# SUPPLEMENTAL AND AMENDED PRE-APPLICATION SUBMISSIONS FOR PARKLAND DIVERSION

For

#### I-95/Scudder Falls Bridge Improvement Project

Township of Ewing Mercer County, New Jersey

Submitted to

New Jersey Department of Environmental Protection Green Acres Program Project File No. SHC-2008-0004

**APRIL 2012** 

Submitted by



#### **Delaware River Joint Toll Bridge Commission**

110 Wood and Grove Streets Morrisville, PA 19067

Prepared by



30 Knightsbridge Road, Suite 520 Piscataway, New Jersey 08854

## Delaware River Joint Toll Bridge Commission I-95/Scudder Falls Bridge Improvement Project Pre-Application Supplemental and Amended Submissions for Parkland Diversion

#### **LIST OF ENCLOSURES**

- Revised Sections 1.7, 1.8, 2.12.4, and 3.3.8
- Revised Land Valuation Form and Supplemental Documentation
- Updated Table 16 Comparison of I-95/Scudder Falls Bridge Configuration and Alignment Alternatives
- Revised Parkland Diversion Summary
- I-95 Project Area Crash Analysis

Revised Sections 1.7, 1.8, 2.12.4, and 3.3.8

#### 1.7 Required Permits and Approvals

The following permits and approvals are required for implementation of this project:

- United States Army Corps of Engineers (USACE)
  - o National General Permit No. 1 Aids to Navigation
  - o National General Permit No. 13 Bank Stabilization
  - National General Permit No. 25 Structural Discharges
  - National General Permit No. 33 Temporary Construction Access and Dewatering
- NJDEP Flood Hazard Area Permit;
- NJDEP Freshwater Wetlands Individual Permit;
- NJDEP Water Quality Certification;
- NJDEP New Jersey Pollution Discharge Elimination System (NJPDES)
   General Permit for Stormwater Discharge Associated with Construction Activity:
- NJDEP Green Acres Program Approval;
- NJDEP No Net Loss Reforestation Act Approval;
- NJDEP SHPO Project Authorization under the NJ Register of Historic Places Act;
- Delaware River Basin Commission Approval; and,
- D&RCC Certificate of Approval.

#### 1.8 Agency Relationship

The DRJTBC and NJDOT currently have an agreement in place, which was executed in 1968, that apportions the complete jurisdiction, control, and maintenance of the existing l-95/Route 29 Interchange in the area of the Scudder Falls Bridge. A new Memorandum of Agreement (MOA) will be negotiated and executed between both agencies that includes the improvements associated with the Scudder Falls Bridge project. This new MOA will also define the DRJTBC responsibilities for design and construction of the project. The Scudder Falls Bridge project will be fully funded by the DRJTBC and the DRJTBC will be responsible for all design, right-of-way, permitting and construction of the project. Any right-of-way or easements acquired as part of the project will be obtained by the DRJTBC and transferred to the agency which has jurisdiction of the adjacent roadway section upon completion of the project.

For the crossing of the D&R Canal, a right-of-way easement(s) is required for the purpose of constructing, operating and maintaining State Highway facilities and utility lines over the Canal, including improvements, betterments, reconstruction, maintenance and inspection of the I-95 and Route 29 roadways and their associated ramp structures. The easement(s) shall include slope and drainage rights as may be required for the grading and draining of

the entire State highway right-of-way width within the jurisdiction of the D&R Canal.

The Green Acres diversion (easement) will be acquired by the DRJTBC on behalf of the NJDOT, since the DRJTBC is the lead agency. Prior to project construction, a Memorandum of Agreement will be prepared between the DRJTBC and the NJDOT which will ultimately detail the responsibilities of the agencies as it pertains to the ownership, operation, and maintenance of the areas in the vicinity of the D&R Canal.

interchange or near the Mountainview Golf Course pond.

#### 2.12.3 Traffic

The construction of the project is expected to be completed in approximately four years. The construction will be staged to maintain the number of travel lanes currently provided during peak hours, with two lanes of traffic maintained on the I-95/Scudder Falls Bridge and two to three lanes in each direction in New Jersey.

The proposed I-95/Scudder Falls Bridge will be partially constructed upstream of the existing bridge, allowing traffic flow to be maintained on the existing bridge. Two lanes of traffic will be maintained in each direction during peak hours. Warning signs, speed restrictions, and work zone safety measures will be implemented throughout the construction period. Single lane closures will be required at times, but these will be scheduled during non-peak hours. Even though the existing number of travel lanes will be maintained during peak periods, traffic delays may increase due to reduced speeds, the presence of construction activities nearby, and within transition zones.

Staging areas will be located within the I-95 ROW or DRJTBC, PennDOT, and NJDOT property. Construction work, access, and staging will occur from the roadway rights-of-way. Temporary construction access roads across private property are not anticipated for construction of the replacement bridge.

One primary construction access point to each causeway stage on the Delaware River will be provided from either Pennsylvania or New Jersey. Access will be provided from one construction entrance from PA Route 32 (River Road) for the first and third stages of construction. The entrance and access roads will extend across DRJTBC property for both stages of construction. Access during the second and fourth stages of construction will be from NJ Route 29, via two separate entrances north and south of I-95, respectively.

#### 2.12.4 Temporary Disturbance Restoration

Construction of the project will require land disturbance for roadway and bridge improvements. The majority of this disturbance will be associated with the footprint of the proposed improvements; however, additional area will be required for construction access and staging. Upon completion of construction, the temporarily disturbed areas will be restored to their pre-construction elevations and any planting areas impacted as part of the temporary disturbance process will be planted with native indigenous species.

#### 3.3.8 Construction

Final design of the proposed project is anticipated to be completed in 2013, with construction initiating in late 2013 or early 2014. Construction of the project is anticipated to occur over approximately four years. The proposed action will involve typical roadway and bridge construction activities as well as construction of the pedestrian/bicycle facility. The construction activities include:

- excavation,
- placement of fill,
- grading,
- paving,
- erection of structural members such as beams and columns,
- pouring of concrete,
- installation of temporary and permanent erosion control devices, and
- installation of highway appurtenances such as signing, guide rail, traffic signals, and pavement markings,
- installation of sound barriers
- stormwater BMPs.

Construction of the project will generally occur in two phases, each maintaining the current number of travel lanes along mainline I-95 (three lanes in New Jersey and two lanes in Pennsylvania). The following sections review the anticipated construction phasing for the I-95 mainline and for construction within the Delaware River.

#### **Phase I Construction**

#### 1. I-95 Mainline Roadway Construction - Reconstruct Median and Outside Shoulders

- a) Install traffic control measures along mainline for Phase 1. Maintain traffic along active lanes.
- b) Install erosion and sedimentation control measures.
- c) Reconstruct ditches, install new drainage features, install noise barriers and guiderail.
- d) Reconstruct outside shoulders and median.
- e) Construct new pavement and bridges The construction of the new I-95 bridge over the D&R Canal will require temporary closure of the tow path during erection of bridge girders for safety reasons. These will be short duration closures, which could be scheduled at night, when towpath usage is minimal. During these times, there may be a need to temporarily close the towpaths and divert users away from the construction area.
- f) Remove traffic control measures for Phase 1.

#### 2. Reconstruction of Route 29 and Other Project Roadways

- a) Install traffic control measures. Maintain traffic flow.
- b) Install erosion and sedimentation control measures.
- c) Complete earthwork.
- d) Reconstruct ditches, install new drainage features, and install noise barriers and guiderail.
- e) Construct new pavement and bridges. The construction of the new I-95 access ramp bridges over the D&R Canal will require temporary closure of the tow path during erection of bridge girders for safety reasons. These will be short duration closures, which could be scheduled at night, when towpath usage is minimal. During these times, there may be a need to temporarily close the towpaths and divert users away from the construction area. Temporary encroachment into a portion of the towpaths may also be necessary for pouring and curing of concrete foundations prior to backfilling for a period of up to approximately 30 days. However, during these activities, the towpath will be open and available for use. Otherwise, full use of the towpaths will be maintained during construction. Construction areas for bridge piers and abutments near the towpaths would be positively separated for the safety of the towpath users.
- f) Install final signing, pavement striping, and traffic signals.
- g) Remove traffic control measures.

Temporary construction access for construction activities along affected project roadways, such as I-95 and NJ Route 29, will be performed from these roadways. Temporary access through private properties is not anticipated. Staging areas will be located within the I-95 ROW and within DRJTBC and NJDOT property to the greatest extent practicable.

### 3. Scudder Falls Bridge Construction - Construct the upstream, or northern, side of the bridge.

A variety of construction equipment is anticipated to be used in the construction of the bridge foundations, including but not limited to bulldozers, pile drivers, augers for possible drilled shaft construction, excavators, cranes, dump trucks, hydraulic rams, and dewatering pumps and hoses. Note that this work will not have a direct impact on the D&R Canal State Park and park users should not be affected by these construction activities.

