SPECIAL PROVISIONS

ROUTE 50, TUCKAHOE RIVER BRIDGE (2E 3B)
FEDERAL PROJECT NO. STP-BR-0005(116)

AUTHORIZATION OF CONTRACT

The Contract is authorized by the provisions of Title 27 of the Revised Statutes of New Jersey and supplements thereto, and Title 23 of the United States Code - Highways.

SPECIFICATIONS TO BE USED

The 2007 Standard Specifications for Road and Bridge Construction, of the New Jersey Department of Transportation as amended herein will govern the construction of this Project and the execution of the Contract.

These Special Provisions consist of the following:

Pages 1 to 12 inclusive.

General wage determinations issued under Davis-Bacon and related acts, published by US Department of Labor, may be obtained from the Web Determinations online web site at http://www.wdol.gov/dba.aspx#0 Select state, county and construction type heading: HIGHWAY where the Project is to be performed then click Search.

Pay the prevailing wage rates determined by the United States Secretary of Labor and the New Jersey Department of Labor. If the prevailing wage rate prescribed for any craft by the United States Secretary of Labor is not the same as the prevailing wage rate prescribed for that craft by the New Jersey Department of Labor, pay the higher rate.
State wage rates may be obtained from the New Jersey Department of Labor & Workforce Development (Telephone: 609-292-2259) or by accessing the Department of Labor & Workforce Development's web site at http://lwd.dol.state.nj.us/labor/wagehour/wagehour_index.html. The State wage rates in effect at the time of award are part of this Contract, pursuant to Chapter 150, Laws of 1963 (NJSA 34:11-56.25, et seq.).

If an employee of the Contractor or subcontractor has been paid a rate of wages less than the prevailing wage, the Department may suspend the Work, and declare the Contractor in default.
The following FHWA funded project Attachments that are located at the end of these Special Provisions:"

1. Required Contract Provisions, Federal-Aid Construction Contracts (Form FHWA-1273).
2. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).
3. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246).
4. State of New Jersey Equal Employment Opportunity for Contracts Funded by FHWA.
5. Disadvantaged Business Enterprise Utilization Attachment, FHWA Funded Contracts

5(A) The Incentive Program, Disadvantaged Business Enterprise Utilization Attachment for FHWA Funded Contracts.

6. Equal Employment Opportunity Special Provisions.
7. Special Contract Provisions for Investigating, Reporting, and Resolving Employment Discrimination and Sexual Harassment Complaints.

DIVISION 100 – GENERAL PROVISIONS

SECTION 101 – GENERAL INFORMATION

101.03 TERMS
THE FOLLOWING TERMS ARE CHANGED.

pavement structure. The combination of pavement, base courses, and when specified, a subbase course, placed on a subgrade to support the traffic load and distribute it to the roadbed (see Figure 101-1). These various courses are defined as follows:

1. **pavement.** One or more layers of specified material of designed thickness at the top of the pavement structure.
2. **base course.** One or more layers of specified material of designed thickness placed on the subgrade or subbase.
3. **subbase.** One or more layers of specified material of designed thickness placed on the subgrade.

101.04 INQUIRIES REGARDING THE PROJECT

1. **Before Award of Contract.**

THE FIRST PARAGRAPH IS CHANGED TO:

Submit inquiries and/or view other questions/answers by following the format prescribed on the project's electronic bidding web page.

THE SECOND PARAGRAPH IS CHANGED TO:

The deadline for submitting inquiries is 12:00 noon, 7 days before the opening of bids.

2. **After Award of Contract.**

South Region
Mr. Emerson E Misner, Regional Construction Engineer
One Executive Suite Route 70 West
Cherry Hill, NJ 08002-4106
Telephone: 856-486-6615

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.02 BIDDER REGISTRATION AND DOWNLOADING OF THE PROPOSAL DOCUMENTS
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Bidder shall not alter or in any way change the software.

102.03 REVISIONS BEFORE SUBMITTING A BID
THE SECOND PARAGRAPH IS CHANGED TO:

The Bidder shall acknowledge all addenda posted through the Department's website. The addenda acknowledgement folder is included in the Department's electronic bidding file. The Department has the right to reject the bid if the Bidder has not acknowledged all addenda posted.

