder	1	77 - 1 c-c brg.
Route 29 Overpass @ TMTB (NJ)	P/S Concrete Spread Box Beams	3	118 - 0
Ramp 'Y' Overpass (Long Ramp) (NJ)	Steel Multi-girder	4	282 - 0 c-c brg.
Lower Trenton Toll Supported Bridge	Subdivided Warren Truss	5	1021 - 7
Calhoun Street Toll Supported Bridge	Iron Phoenix Truss	7	1273 - 3
Scudder Falls Toll Supported Bridge	Riveted Steel 2 Girder/Floorbeam/Stringer	10	1740
Taylorville Road Overpass (Pa)	Steel Multi-Stringer	3	134 - 0 c-c brg.
Pennsylvania Canal Overpass (Pa)	Steel Multi-Stringer	1	61 - 4
Washington Crossing Toll Supported Bridge	Double Warren Truss	6	876 - 7
New Hope-Lambertville Toll Supported Bridge	Pratt Truss	6	1045 - 6.5
New Hope Lambertville Toll Bridge	Steel 2 Girder/Floorbeam/Stringer	10	1682
Route 32 Overpass (Pa)	Concrete Rigid Frame	1	83 - 7
Route 29 Overpass @ NHLTB (NJ)	Steel Multi-Stringer	3	185 - 0 c-c brg.
Centre Bridge-Stockton Toll Supported Bridge	Riveted Steel Warren Truss	6	824 - 10
Pennsylvania Canal Bridge	P/S Concrete Adjacent Box Beams	1	63 - 0
Lumberville-Raven Rock Pedestrian Bridge	Suspension	4	688 - 3
Uhlertown-Frenchtown Toll Supported Bridge	Riveted Steel Warren Truss	6	950 - 10
Upper Black Eddy-Milford Toll Supported Bridge	Warren Truss	3	699 - 9.25
Riegelsville Toll Supported Bridge	Suspension	3	576 - 9.875
Interstate 78 Toll Bridge WB	Steel Multi-girder	7	1222
Interstate 78 Toll Bridge EB	Steel Multi-girder	7	1222
Morgan Hill Road Bridge Overpass (Pa)	P/S Concrete Spread Box Beams	2	210 - 0 c-c brg.
Cedarville Road Overpass (Pa)	P/S Concrete I-beams	4	
I-78 over Route 611 (Pa) WB	P/S Concrete Spread Box Beams	3	197 - 6 c-c brg.
I-78 over Route 611 (Pa) EB	P/S Concrete Spread Box Beams	3	199 - 9 c-c brg.
Carpentersville Road Overpass (NJ)	Steel Multi-Stringer	2	203 - 0 c-c brg.
Edge Road Overpass (NJ)	Steel Multi-Stringer	2	272 - 0 c-c brg.
I-78 WB over Route 519 (NJ)	Steel Multi-Stringer	2	237 - 10 c-c brg.
I-78 EB over Route 519 (NJ)	Steel Multi-Stringer	2	236 - 5 c-c brg.
I-78 WB over Ramp C (NJ)	Steel Multi-Stringer	1	112 - 6 c-c brg.
I-78 EB over Ramp C (NJ)	Steel Multi-Stringer	1	116 - 11 c-c brg.
Service Road Overpass (Pa)	P/S Concrete Adjacent Box Beams	1	43 - 0 c-c brg.
Northampton Street Toll Supported Bridge	Cantilever Truss	3	550 - 0 Pin to Pin
Easton-Phillipsburg Toll Bridge	Petit Thru-Truss	1	539 - 8 Pin to Pin
Broad Street Viaduct (NJ)	Riveted Steel 3 Girder/Floorbeam/Stringer	5	431 - 4
Third Street Overpass (Pa)	Steel Multi-Stringer	1	83 - 0 c-c brg.
Pedestrian Tunnel (Pa)	Reinforced Concrete Box Culvert	1	
Bank Street Overpass (Pa)	Steel Multi-Stringer	3	120 - 0 c-c brg.
Route 611 Overpass (Pa)	P/S Concrete Adjacent Box Beams	1	34 - 0 fc-fc abut.
Riverton-Belvidere Toll Supported Bridge	Riveted Steel Double Warren Truss	4	652 - 5
Portland-Columbia Toll Bridge	Riveted Steel Multi-girder	10	1309
Route 46 Overpass (NJ)	Riveted Steel Multi-girder	1	96 - 1
Locust Street Overpass (NJ)	Steel Multi-Stringer	4	170 - 0 c-c brg.
Portland-Columbia Pedestrian Bridge	Steel Thru-Deck Girder	4	770
Delaware Water Gap Toll Bridge EB	Riveted Steel Multi-girder	17	2398 - 6 c.c Brg. Abut.
Delaware Water Gap Toll Bridge WB	Riveted Steel Multi-girder	16	2462 - 10 c.c. Brg. Abut
Milford-Montague Toll Bridge	Steel Deck Truss	4	1150