- a) Install traffic control measures along I-95 for Phase 1 Construction. Maintain traffic flow along the existing bridge.
- b) Install erosion and sedimentation control measures in river and on land.
- c) Erect temporary trestle causeway (Stages I and II) for construction of the new bridge from the causeway construction of short spans of approximately 25 feet with pile bents (i.e., row of piles connected by pile caps at top to support a load) and progressive construction from the shoreline. Each causeway stage would be

erected separately and removed so that only one causeway Stage is in place at any time.

- Stage I would extend 550 feet along the upstream side of the bridge and across Park Island from the Pennsylvania side.
- Stage II would extend approximately 500 feet along the upstream side of the bridge from the New Jersey side.

Each causeway segment would have a working width of approximately 30 feet. In order to access each proposed bridge pier location, perpendicular extensions (causeway fingers) from the main causeway would be used. The causeway fingers also would be used to access the existing piers for demolition, in cases where the proposed piers do not overlap with the existing piers. Construction of the trestle fingers to reach the bridge pier location will be accomplished from the completed trestle spans.

- d) Construct bridge piers from the causeway by dewatering pier area using cofferdam method.
- e) Remove cofferdam and stabilize river area in the vicinity of the newly constructed piers.
- f) Erect bridge superstructure (i.e., beams below the concrete deck) from causeway.
- g) Remove causeway, stabilize river area and restore to pre-construction condition.
- h) Complete bridge deck, paving, and finish work from the newly constructed bridge.
- i) Remove traffic control measures.

Two lanes of traffic, in each direction, will be maintained on the bridge during peak traffic periods.

#### **Phase 2 Construction**

- 1. I-95 Mainline Roadway Construction Reconstruct Central Portions of I-95 Northbound and Southbound Roadways
  - a) Install traffic control measures along mainline for Phase 2. Maintain traffic along newly constructed median and on outside lanes and shoulders.
  - b) Maintain erosion and sedimentation control measures.
  - c) Install new drainage features.
  - d) Reconstruct traffic lanes and bridges. The reconstruction of the existing I-95 bridge over the D&R Canal will require temporary closure of the tow path during erection of bridge girders for safety reasons. These will be short duration closures, which could be scheduled at night, when towpath usage is minimal. During these times, there may be a need to temporarily close the towpaths and divert users away from the construction area.
  - e) Construct new pavement and bridges. The construction of the new I-95 bridge over the D&R Canal will require temporary closure of the tow path during erection of bridge girders for safety reasons. These will be short duration closures, which could be scheduled at night, when towpath usage is minimal. During these times, there may be a need to temporarily close the towpaths and

#### divert users away from the construction area.

f) Remove traffic control measures.

### 2. Scudder Falls Bridge Construction - Demolish Existing Bridge and Construct Southern (Downstream) Portion of Bridge

A variety of construction equipment is anticipated to be used in the construction of the bridge foundations, including but not limited to bulldozers, pile drivers, augers for possible drilled shaft construction, excavators, cranes, dump trucks, hydraulic rams, and dewatering pumps and hoses. Note that this work will not have a direct impact on the D&R Canal State Park and park users should not be affected by these construction activities.

- a) Install traffic control measures along I-95 for Phase 2. Maintain traffic flow along the existing bridge.
- b) Maintain erosion and sedimentation control measures in river and on land.
- c) Erect temporary causeway (Stages III and IV) for demolition of the existing bridge and construction of the new bridge from the causeway - construction of short spans of approximately 25 feet with pile bents (i.e., row of piles connected by pile caps at top to support a load) and progressive construction from the shoreline. Each causeway stage would be erected separately and removed so that only one causeway Stage is in place at any time.
  - Stage III would extend approximately 550 feet along the downstream side of the bridge and across Park Island from the Pennsylvania side.
  - Stage IV would extend approximately 500 feet along the downstream side of the bridge from the New Jersey side.

Each causeway segment would have a working width of approximately 30 feet. In order to access each proposed bridge pier location, perpendicular extensions (causeway fingers) from the main causeway would be used. The causeway fingers also would be used to access the existing piers for demolition, in cases where the proposed piers do not overlap with the existing piers. Construction of the trestle fingers to reach the bridge pier location will be accomplished from the completed trestle spans.

- d) Begin demolition of existing bridge from the causeway and transport unsuitable material to an approved offsite location.
- e) Construct bridge piers from the causeway by dewatering pier area using cofferdam method.
- f) Remove cofferdam and stabilize river area in the vicinity of the newly constructed piers.
- g) Erect bridge superstructure (i.e., beams below the concrete deck) from causeway.
- h) Complete bridge deck, paving, and finish work from the newly constructed bridge.
- i) Remove traffic control measures.

#### **Proposed Construction Methods**

The proposed construction will involve use of a temporary trestle causeway for staging and access to the river during construction, and cofferdams to demolish the existing bridge and construct the new bridge piers.

Construction of the new bridge is estimated to be completed in approximately four years, with each stage of causeway construction expected to last approximately one year. Each cofferdam used to construct the proposed five river piers and demolish the existing seven river piers, will be used over a period of about 4 months. It would take three to four weeks to construct each cofferdam. Each cofferdam used to build the proposed bridge piers will be approximately 26 feet by 166 feet in size, and the bridge footings will be emplaced 10 to 15 feet below the existing riverbed in competent sand and gravel or rock.

Approximately 22 to 36 pile bents would be required for each causeway stage. Each pile bent would be driven into the river bottom, and would disturb approximately 10 square feet of river bottom. The 22 to 36 bents installed for each causeway stage correspond to approximately 210 to 340 square feet of river bottom disturbance at any one time. Upon removal of each trestle causeway stage, the bents would be removed to a depth of 3 feet below the river bottom, and the river bottom will be restored to its pre-construction condition. The estimated cost of a trestle causeway will be in excess of \$3 million.

Access to each causeway from land would be via temporary access roads from PA Route 32 (River Road) on the Pennsylvania side of the river, and from NJ Route 29 on the New Jersey side of the river.

The construction sequence of the trestle would be as follows:

- Construct the access roadway to reach the river shoreline,
- Construct a temporary abutment for the first span of the trestle,
- Drive the piles for the first trestle bent and install bent cap,
- Erect the beams and construct the deck for first span,
- Move pile driving equipment to the constructed first span,
- Drive the pile for second trestle bent and install cap,
- Erect beams and construct the deck for second span,
- Move pile driving equipment to second span and continue as before until the appropriate length of the trestle is completed.

The new bridge construction will be constructed from the causeway and causeway fingers. It is anticipated that once the causeways and cofferdams are completed, all work can be accomplished throughout the year from the causeway, inside the cofferdams, and from the partially constructed bridge. For example, once the cofferdams are constructed, all pier construction can be accomplished inside the cofferdams and from the causeway. The steel erection for the bridge superstructure will be performed by delivering the beams via the existing I-95 bridge (there will be partial closure of the bridge at night) with the cranes placed

on the causeway. Once the steel beams are erected, the remaining portions of the bridge, such as the deck, can be constructed from the new structure.

Once the piers have been constructed and the steel beams have been erected, the cofferdams will be removed either by pulling the sheets out of the river bed or by removing the portion of the sheets above the river bed. The causeway can then be removed in a retreating manner.

Demolition of the existing bridge piers also will be accomplished from the causeway and causeway fingers. It is anticipated that the existing bridge will be demolished using various methods. As a first step, timber shielding will be placed between the existing girders, beams, and the edges to protect the workers and prevent debris from falling into the river.

The bridge deck will then be removed by saw cutting the concrete into manageable pieces for loading onto dump trucks. The deck will be removed from the existing bridge in a retreating manner. The beams and girders will be cut into pieces and loaded onto trucks with cranes placed on the existing bridge and on the causeway. The steel will be trucked off to a recycling center.

For the demolition of the existing piers, cofferdams will be installed and demolition will occur from within. These cofferdams will be approximately 15 feet wide by 70 feet long. Access to the existing piers will be via the causeways. The existing piers are clad with stones with a reinforced concrete core. So, the stones will have to be removed first. The concrete core will be demolished by hydraulic ram equipment, which creates a pulsing sensation that causes the existing concrete to crumble. The larger sections will be broken into smaller pieces and perhaps recycled on-site for use by the contractor for embankment and/or backfill material. The existing pier stems will be removed to a depth of two to three feet below the river bed elevation.

The trestle causeway would involve impacts to the river bottom at the footprint of the pile bents, but these would be temporary. For all intents and purposes, the trestle causeway can be completely removed, with the pile bents removed to a depth of 3 feet and the river bottom restored. It is anticipated that natural riverbed sediments will naturally infill this area over time, and the river bottom would be restored to its pre-construction condition.