102.04 EXAMINATION OF CONTRACT AND PROJECT LIMITS
THE FOLLOWING IS ADDED AFTER THE SECOND PARAGRAPH:

The structures and the location(s) of lead paint, if any, are listed in the Special Provisions.

The following is a list of structures and the location(s) of lead paint:

Structure #/Location	Lead Paint Location(s)
#0510-152/Route 50 over the Tuckahoe River between Upper Township and Corbin City	**All painted existing steel**

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION:
Route 50 - Replacement of the Tuckahoe River Bridge and Reconstruction of Route 50 MP 6.12-MP 7.50

DRILLER: Steve Kellenbenz

INSPECTOR: Danny Gomez

COUNTY/TOWNSHIP:
Upper Twp, Cape May Co. and Corbin City, Atlantic Co.

DATE STARTED: _____01/07/2010___ DATE COMPLETED: _____01/07/2010_____

CORE NUMBER	1	2	3	4	5
ROUTE	50	50	50	50	50
DIRECTION (N, E, S, W)	N	S	N	S	N
MILE POST (MP or Station)	79+64	84+21	88+78	93+36	97+97
LANE NO. (Left to Right)	1	1		1	1
SHOULDER (Inside or Outside)			Outside		
CORE DIAMETER (Inches)	4	4	4	4	4
TOTAL CORE DEPTH (Inches)	5.25	11.25	6.00	5.75	11.25
CORE DRILLED TO	0"-6": Fn GVL (SE) w/ SD (SE)	0"-6": SD w/ Fn GVL & Silt	0"-6": Fn GVL (SE) w/ SD (SE)	0"-3.75": Stabilized Base 3.75"-27.75": Fn GVL & SD w/ Silt	0"-6": SD w/ Fn GVL & Silt 6"-18": Fn GVL & SD w/ Silt
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	AC
AC THICKNESS (Inches)	5.25	3.25	6.00	5.75	3.75
PC THICKNESS (Inches)		8.00			7.50

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was obtained for State design and estimate purposes. It is made available to the authorized users only that they may have access to the same information available to the State. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION:
Route 50 - Replacement of the Tuckahoe River Bridge and Reconstruction of Route 50 MP 6.12-MP 7.50

DRILLER: Steve Kellenbenz

INSPECTOR: Danny Gomez

COUNTY/TOWNSHIP:
Upper Twp, Cape May Co. and Corbin City, Atlantic Co.

DATE STARTED: _____01/07/2010___ DATE COMPLETED: _____01/07/2010_____

CORE NUMBER	6	7	8	9	10
ROUTE	50	50	50	50	50
DIRECTION (N, E, S, W)	S	N	S	N	S
MILE POST (MP or Station)	102+58	107+60	111+82	116+43	121+04
LANE NO. (Left to Right)		1	1		1
SHOULDER (Inside or Outside)	Outside			Outside	
CORE DIAMETER (Inches)	4	4	4	4	4
TOTAL CORE DEPTH (Inches)	3.75	10.50	2.00	4.50	3.25
CORE DRILLED TO	0"-6": Fn GVL (SE) w/ SD (SE) 6"-12": Fn GVL (SE) w/ SD (SE) & Silt 12"-24": Fn	0"-6": SD w/ Fn GVL, Silt & Clay	PCC	0"-3": Stabilized Base 3"-27": Fn GVL & SD w/ Silt	PCC
SURFACE TYPE (AC/PC)	AC	AC	AC	AC	AC
AC THICKNESS (Inches)	3.75	1.75	2.00	4.50	3.25
PC THICKNESS (Inches)		8.75	Unknown		Unknown

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was obtained for State design and estimate purposes. It is made available to the authorized users only that they may have access to the same information available to the State. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PAVEMENT CORE RECORD

PROJECT/ROUTE & SECTION:
Route 50 - Replacement of the Tuckahoe River Bridge and Reconstruction of Route 50 MP 6.12-MP 7.50

DRILLER: Steve Kellenbenz

INSPECTOR: Danny Gomez

COUNTY/TOWNSHIP:
Upper Twp, Cape May Co. and Corbin City, Atlantic Co.

DATE STARTED: _____01/07/2010___ DATE COMPLETED: _____01/07/2010_____

CORE NUMBER	11	12			
ROUTE	50	50			
DIRECTION (N, E, S, W)	N	S			
MILE POST (MP or Station)	121+04	130+87			
LANE NO. (Left to Right)					
SHOULDER (Inside or Outside)	Outside	Outside			
CORE DIAMETER (Inches)	4	4			
TOTAL CORE DEPTH (Inches)	5.25	11.50			
CORE DRILLED TO	0"-24": Fn GVL & SD w/ Silt	0"-24": Fn GVL (SE) & SD w/ Silt			
SURFACE TYPE (AC/PC)	AC	AC			
AC THICKNESS (Inches)	5.25	11.50			
PC THICKNESS (Inches)					

* Lane 1 is the left lane in the direction of travel.

The pavement information shown herein was obtained for State design and estimate purposes. It is made available to the authorized users only that they may have access to the same information available to the State. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

3. Existing Plans and As-Builts.

Existing Plans and As-builts used are as follows:

a. General Drawing, Sheet No. 1, dated 7/1/1925 microfilm # 0510001 010152
b. Stress Sheet, Sheet No. 2, dated 7/1/1925 microfilm #0510002 010152
c. Masonry Plan, Sheet No. 3, dated 7/1/1925 microfilm #0510003 010152
d. Moving Leaf, Sheet No. 4, dated 7/1/1925 microfilm #0510004 010152
e. Trunnion Posts and Counterweight, Sheet 5 of 17, 7/1/1925, microfilm # 0510005 010152
f. Trunnion, Pins & Bearings, Sheet 6, 7/1/1925, microfilm # 0510006 010152
g. Operating Machinery and End Lock, Sheet 7, 7/1/1925, microfilm # 0510007 010152
h. Bearings, Sheet 8, 7/1/1925, microfilm # 0510008 010152
i. Gasoline Engine Enclosure, Sheet 9, 7/1/1925, microfilm # 0510009 010152
j. Layout, Sheet 10, 7/1/1925, microfilm # 0510010 010152
k. General Location Plan, Sheet 11 of 17, 11/12/1925 microfilm 0510011 017152
l. Cross Sections, Sheet 12 of 17, 11/25/1925, 11/12/1925 microfilm # 0510012 017152
m. Abutment Plan and Details, Sheet 13 of 17, microfilm # 0510013 017152
n. Plan of Rest and Bascule Piers, Sheet 14 of 17, microfilm # 0510014 017152
o. Approach Spans, Sheet 15 of 17, 11/12/1925 , microfilm # 0510015 017152
p. Structural Steel, Sheet 16 of 17, 11/12/1925, microfilm # 0510016 017152
q. Safety Gates, Sheet 17 of 17, 11/25/1925, microfilm # 0510017 017152
r. Bascule Span Redecking Sheet No. 1, Sheet No. 11 of 13, dated 7/21/1961, microfilm # B0510011 013152
s. Bascule Span Redecking Sheet No. 2, Sheet No. 12 of 13, dated 7/21/1961, microfilm # B0510012 013152
t. Removal of Existing Deck, Sheet No. 13 of 13, dated 7/21/1961, microfilm # B0510013 013152

102.10 SUBMISSION OF BIDS

THE FOLLOWING IS ADDED TO THE LIST INCLUDED IN THE SECOND PARAGRAPH:

8. On the Disclosure of Investment Activities in Iran (Form DC-16) provided by the Department, certify pursuant to N.J.S.A. 52:32-58, that neither the bidder, nor one of its parents, subsidiaries, and/or affiliates (as defined in N.J.S.A. 52:32-56(e)(3)), is listed on the Department of the Treasury's List of Persons or Entities Engaging in Prohibited Investment Activities in Iran and that neither is involved in any of the investment activities set forth in N.J.S.A. 52:32-56(f). If the bidder is unable to so certify, the bidder shall provide a detailed and precise description of such activities to the Department.

SECTION 104 – SCOPE OF WORK

104.03.03 Types of Changes

3. Changes in the Character of Work.

a. Differing Site Condition.