#### **Construction Protection Plan**

In coordination with the agencies that have jurisdiction over the Canal, a Construction Protection Plan will be prepared for work along the Delaware and Raritan Canal in New Jersey. The plan will set forth specific measures that will protect the canal prism, towpath, and any related features during the construction period. The Construction Protection Plan will provide measures for minimizing direct impacts to the canal prism and towpath during the removal of the piers of the existing I-95/Scudder Falls Bridge. In addition, to the extent possible, the plan will indicate that construction areas will be located outside the canal prism and towpath features and will be separated for the safety of towpath users.

## Revised Land Valuation Form and Supplemental Documentation

## Green Acres Program State House Commission Pre-Application Parkland—Major Disposal/diversion Min De-

## ATTACHMENT II: LAND VALUATION FORMS DIVERTED/DISPOSAL PARCEL(S)

Please fill out each section completely. If any section is left blank, the form will not be reviewed. If a section is not applicable to the application please indicate "Not Applicable" or "N/A". A minimum of three comparable sales for the diverted/disposal parcel(s) will need to be provided.

\*\*\* If additional space is needed to adequately describe the parcel please use a separate page \*\*\*

	ii addidonai opi	add to flooded to	o adoquatory i	account the parcer picase	ase a separate p	age.		
1. Parcel Information Block(s)			425					
	Lot(s)		1	1				
	Acreage (by	lot)	12					
	Vacant		Improved	* 🗴				
	*If improved	please describ	e all improv	ements on a separate p	page.			
2. Zoning Primary permitted uses Minimum lot size 3. Interest		R1 - Re 18,750	esidential, Single Fa square feet, 125-fo	mily Detached	<u>i</u>			
	Fee  Easement  Type of easement  Temporary easement			Fee and easement				
			Right-of-way Permanent easement					
I. En	vironmental C Wetlands	onstraints (lis	st individua ac.	I acreage encumbered C1 Streams	d by each const N/A	raint) ac.		
	Tidelands	N/A	 ac.	Steep Slopes	N/A	ac.		
	Other	N/A	ac.	Other	N/A	ac.		
. Ph	nysical Constra Legal access		N/A					
	Landlocked		N/A					
6. Value Information			56.	and the				
	Assessed Va	lue \$74,296	5.65	Director's Ratio	\$327,298/acr	e		
. Es	timated Marke Intended Use		N/A		Α.			
	Highest and best use		N/A					
	luation Form fo		erted/Ďispos	fy that the information pale and Parcel(s) is true and		and		
	N/A		.,	N/A				
	Signature	H. latt latt		Date	<del></del>			
	on 2007-1	i .		45.41.7		9 c		

Home Page

Cranbury

East Windsor

Ewing

Hamilton

Hightstown

Hopewell Borough

Hopewell Township

Lawrence

Pennington

Plainsboro

Princeton

Princeton Townshp

Rabbinsville

West Windsor

Contact Us

Ewing, New Jersey

Census Bureau Estimated Population in 2010 35,790

Number of Homes Sold In 2011 213

Price Range of Homes Sold \$15,000 to \$500,000

Average Price of Homes Sold \$171,929

> Public Schools Elementary School Parkway Elementary Lore Elementary Anthell Elementary

Middle School Fisher Middle School

Secondary School Ewing High School Freddie Mac's Primary Mortgage Market Survey®

-annual Assembly	4."	
	Avg.	Fees & Points
30YR FRM	3,91	8.0
15YR FRM	3,23	8.0
5YR ARM	2.86	7.۵
1YR	2.80	0.6

Copyright 2012, Fredible Mac. Averages are for conforming mortgages with 20% down.

Par our Market Knowledge to neck be gues let or prepare

Free Home Evaluation

Click here to begin your search of Wirtural tours, maps, flyers and more.

Property Search







**NOEL LIEB** 732-991-0258(Mobile) 732-469-3242(Office Fax) NoelYourRealtor@aol.com

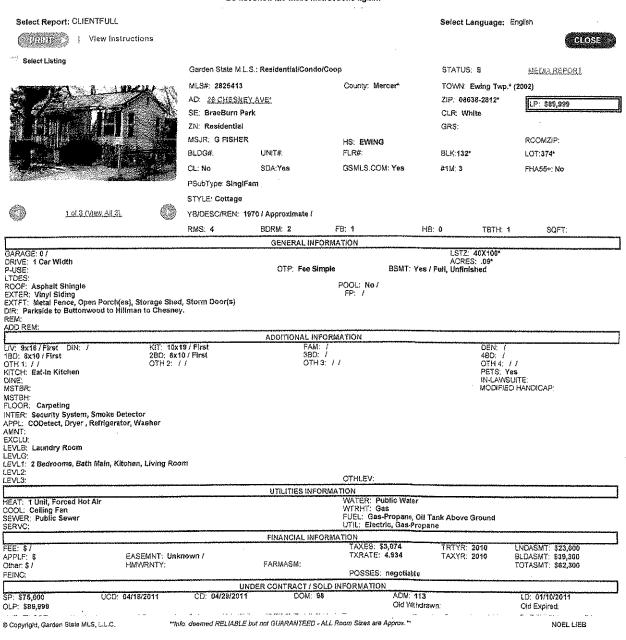


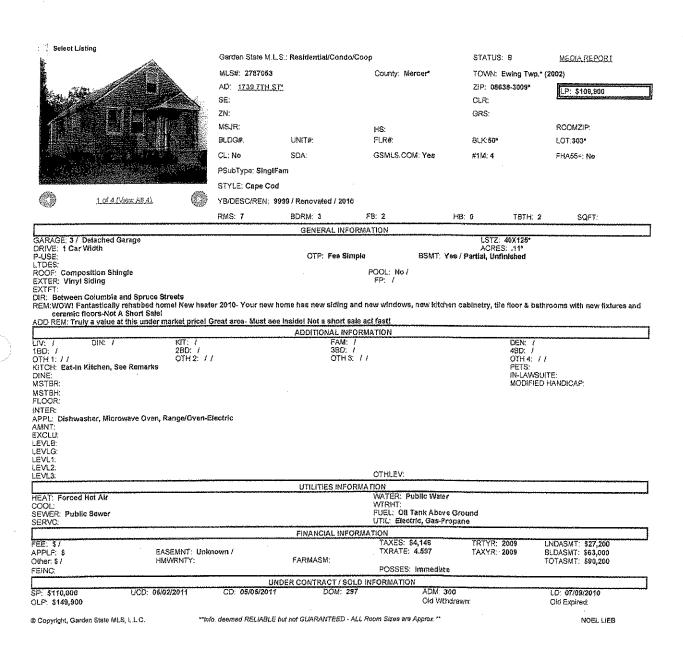
C-21 GOLDEN POST 560 UNION AVE MIDDLESEX, NJ 08846-732-469-3900 (Office) 732-469-3242 (Fax)

#### INSTRUCTIONS FOR VIEWING/PRINTING LISTINGS:

- . On the top left of each fisting, check the box "Select Listing" for each listing you would like to print.
  Then click on the green PRINT button in the Taskbar.
  To select a language in which to view the listings, click on the down arrow in the "Select Language" dropdown box, then select the desired language.
- . To hide these instructions, click on the box, "Do not show me these instructions again." . To close and exit this window, click on the red CLOSE button in the Taskbar.

Do not show me these instructions again.





Select Listing Garden State M L.S.: Residential/Condo/Coop STATUS: S MEDIA REPORT MLS#: 2770572 County: Mercer<sup>4</sup> TOWN: Ewing Twp.\* (2002) AD: 1137 LOWER FERRY RD ZIP: 08618-1801\* LP: \$110,000 SE CLR: ZN: GRS: MSJR: G FISHER RCOMZIP: HS: EWING BLDG#: UNIT#: FLR#: 8LK:505\* LOT:2\* CL: No SDA:Yes GSMLS.COM: Yes #1M: 11 FHA55+ No PSubType: SingiFam STYLE: Colonial 1 of 11 (View All 11) YB/DESC/REN: 9999 / Unknown / RMS: 8 FB: 1 HB: 1 TBTH: 1.1 SQFT: GENERAL INFORMATION GARAGE: 0 / None
DRIVE: 1 Car Width, Driveway-Exclusive
P-USE:
LTDES:
ROOF: Asphait Shingle
EXTER: Aluminum Siding LS7Z: 60X125 ACRES: .17\* OTP: Fee Simple BSMT: Yes / Full, Walkout EXTER: Aluminum Siding
EXTER: DR: Parway Avenue to Lower Ferry Road between Winthop And Fireside,
DR: Parway Avenue to Lower Ferry Road between Winthop And Fireside,
REM:Storm damage special pricing! Inviting & affordable 3 RR split level Colonial. Walking distance to College of NJ, schools and library. 10 min drive to Rider Univ, 5 min drive to
Ewing frain station!