THE SECOND PARAGRAPH IS CHANGED TO:

The Department will make payment for increased costs resulting from a Type 1 or Type 2 Differing Site Condition as a change in the character of work; however, the Department will not consider making payment for a differing site condition unless the resulting change in cost exceeds $7,500. Except, if the Contractor incurs cost as the result of multiple differing site conditions, with the cost of each separate differing site condition having a value of at least $1,500 but not more than $7,500, the Department will consider making payment for such costs if the aggregate cost of the multiple differing site conditions exceeds $7,500. If the change in cost exceeds these amounts, the Department will base the modification on the total cost of the change, and the Department will not deduct the threshold amount of $7,500 from the cost of the change.

104.03.04 Contractual Notice
THE SECOND PARAGRAPH IS CHANGED TO:

Immediately provide written notice to the RE of a circumstance that is believed to be a change to the Contract. If notice is not provided on Contractual Notice (Form DC-161), include the following in the initial written notice:

1. A statement that this is a notice of a change.
2. The date when the circumstances believed to be a change were discovered.
3. A detailed and specific statement describing the nature and circumstances of the change.
4. If the change will or could affect costs to the Department.
5. If the change will or could affect Contract Time as specified in 108.11.01.C.

In addition to the hard copy of the notice, email the notice to the RE. It is not necessary to attach listed documents to the email.

104.03.08 Force Account

7. Equipment.

a. Contractor-Owned Equipment.
PART 1 IS CHANGED TO:

1 The Department will calculate the "rental" hourly rates by dividing the monthly rate by 176. The Department will not use weekly, daily, or hourly rates. The Department will apply rental hourly rates for every hour the equipment is in active use, except that for any 30-day period, the Department will limit the total amount paid for each piece of equipment to a maximum of the monthly rate.

THE FOLLOWING PART IS ADDED:

6. The Department will make payment for costs for transporting equipment to and from the work site, if said costs are solely required as a direct result of the Force Account activity.

THE SECOND PARAGRAPH IS CHANGED TO:

The payment established is full payment for all equipment costs, including the cost of fuel, repairs, maintenance, depreciation, storage and incidentals.

10. Subcontractors.
THE SECOND PARAGRAPH IS CHANGED TO:

The Department will make payment for markup on subcontracted work at the rate of 5 percent applied on the total amount of all costs for subcontracted force account work up to $500,000 and 2% applied on the total amount of all costs for subcontracted force account work over $500,000.

104.03.09 Delay Damages

1. Non-Productive Activity.

e. Equipment.
THE FIRST SENTENCE IS CHANGED TO:

If as the result of the delay, equipment cannot be used for any active work, and is directed by the RE to remain on the work site during the delay, the Department will make payment as specified in 104.03.08.7.a.5.

SECTION 105 – CONTROL OF WORK

105.01 AUTHORITY OF THE DEPARTMENT

105.01.01 RE
THE FOLLOWING IS ADDED AFTER THE LAST PARAGRAPH:

The RE should request a representative from Bureau of Maintenance Engineering & Operations to inspect the constructed underground MTD before it is covered and provide a set of "as-built" drawing and inspection and maintenance procedure manuals of the MTDs to the bureau of Maintenance Engineering & Operations.

105.02 RESPONSIBILITIES OF THE CONTRACT
THE FOLLOWING IS ADDED AFTER THE FIRST SENTENCE:

The Contractor shall provide the inspection and maintenance plans of the MTDs to the RE.

105.05 WORKING DRAWINGS
THE SECOND PARAGRAPH IS CHANGED TO:

Ensure that working drawing submissions also conform to the Department design manuals and other Department standards for the proposed work. Ensure that working drawings are signed and sealed by a Professional Engineer. After Award, the Department will provide additional formatting information, the number of copies required, and the address of the receiving designated design unit.

THE FOLLOWING ITEMS ARE ADDED INTO TABLE 105.05-1, UNDER THE “APPROVED” COLUMN:

Salvage of Operator’s House

105.07.01 Working in the Vicinity of Utilities

THE FOLLOWING ARE ADDED:

A. Initial Notice.

Comcast
901 West Leeds Av.
Absecon, NJ 08201
Robert Mayeux 609-677-7332
bob_mayeux@cable.comcast.com
Jim Parkinson 856-694-6018

Atlantic City Electric
420 Route 9 North
Cape May Court House, NJ 08210
Kem Pastakia 609-463-3839
kem.pastakia@atlanticelectric.com
Robert V. Wolcott 609-463-3816
robert.v.wolcott@atlanticcityelectric.com

South Jersey Gas Co.
1 South Jersey Plaza
Folsom, NJ 08037
Joe Schneider 609-561-9000 x4279
Chirag Palkhiwala 609-561-9000 x4359
cpalkhiwala@sjindustries.com

Verizon

10 Tansboro Rd
Berlin, NJ 08009
Thomas Reber Phone:856-753-0795
Fax: 888-474-5055
thomas.j.reber@verizon.com

B. Locating Existing Facilities.

2.