ADD REM: Covered front porch, fenced yard, eat in kitchen, specious DR, FR & LR. 1 year home owners warranty for extra value and peace of mind! Storm pricing special! Recent
damage due to Hurricane Irene and other recent storms include roof and flooring in the living room. We have radiced the price for immediate sale, it is in AS IS
CONDITION and the buyer is responsible for all repairs and certifications necessary to close. This is a great bargain for the handy person or for someone looking to fix
up. The home is in overall decent condition. This is NOT A SHORT SALE or a forecolosure. Present offers!

ADDITIONAL INFORMATION

DEN: / LIV: 17x13 / First DIN: 12x10 / First 1BD: 12x11 / Second OTH 1: 15x11 / Laundry Room / Ground KITCH: Earl-In Kitchen DINE: Dining L KIT: 8x9 / First 28D: 10x9 / Second OTH 2: // FAM: 20x11 / Ground 3BD: 13x11 / Second OTH 3: // 48D: / OTH 4: // PETS: IN-LAWSUITE: No MSTBR. MODIFIED HANDICAP: No MSTBH: FLOOR: Carpeting, Wood INTER: Smoke Detector APPL: Range/Oven-Gas AMNT: EXCLU: 2 Air Conditioners, Refrigerator, Washer, Dryer LEVLB: LEVLG: Family Room, Laundry Room, Powder Room LEVL1: Dining Room, Kitchen, Living Room LEVL2: 3 Bedrooms OTHLEV: LEVL3: UTILITIES INFORMATION WATER: Public Water WTRHT: Gas FUEL: Gas-Natural HEAT: Forced Hot Air COOL: 1 Unit SEWER: Public Sewer UTIL: Electric, Gas-Natural FINANCIAL INFORMATION TAXES: \$4,859 LNDASMT: \$41,400 TXRATE: 4,597 EASEMNT: No. BLDASMT: \$64,300 TOTASMT: \$105,700 APPLE: \$ **TAXYR: 2009** Other: \$ / HMWRNTY: No FARMASM: No POSSES: At Closing FEINC: UNDER CONTRACT / SOLD INFORMATION ADM 602 UCD: 09/20/2011 CD: 09/21/2011 DOM: 503 LD: 05/05/2010 OLP: \$197,000 Old Withdrawn Old Explred: @ Copyright, Garden State MLS, L.L.C. "Info, deemed RELIABLE but not GUARANTEED - ALL Room Sizes are Approx " NOEL LIEB

Garden State MLS

Select Listing Garden State M.L.S.: Residential/Condo/Coop STATUS: 5 MECHA REPORT MLS#: 2828777 County: Mercer TOWN: Ewing Twp.\* (2002) AD: 25 ROSEDALE AVE ZIP: 08638-3525\* LP: \$139,900 CLR: SE: Weber Park ZN: R-2 GR\$: MSJR: RCOMZIP: 08638 HS: UNITH FLR#: BLK:81\* LOT:1345 BLDG#: GSMLS.COM: Yes CL: No SDA:No #1M: 10 FHA55+: No PSubType: SingiFam STYLE: Colonial 1 of 10 (View All 10) YB/DESC/REN: 9999 / Renovated / 2011 BORM: 3 FB: 1 TBTH: 1.1 SQFT: GENERAL INFORMATION GARAGE: 0 / None DRIVE: Off-Street Parking, On-Street Parking P-USE: LSTZ: 100X100 ACRES: ,23' BSMT: Yes / Full, Unfinished OTP: Fee Simple P-USE: LTDES: Level Lot ROOF: Composition Shingle EXTER: Vinyl Siding EXTFT: Enclosed Porch(es) DIR: Off of Parkside POOL: No / FP; / DIR: Off of Parkside

REM/Wowl Fantasically rehabbed home and ready to move int Outside you will find a brand new roof, new siding & new windows.

ADD REM: Your new home boasts an all new large kitchen including cabinetry, appliances, and ceramic tile floor. Also, check out the new bathrooms with new fixtures and ceramic floors. Don't forget about the new 6 panel doors and fresh paint & carpet throughout. Enjoy the extra room inside with a full basement and outside on an extra large lott.

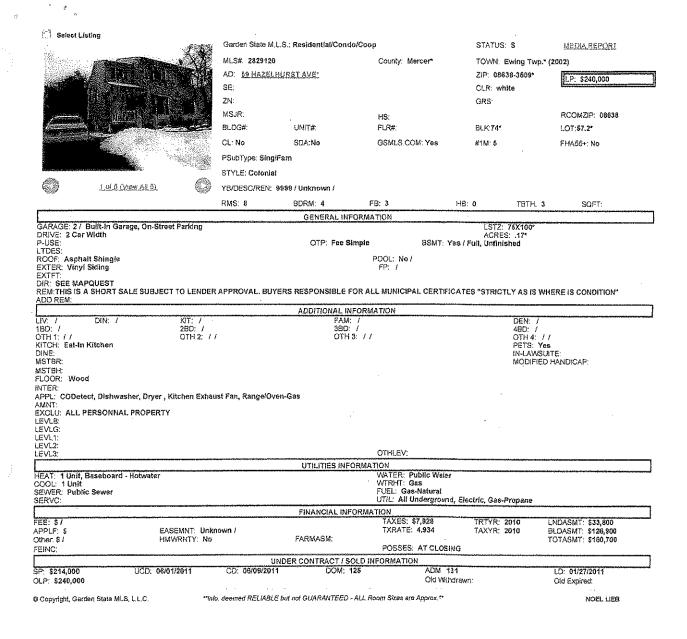
Truly a value and very easy to show. Act Fasti Not a Short Sale! Will not last at this price! ADDITIONAL INFORMATION DEN: / 48D: / OTH 4: // PETS: Yes IN-LAWSUITE: LIV: / DIN: 19D: / OTH 1: / / KITCH: Eat-in Kitchen KIT: / 28D: / FAM; / 380; / OTH 3: 17 OTH 2: // DINE: MSTBR: MODIFIED HANDICAP MSTBH: FLOOR: INTER: APPL: Dishwasher, Microwave Oven, Range/Oven-Gas AMNT: EXCLU: LEVLB: LEVLG: LEVL1: LEVL2: OTHLEV: UTILITIES INFORMATION WATER: Private, Well WTRHT: Gas FUEL: Gas-Natural HEAT: Baseboard - Hotwater COOL: SEWER: Public Sewer UTIL: Gas In Street SERVC: FINANCIAL INFORMATION TAXES: \$4,001 TXRATE: 4.934 TRTYR: 2010 TAXYR: 2016 LNDASMT: \$37,500 FEE \$ APPLF: \$ Other: \$ / EASEMNT: Unknown / HMWRNTY: No BLDASMT: \$43,600 TOTASMT: \$81,100 FARMASM: POSSES: immediate FEINC: UNDER CONTRACT / SOLD INFORMATION UCD: 06/15/2011 DOM: 141 ADM 176 LD: 01/25/2011 SP: \$146,000 OLP \$139,900 Old Withdrawn Old Expired: @ Copyright, Garden State MLS, L.L.C "Info. deemed RELIABLE but not GUARANTEED - ALL Room Sizes are Approx." NOEL LIEB

📳 Select Listing Garden State M.L.S.: Residential/Condo/Coop STATUS: S MEDIA REPORT County: Mercer TOWN: Ewing Twp.\* (2002) AD: 41 BRADWAY AVE: ZIP: 08618-2643\* LP: \$186,000 SE: Glendale CLR: White ZN: R-2 GRS: PARKKWAY MSJR: G FISHER RCOMZIP: HS: EWING BLOG# UNIT#: FLR# BLK:296\* LOT:13\* CL: No SDA:Yes GSMLS,COM: Yes #1M: 16 FHA55+: No PSubType: SingiFam STYLE: Cape Cod 1 of 16 (View All 16) YB/DESC/REN: 9999 / Renovated, Unknown / 2005 RMS: 9 BDRM: 6 TETH: 2 SQFT: GENERAL INFORMATION LSTZ: 70X150' ACRES: ,24" ADDITIONAL INFORMATION LIV: 16x16 / Ground DIN: 17x12 / Ground KIT: 14x13 / Ground FAM: / 18D: 16x12 / First
OTH 1: 12x10 / Bedroom / Ground
KITCH: Eat-In Kitchen 2BD: 12x12 / First OTH 2: 12x10 / Bedroom / Ground 3BO: 12x10 / First 48D: 12x10 / Ground OTH 3: 29x10 / Screened Patio/Porch / OTH 4: // PETS: Yes IN-LAWSUITE: No MODIFIED HANDICAP: No DINE: Formal Dining Room MSTBR: MSTBH: INTER: CODetect, FireExtg, Smoke Detector
APPL: CODetect, Dishwasher, Dryer , Refrigerator, Range/Oven-Gas, Sump Pump, Washer
AMNT: Carpeting, Laminate, Vinyl-Linoleum, Wood EXCLU: washer and dryer LEVLE: Laundry Room, Storage Room, Utility Room LEVLG: 3 Bedrooms, Bath Main, Dining Room, Kitchen, Living Room LEVL1: 3 Bedrooms, Attic, Bath Main LEVI 2 LEVL3: OTHLEV: UTILITIES INFORMATION HEAT: Baseboard - Hotwater, Radiators - Hot Water WATER: Public Water WTRHT: Gas FUEL: Gas-Natural COOL: SEWER: Public Sewer SERVC: Cable TV Available, Sarbage included UTIL: Gas-Natural FINANCIAL INFORMATION FEE: \$/ TAXES: \$7,055 LNDASMT: \$37,800 APPLE: \$ EASEMNT: Unknown / HMWRNTY: No TXRATE: 4.934 **TAXYR: 2011** BLDASMT: \$95,800 TOTASMT: \$133,600 Other: \$ / FARMASM: No FEINC: POSSES: At Closing UNDER CONTRACT / SOLD INFORMATION SP: \$160,000 UCD: 12/19/2011 CD: 12/29/2011 ADM: 172 DOM: 171 LO: 07/01/2011 Old Withdrawn Ola Expired: @ Copyright, Garden State MLS, L.L.C. "Info deented RELIABLE but not GUARANTEED - ALL Room Sizes are Approx." NOEL LIEB