Bureau of Traffic Operations, South Region (TOCS)
1 Executive Campus-Route 70 West
Cherry Hill, NJ 08002-4106
Telephone: 856-486-6650

3.

Bureau of Electrical Maintenance, South Region
One Executive Campus Route 70 West
Cherry Hill, NJ 08002-4106
Telephone: 856-486-6627

FOR WEIGH IN MOTION AND TRAFFIC VOLUME SYSTEMS CONTACT:

Bureau of Transportation Data Development
PO Box 600
Trenton, NJ 08625
609-530-3522

C. Protection of Utilities.

THE SECOND PARAGRAPH IS CHANGED TO:

Protect and support existing Department electrical and ITS facilities and ensure that there is no interruption of service. Use hand tools only while working within two feet of the fiber optic network. At least 30 days before beginning the work, submit a plan to the RE for approval showing the method of support and protection.

F. South Jersey Gas 20" Gas Main

1. South Jersey Gas Company (SJG) has a 20" transmission gas main crossing Tuckahoe River and this is the critical gas main providing natural gas to the entirety Cape May County. Protective measures are warranted during construction and removal of temporary bridge to avoid any impact on this 20" high pressure transmission gas main.

2. During construction temporary shut downs of the 20" gas main on the order of a few hours during critical construction operations will be allowed. Temporary shut downs of the 20" gas main during the construction will require, at a minimum, that the following conditions are met :

a. The temporary 12" gas main is already in service
b. SJG has an inspector on site.

3. Perform all work in compliance with the following constraints:

a. Maintain 10 foot horizontal clearance from outside of 20" transmission gas main and any temporary or permanent sheeting, or pilings.
b All piles will be jetted to elevations specified in contract drawings, before driving. Where jetting elevations are not specified, use an elevation of 10 feet below the gas main. See sections 501, 502 ,511 and 514 for additional requirements.
b. No driving of sheeting or pilings or any excavation shall occur until after SJG has installed, tested, tied in and energized a sufficient temporary 12" transmission pipeline across the Tuckahoe River and the existing 20" gas main has been inspected by the gas company.
c. Concurrent to the shop drawing review by the NJDOT's engineer, provide 2 copies of all shop drawing (signed and sealed), schedule, calculations, catalog cuts etc. related to the construction, demolition and removal of the temporary and permanent bridge, temporary MSE Walls to South Jersey Industries at 1 South Jersey Plaza, Folsom, New Jersey 08037 marked for the attention of Mr. Chirag Palkiwala. SJG will issue any comments or take no exception to these submissions and forward such information to the NJDOT's Engineer within 40 calendar days of receipt. Any modifications or re-submittals will follow a similar procedure except that those marked as amend and return shall be reviewed and returned by SJG within 10 calendar days of receipt.
d. RE will provide the exact location and depth of all the piles, sheeting and any other structure installed within 20 feet of the 20" transmission gas main.
e. After temporary bridge is in service, SJG will require a minimum 8 weeks advance notice to abandon 12" temporary gas main on existing bridge and 4 weeks to shut down and test the 20" gas main.
f. Provide 4 weeks advance notice to SJG before beginning any work close to 20" gas main.
g. Provide access for SJG to temporary bridge construction site at any time.
h. SJG requires 20 working days to install, test and tie-in 12' temporary gas main at the bridge.

4. Protect temporary gas main and provide and install material related to protection of temporary gas main per section 514.03.01.

5. Before completion of contract, supply to SJG the location of all piles, sheeting and any other structures installed due to temporary and permanent bridge.