Garden State MLS

Select Listing STATUS: S MEDIA REPORT Garden State M.L.S.: Residential/Condo/Coop MLS#. 2866492 County: Mercer\* TOWN: Ewing Twp.\* (2002) AD: 11 WICKFORD AVE ZIP: 08618-1820\* LP: \$195,000 SE: CLR: ZN: GRS: MSJR: RCOMZIP: HS: BLDG#: UNIT#: FLR# BLK:509\* LOT:8\* SDA:No GSMLS.COM: Yes #1M:1 FHA55+: No PSubType: SingiFam STYLE: Solit Level YB/DESC/REN; 9999 / Unknown / 1 of 1 (View All 1) RMS: 9 BDRM 4 FB: 2 HB: 0 TETH: 2 SQFT: GENERAL INFORMATION GARAGE: 0 / DRIVE: 2 Car Width P-USE: LSTZ: 65X120.34 ACRES: .184 OTP: Fee Simple 8SMT: No / LTDES: Level Lot ROOF: Asphalt Shingle EXTER: Vinyl Siding POOL: No / EXTFT:
DIR: See mapquest
REM:This is a short sale., Buyer responsible for all municipal certificates
ADD REM: ADDITIONAL INFORMATION DEN: / 4BD; / OTH 4: / / PETS: Yes IN-LAWSUITE: LIV: / DIN: /
18D: /
OTH 1: / /
KITCH: Not Eat-In Kitchen
DINE: Formal Dining Room
MSTBR: FAM: / 38D: / KIT: / 28D: / OTH 2: / / OTH 3: // MODIFIED HANDICAP MSTBH: FLOOR: INTER: APPL: CODetect, Range/Oven-Gas AMNT: EXCLU; All Personnal Belongings LEVLB: LEVLG: LEVL1: AMNT: OTHLEV: LEVL3: UTILITIES INFORMATION WATER: Public Water WTRHT: FUEL: Electric, Gas-Natural UTIL: Electric, Gas in Street HEAT: 1 Unit, Forced Hot Air COOL: Central Air SEWER: Public Sewer SERVC: FINANCIAL INFORMATION
TAXES: \$5,590 FEE: \$1 APPLF: \$ Other: \$1 LNDASMT: \$48,000 EASEMNT: Unknown / HMWRNTY: No **TXRATE: 4.934 TAXYR: 2010** BLDASMT: \$67,300 TOTASMT: \$113,300 FARMASM: FEINC: POSSES: at closing UNDER CONTRACT / SOLD INFORMATION LD: 06/16/2011 10/05/2011 SP: \$173,000 OLP: \$195,000 Old Withdrawn Old Expired: @ Copyright, Garden State MLS, L.L.C. "Info. deemed RELIABLE but not QUARANTEED - ALL Room Sizes are Approx." NOEL LIEB

Select Listing Garden State M.L. S.: Residential/Condo/Coop STATUS: 5 MEDIA REPORT MLS#: 2863062 County Mercer TOWN: Ewing Twp.\* (2002) ZIP; 08638-1737\* AD: 24 HOLIDAY CT: LP: \$199,999 CLR: SE: Primrose ŻN: GRS: MSJR: RCOMZIP: HS: FLR#: BLK:214\* LOT:44,13\* BLDG#: UNIT#: CL Yes SDA:Yes GSMLS.COM: Yes #1M: 14 FHA55+: Yes PSubType: SinglFam STYLE. Colonial 1 of 14 (View All 14) Y8/DESC/REN: 1997 / Approximate / RMS: 5 BORM: 2 FB: 0 HB: 0 TBTH: 0 SQFT: GENERAL INFORMATION GARAGE: 1 / Attached Garage, Built-In Garage, Garage Door Opener DRIVE: 2 Car Width, Blacktop P-USE: LSTZ: 55.75X115.4 AV ACRES: .15" BSMT: Yes / Crawl Space OTP: Fee Simple F-USE:
LTDES:
ROOF: Asphalt Shingle
EXTER: Aluminum Siding
EXTFT:
DIR: Federal City to Ewingville to Primrose.
REM: POOL: No / FP: 1 / Living Room ADD REM. ADDITIONAL INFORMATION UV: 19x12 / First FAM: / 3BD: / 12x10 / First 18D: 18x14 / First OTH 1: / / KITCH: Eat-In Kitchen 2BD: 16x12 / First 4BD: / OTH 4: / / PETS: Yes IN-LAWSUITE: OTH 2: //Basement OTH 3: // DINE: MSTBR: Full Bath MODIFIED HANDICAP: MST8H: Stall Shower FLOOR: INTER: Fire Alarm Sys, CODetect, High Cellings, Security System, Smoke Detector, Track Lighting, Window Treatments APPL: CODetect, Dishwasher, Dryer, Self Cleaning Oven, Refrigerator, Range/Oven-Gas, Washer AMNT: **FXCLU** LEVLB: LEVI.1: 2 Bedrooms, Bath Main, Bath(s) Other, Den, Dining Room, Foyer, Kitchen, Laundry Room, Living Room, Porch LEVI.2: OTHLEV: LEVL3: UTILITIES INFORMATION HEAT: 1 Unit, Forced Hot Air COOL: 1 Unit, Central Air SEWER: Public Available SERVC: Cable TV WATER; Public Water WTRHT: FUEL: Gas-Natural UTIL: All Underground FINANCIAL INFORMATION FEE: \$100 / Monthly APPLF: \$200 Other: \$ / TRTYR: 2010 LNDASMT: \$41,400 EASEMNT: Unknown / HMWRNTY: Yes BLDASMT: \$75,200 TOTASMT: \$116,600 **TXRATE: 4.934** TAXYR: 2010 FARMASM: No FEINC: Maintenance-Common Area, Snow Removal POSSES: nego UNDER CONTRACT / SOLD INFORMATION 011 DOM: 117 LD: 06/02/2011 LICD: 09/27/2011 SP: \$190,000 Old Wilndrawn; Old Expired: OLP: \$229,000 @ Copyright, Garden State MLS, L.L.C.



### **Updated Table 16**

Comparison of I-95/Scudder Falls Bridge Configuration and Alignment Alternatives

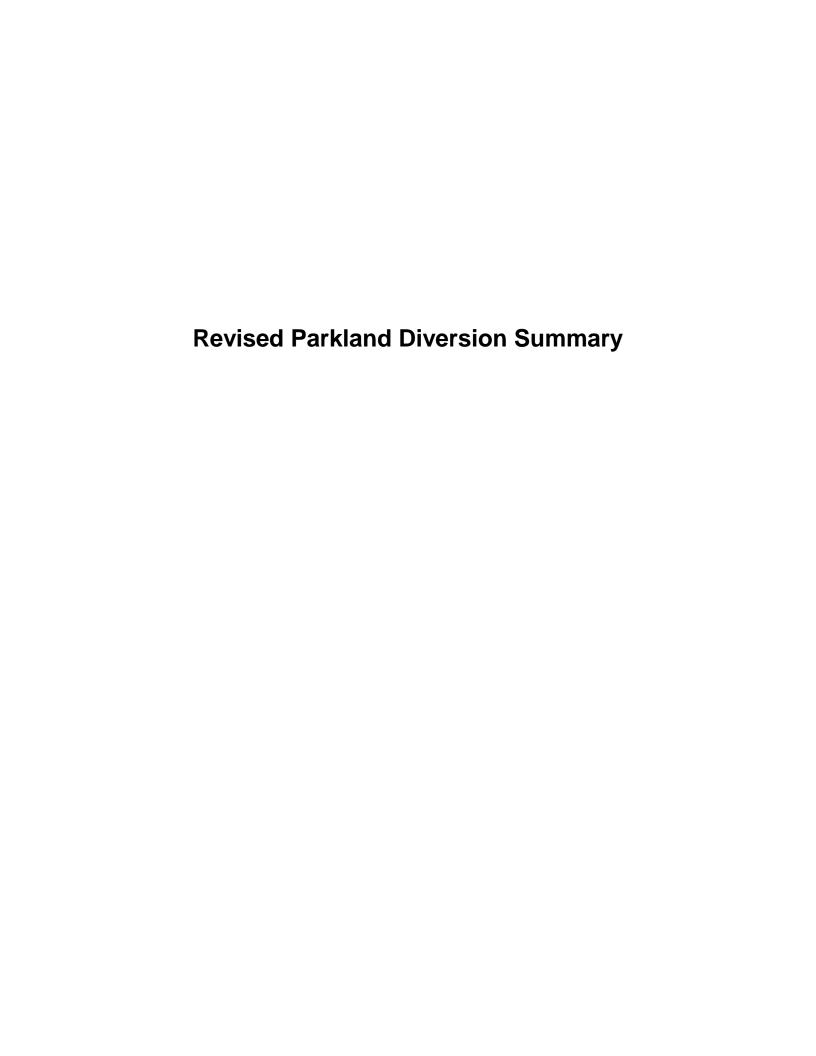
Table 16—Comparison of I-95/Scudder Falls Bridge Configuration and Alignment Alternatives

	Double-Deck Bridge	Contra-Flow Lane	Collector/ Distributor Roadway Option	Standard Lane Additions/Bridge Replacement			
Parameters				Upstream (Proposed Action)	Centerline	Downstream	
Description	Two-level bridge, with lower level carrying three lanes of local traffic in each direction and upper level carrying three lanes of through traffic in each direction	A movable barrier would be used to provide five lanes in the peak direction and three lanes in the off-peak direction. The movable barrier system would extend over the length of the bridge and about 1,500 feet on each of the approaches to the bridge.	A collector/distributor roadway would segregate northbound I-95 mainline traffic from traffic entering and exiting at Taylorsville Road or at NJ Route 29. The northbound I-95 travel lanes and the CD Roadway would be separated by a 6-foot wide raised divider and the roadway cross-section would be 20 to 28 feet wider than the standard lane additions.	The configuration would consist of five lanes northbound and four lanes southbound on the I-95/Scudder Falls Bridge, but the new, wider bridge would extend further upstream of the existing bridge	The configuration would consist of five lanes northbound and four lanes southbound on the I-95/Scudder Falls Bridge, but the new, wider bridge would be centered on the centerline of the existing bridge	The configuration would consist of five lanes northbound and four lanes southbound on the I-95/Scudder Falls Bridge, but the new, wider bridge would be extend further downstream of the existing bridge	
Meets Purpose and Need	Yes	Yes	Yes	Yes	Yes	Yes	
Construction Costs (2005 dollars)	Project-wide cost of \$197 million	Project-wide cost of \$188 million which includes \$12 million additional operation costs	Project-wide cost of \$192 million	Project-wide cost of \$179 million	Project-wide cost of \$179 million	Project-wide cost of \$179 million	
2030 Peak Hour Traffic Operations	LOS D	LOS D	LOS C northbound LOS D southbound Introduces undesirable weave after two- lane entrance	LOS C northbound LOS D southbound	LOS C northbound LOS D southbound	LOS C northbound LOS D southbound	
Property Displacements			2 residences	1 residence	2 residences	2 residences	
Public Property Acquisitions			5 acres, including 2 acres of State Police property and Villa Victoria Academy	2 acres	3 acres	3 acres	
Private Property Takings	New construction would be entirely		2 acres, including portions of 12 residential properties	1 acre, including portions of 7 residential properties	1 acre, including portions of 7 residential properties	2 acres, including portions of 9 residential properties	
Green Acres Parkland Takings	upstream or downstream of existing bridge, resulting in extensive property and environmental impacts on the		0.41 acres of the Delaware & Raritan Canal State Park would be acquired	0.341 acres of the Delaware & Raritan Canal State Park would be acquired	0.341 acres of the Delaware & Raritan Canal State Park would be acquired	0.21 acres of the Delaware & Raritan Canal State Park would be acquired	
Wetlands	approaches. Approach work would	This option would be eight lanes wide	1 acre	1 acre	1 acre	1 acre	
Floodplains	extend 800 feet beyond the existing bridge abutments, and impacts would	(instead of nine lanes for the standard lane additions), so property and	Fill within floodway and 11 acres of 100- year floodplain	Fill within floodway and 10 acres of 100-year floodplain	Fill within floodway and 11 acres of 100-year floodplain	Fill within floodway and 11 acres of 100-year floodplain	
Increase in Shading on Delaware River	be greater than for standard lane additions.	environmental impacts would generally be less than for the standard lane additions.	4 acres more than existing bridge	3 acres more than existing bridge	3 acres more than existing bridge	3 acres more than existing bridge	
Streams	For Green Acres Parkland Takings,	For Green Acres Parkland Takings, the	3 streams (1/3 acre)	3 streams (0.2 acre)	3 streams (0.2 acre)	3 streams (0.3 acre)	
Ditches	the impact is estimated to be 0.73	impact is estimated to be 0.314 acres.	13 ditches (3 acres)	10 ditches (2 acres)	11 ditches (2 acres)	11 ditches (2 acres)	
Preserved Farmlands	acres; although 0.23 acres of Parkland will be restored once the	and will be restored once the	1 ½ acres	1 ½ acres	1 ½ acres	1 ½ acres	
Historic Resources	existing Scudder Falls Bridge is		4 sites	4 sites	4 sites	4 sites	
Increase in Shading on Canals	demonstred.		1/5 acre	1/5 acre	1/5 acre	1/5 acre	
Archaeological Resources			5 sites	5 sites	5 sites	5 sites	
Construction	Construction of a new parallel bridge would require construction of a temporary causeway across the Delaware River	Construction of a new parallel bridge would require construction of a temporary causeway across the Delaware River.	Construction of a new parallel bridge would require construction of a temporary causeway across the Delaware River.	Construction of a new parallel bridge would require construction of a temporary causeway across the Delaware River	Construction of a new parallel bridge would require construction of a temporary causeway across the Delaware River	Construction of a new parallel bridge would require construction of a temporary causeway across the Delaware River	
Reasons for Dismissal	Additional costs and impacts (including greater visual intrusion and greater approach work) when compared with the standard lane additions	Safety concerns at transition areas. Operational costs and difficulties with moving the contra-flow barriers four times a day.	Increased costs and environmental impacts, without substantial additional operating benefits, when compared with the standard lane additions	Preferred Alternative	Increased impacts and difficulty with construction staging, when compared to the upstream alignment	Increased impacts when compared to the upstream alignment	

Source: Technical Memorandum No. 26, Alternatives Screening Report, February 2007.

#### Notes:

- 1). Information for all alternatives, as presented above, was based on conceptual design.
- 2). Costs are presented in 2005 dollars, as documented in Technical Memorandum No. 26, Alternative Screening Report. Each design option's and alternative's cost escalation to future years is expected to be fairly uniform and thus would not alter the relative cost differences of the alternatives and design options
- 3). Green Acres Parkland Takings information and impact calculations are based on the Conceptual Plans provided in the Alternative Screening Report.





# Delaware River Joint Toll Bridge Commission I-95/Scudder Falls Bridge Improvement Project Task Order Assignment No.C-502A-2D NJDEP Green Acres Program – Parkland Diversion Application Supplement

#### **Parkland Diversion Summary**

The proposed I-95/Scudder Falls Bridge Improvement project will span a greater portion of the Delaware and Raritan Canal (D&R Canal) State Park at Ewing Township Block 425, Lot 1. The existing NJDOT easement for the mainline I-95 over the Canal is 100 feet long and 225 feet in width (i.e., 0.52 acres) whereas the actual bridge crossing of the Canal is approximately 0.23 acres. In the proposed condition, the span width of the I-95 bridge over the D&R Canal will be somewhat larger than the existing span width and two new ramp bridges, each of approximately 40 feet in width, will be constructed over the Canal. This would result in an increase in the area spanned of approximately 0.23 acres over the D&R Canal. This consists of the new southbound Route 95 exit ramp to northbound Route 29 (i.e., 0.071 acres acres), the new northbound Route 29 ramp to northbound I-95 (0.060 acres), and the widening of I-95 to accommodate the 9 traffic lanes (0.098 acres). Of these 0.23 acres of new Canal spanned, approximately 0.10 acre will be located within the existing highway right-of-way (ROW) and approximately 0.13 acre will be located outside the existing ROW (thereby requiring a Parkland Diversion).

In order to construct the new bridges and maintain them in the future, additional parkland takings will be required at three locations:

- The area north of the southbound I-95 exit ramp to Route 29 (0.116 acres);
- The area between the proposed southbound I-95 exit ramp to Route 29 and the proposed mainline I-95 bridge (0.026 acres); and,
- The area south of the Route 29 northbound entrance ramp to northbound I-95 (0.068).

These parkland takings for construction and future maintenance would total approximately 0.21 acres.

The parkland impacts noted above are primarily aerial crossings of the Canal for the new ramp bridges (i.e., 0.13 acres) as well as an easement for construction and maintenance of the bridges (i.e., 0.21 acres). As such, these impacts, for the most part, will not physically impact the parkland.

The NJDEP Green Acres Program also requires information regarding physical impacts to the parkland. For the I-95/Scudder Falls Bridge project, the physical impacts to the parkland are related to the construction of bridge piers. The project will disturb approximately 0.022 acres of parkland for bridge pier construction. This includes approximately 0.007 acres of new bridge piers construction outside of the existing highway ROW and 0.015 acres of pier construction within the existing ROW. The area where this work is proposed is along the back slope of the D&R Canal immediately adjacent to NJ Route 175 (Upper River Road) and further east of the existing bridge pier. Note that the impact acreage associated with the new bridge pier construction which is outside of the existing ROW (i.e., 0.007 acres) has already been accounted for in the 0.13 acres of impacts to the Canal area spanned outside of the existing ROW.

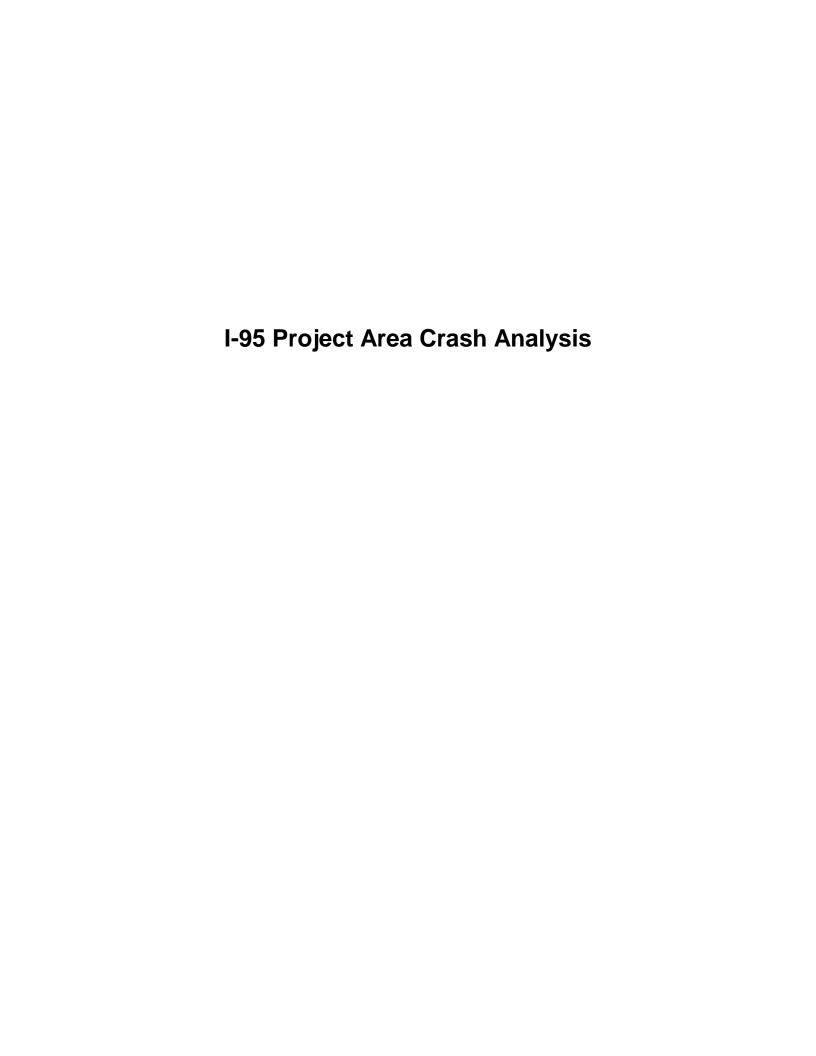
The parkland impacts are summarized in the table below:

#### **Parkland Impacts**

	Bridge Piers	Aerial Crossings	Construction/Maintenance	
I-95 within existing ROW	644 SF	4,250 SF	6,714 SF	
7 33 Within Calsting NOVV	(0.015 acres)	(0.098 acres)	(0.154 acres)	
I-95 outside existing ROW	0.0 acres	0.0 acres	1,137 SF	
1 33 outside Chisting NOV			(0.026 acres)	
I-95 southbound ramp to Route	112 SF	3,107 SF	5,035 SF	
29	(0.003 acres)	(0.071 acres)	(0.116 acres)	
Route 29 access ramp to	184 SF	2,621 SF	2,974 SF	
northbound I-95	(0.004 acres)	(0.060 acres)	(0.068 acres)	
Total Area Requiring Parkland	296 SF	5,728 SF	9,146 SF	
Diversion By Category	(0.007 acres) <sup>1</sup>	(0.131 acres)	(0.210 acres)	
Total Area Requiring Parkland	14,874 SF			
Diversion	(0.341 acres)			

Notes: <sup>1</sup> The Parkland impact associated with the bridge pier is accounted for in the impact acreage associated with the aerial crossing.

The existing bridge over the Canal covers an area of approximately 0.23 acres while the easement that the NJDOT has for the crossing amounts to approximately 0.52 acres. For the proposed project, the DRJTBC requires an easement of approximately 0.861 acres. This easement would include the area associated with the existing easement (i.e., 0.52 acres) as well as 0.341 acres for the two (2) proposed ramps and the bridge construction/maintenance





# Delaware River Joint Toll Bridge Commission I-95/Scudder Falls Bridge Improvement Project Task Order Assignment No.C-502A-2D NJDEP Green Acres Program – Parkland Diversion Application Supplement

#### I-95 Project Area Crash Analysis

Geometric deficiencies on the I-95/Scudder Falls Bridge and closely adjoined interchanges contribute to a crash rate that is higher than adjacent segments of the I-95 mainline. A crash analysis was performed using crash records for I-95 from 1999 to 2001 that were obtained from the Pennsylvania Department of Transportation (PennDOT), the Delaware River Joint Toll Bridge Commission (DRJTBC), and the New Jersey Department of Transportation (NJDOT). The I-95 segments analyzed experienced a total of 314 crashes over the 3-year period from 1999 to 2001, or an average of roughly 105 crashes per year.

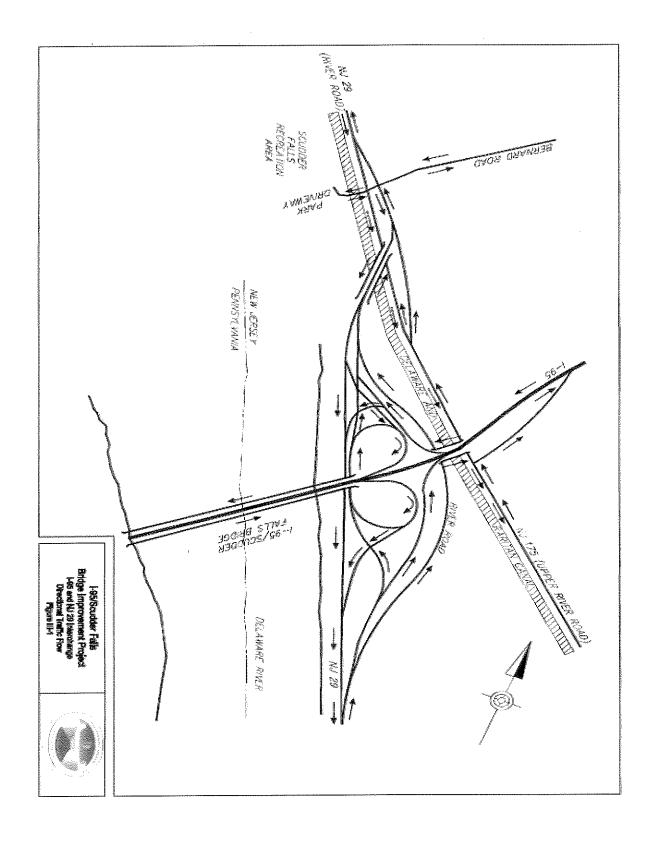
Examination of crash data for this time period for the entire project area indicated that 58% of the crashes occurred at interchanges, and 78% of crashes within the DRJTBC's jurisdiction also occurred at interchanges. The majority of these involved rear-end collisions, which points to the importance of adequate acceleration and deceleration lanes for vehicles that are queuing exiting and entering the interchanges from the mainline.

The majority of crashes at the NJ Route 29 Interchange occurred at the I-95 southbound on-ramp, which also had the highest crash incidence of the locations along the project corridor. From 1999 to 2001, there were an average of 28 crashes per year at the NJ Route 29 Interchange. Over this time period, there were an average of 12 crashes per year at the Taylorsville Road Interchange. The majority of crashes at the Taylorsville Road Interchange occurred at the I-95 northbound on-ramp from Taylorsville Road westbound. The crash data also point to the importance of adequate acceleration lane lengths, with vehicles tending to accelerate prematurely when other vehicles are in front of them. These 1999 to 2001 crash rates for interchanges adjoining the bridge compare to 13 crashes per year at the PA Route 332 Interchange and 8 crashes per year at the Bear Tavern Road Interchange.

The corridor also experienced a number of crashes involving heavy vehicles, including all sizes of trucks and buses (15% of all crashes). Grades on the section of I-95/Scudder Falls Bridge between NJ Route 29 and Taylorsville Road play a major role in the ability of heavy vehicles to accelerate and decelerate as they enter and exit from the I-95 mainline. The lack of adequate acceleration and deceleration lanes at these interchanges can play a role in incidence of crashes for heavy vehicles trying to brake while exiting I-95 or attempting to accelerate into I-95 mainline traffic.

In addition, 45% of crashes occurred during the A.M. and P.M. peak travel periods, or over 6 hours of the day, indicating the correlation between congested traffic conditions and crash incidence. The highest crash rates of four segments evaluated occurred on the I-95/Scudder Falls Bridge (Segment 3), which experienced a rate of 2.19 crashes per million vehicle miles traveled. This compares to rates of 0.63 to 0.78 crashes per million vehicle miles traveled for the western segments extending from the PA Route 332 Interchange to the Dolington Road overpass (Segment 1) and from the Dolington Road overpass to the Taylorsville Road Interchange (Segment 2). The second highest crash rates (1.13 crashes per million vehicle miles) occurred on the eastern segment that includes the NJ Route 29 Interchange and extends east past the Bear Tavern Road Interchange (Segment 4). Higher crash rates on the I-95/Scudder Falls Bridge, compared to the other I-95 segments studied, can be attributed to the narrow bridge configuration, with the lack of inside shoulders and breakdown lanes and the narrow median barrier. These crash rates on the bridge were lower than the New Jersey statewide average crash rate for similar 4-lane bridges (3.76 crashes per million vehicle miles), however, the rates were higher than the Pennsylvania statewide average crash rate (0.47 crashes per million vehicle miles) for similar 4-lane facilities (bridges and roadway segments combined).

Figure III-1 shows the interchange configuration, including directional traffic flow. The speed limit on the mainline of I-95 in the area of this interchange is 65 miles per hour. The speed limit on NJ Route 29, a freeway/expressway, to the north and south of the interchange is 45 miles per hour. NJ Route 29/River Road is an undivided two-lane roadway north of the interchange, and becomes a divided highway with two travel lanes in each direction to the south of I-95. NJ Route 29 provides access to Trenton to the south and to Washington Crossing and Lambertville to the north.

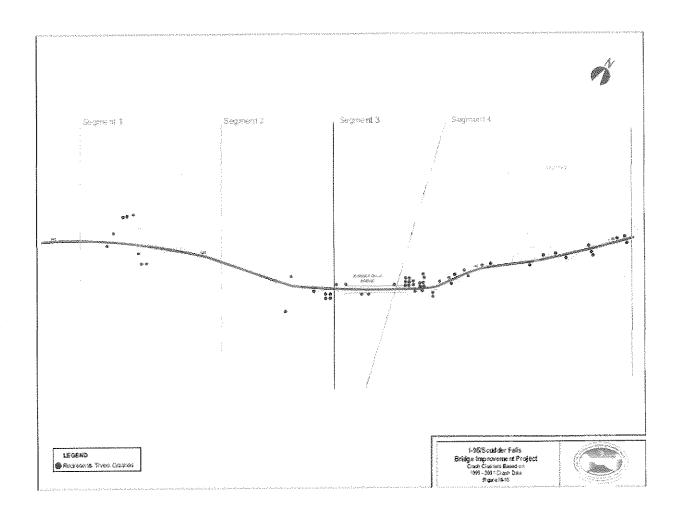


The crash analysis was performed for the entire study area and included mainline I-95 and the four interchanges of PA Route 332, Taylorsville Road, NJ Route 29, and Bear Tavern Road (County Route 579). For the purposes of the crash analysis, I-95 is divided into four segments, as defined below:

- Segment 1 PA Route 332 (Newtown-Yardley Road) to Dolington Road 1.5 miles
- > Segment 2 Dolington Road to the PA abutment of the I-95/Scudder Falls Bridge 1.2 miles
- Segment 3 I-95/Scudder Falls Bridge 0.23 miles
- Segment 4 − I-95/Scudder Falls Bridge NJ Abutment to Bear Tavern Road (County Route 579) − 3.0 Miles

Figure III-10 shows the analysis segments and identified crash clusters. The limits of these segments were based on the jurisdictional limits of the DRJTBC, PennDOT, and NJDOT and allow a comparison of crash data from each state. The crash analysis included the sections of I-95 extending roughly from the northbound off-ramp for PA Route 332 Interchange to 1.5 miles east of Bear Tayern Road.

Figure III-10 Crash Clusters Based on 1999-2001 Crash Data



#### **Results of Crash Analysis**

The following observations for the entire study area, between 1999 and 2001 were made based on the crash analysis:

- A total of 314 crashes were reported.
- Only 1 fatality was reported, within Segment 4.
- Approximately 58% of all the crashes occurred at the interchanges.
- Approximately 15% of all the crashes involved heavy vehicles, including all sizes of trucks and buses.
- 39% of the crashes were rear-end collisions.
- 30% of the crashes were classified as other types of crashes. Since each jurisdiction utilizes this designation in different ways, these crashes may include the following; debris on the roadway, animal encounter (deer), driving into a ditch, or hitting a pothole.
- 11% of the crashes were angled collisions.
- 10% of the crashes were sideswipe collisions.
- 7% of the crashes were fixed object collisions.
- 2% of the crashes were non collision crashes.
- <1% of the crashes involved pedestrians.</p>
- 0% of the crashes were head on collisions.
- Over 85% of crashes that reported injuries yielded either minor or no injuries. This may be due to many of the crashes occurring during high volume and low speed time frames.
- Almost 75% of all crashes occur during clear weather, so weather does not play a major factor in crashes along the study area.
- Over 67% of all the crashes occur on dry surfaces, so precipitation does not play a major factor in crashes along the corridor.
- Almost 60% of all crashes occurred during the daylight hours.
- 45% of all crashes occurred within the A.M. and P.M. peak travel times (6 A.M. to 9 A.M. and 3 P.M. to 6 P.M.), or during 6 hours of the 24 hour day.

The following are observations for the area within the DRJTBC's jurisdiction, between 1999 and 2001, which were made based on the crash analysis:

- A total of 137 crashes were reported in an area the length equivalent of 0.75 miles or approximately 4,000 feet. This equates to 44% of the <u>total</u> study crashes occurring within only 15% of the analyzed roadway length.
- Approximately 78% of all these crashes occurred at the interchanges.
- Approximately 15% of all these crashes involved heavy vehicles, including all sizes of trucks and buses.
- 46% of these crashes were rear-end collisions.

The I-95 segments analyzed experienced a total of 314 crashes over the 3-year period from 1999 to 2001, or an average of roughly 105 crashes per year. From this information, it is shown that a majority of the crashes occur at the interchanges: 58% of crashes within the I-95 corridor and 78% of crashes within the DRJTBC's jurisdiction occurred at interchanges. Most of the crashes at the interchanges can be categorized as rear-end collisions. From this information, it is apparent that interchange geometry, including radii, stopping sight distance, acceleration and deceleration lane lengths, and proper signing are important safety considerations.

For instance, a majority of crashes at the Taylorsville Road Interchange occur on the movement onto I-95 northbound from westbound Taylorsville Road. Due to inadequate acceleration lane length, vehicles had a tendency to accelerate prematurely while other

vehicles were in front of them. This was also seen at the NJ Route 29 Interchange for the movement onto I-95 southbound, which experienced the highest crash incidence of the locations along the project corridor. The NJ Route 29 Interchange accounted for an average of 28 crashes a year from 1999 to 2001, compared to 12 crashes per year at the Taylorsville