105.07.02 Work Performed by Utilities

Company Name & Address	Contact Person	Number of Day/s Advance Notice
Verizon – NJ INC. 10 Tansboro Rd Berlin, NJ 08009	Thomas Reber Phone:856-753-0795 Fax: 888-474-5055 thomas.j.reber@verizon.com	56 Days
Comcast Cable Communication Management , LLC. 901 West Leeds Av.	Robert Mayeux 609-677-7332 bob_mayeux@cable.comcast.com Jim Parkinson 856-694-6018	30 Days

Absecon, NJ 08201		
Atlantic City Electric 420 Route 9 North Cape May Court House, NJ 08210	Kem Pastakia 609-463-3839 kem.pastakia@atlanticelectric.com Robert V. Wolcott 609-463-3816 robert.v.wolcott@atlanticcityelectric.com	15 Days
South Jersey Gas Company 1 South Jersey Plaza Folsom, NJ 08037	Joe Schneider 609-561-9000 x4279 Chirag Palkhiwala 609-561-9000 x4359 cpalkhiwala@sjindustries.com	98 Days

Pre-Stage #1

Utility Company Name	Work Description	Work Duration (Day/s)	Restrictions
South Jersey Gas Co.	Install temporary 12" gas main on the existing bridge 1. a) Install 757' of 12" underground Gas main necessary to complete the connection on either side of 200' of temporary Gas Main (item "c" below) to the existing 20" Gas Main. b) Install 2 Gas valves c) Install 200 ft of 12" wrapped steel Gas Main on existing bridge. d) Install 12" selected fill on both sides and bottom of temporary gas pipe e) Provide temporary 6" DGA and 6" Stab Base f) Close both valves on the temporary 12" pipe g) Purge 12" gas Main h) Insert smart pig into the 20" Gas Main to inspect prior to construction of Temporary Bridge. i) Cut 12" wrapped steel Gas Main and install 4 (four) weld end caps at each end	20	(see General Notes for other restrictions associated with work in the vicinity of the 20" gas main)
	Stage Total	20	

Stage #1

Utility Company Name	Work Description	Work Duration (Day/s)	Restrictions
Verizon	Install temporary pole for BT2105 at Sta. 121+14±, 42.25' LT and a temporary pole for BT210-10 at Sta. 127+47±, 44.97' LT. After temporary bridge removal, permanent pole locations to be Sta. 121+05±, 24.32' LT and Sta. 124+25±, 22.68' LT respectively.	7	

	New (2) 200, 300 pair aerial cables to temporary pole #BT2105 and again later to permanent pole location, guying required. New 100, 200, 300 pair aerial cables to temporary pole #BT210-10 and again later to permanent pole location, guying required.	
Atlantic City Electric	Transfer aerial 120/240V service cables to temporary Pole #BT210-10 relocated by others, and transfer again later to permanent pole location.	1
Comcast	Transfer 288 count Fiber cables and 0.750 MM coaxial cable between the poles temporarily relocated by others**,** and transfer again later to permanent pole location.	1
	Stage Total	9_____

Stage #2

Utility Company Name	Work Description	Work Duration (Day/s)	Restrictions
Verizon	Relocate the following poles with their original appurtenances: Pole #2172 Sta. 107+47±, 22.58' LT Pole #NO NUMBER Sta. 108+53±, 22.60' LT Pole #08857-2189 Sta. 111+28±, 22.21' LT Pole #08856 Sta. 112+32±, 22.38' LT Pole #08855 Sta. 113+17±, 27.74' LT Pole #2167-S Sta. 114+45±, 24.36' LT Pole #BT2105G (See item 6) Pole #BT-8, Sta. 124+11±, 19.65' RT to be removed Pole #BT-9 Sta. 125+90±, 24.32' LT d) Replace 600 pair and 48 fiber aerial cables between pole #ACE03496 and pole #ACE03489 through pole #ACE03494, pole #ACE03493, pole #015200, pole #ACE03491, and pole #ACE03490 relocated by others. e) Transfer 600 pair and 48 fiber aerial cables between pole #ACE03482 and pole #ACE03479 through pole #ACE03481 and pole #ACE03480 relocated by others. Transfer underground cable to Fire Station at pole #03480. Move proposed pole from Sta. 100+41 to 100+44 to enable transfer. f) Transfer 72 fiber aerial cables between pole #ACE03479 and pole #ACE03476 through pole #ACE03478 and pole #ACE03477 relocated by others. Relocate conduit at pole #03478 k) Replace 900 pair aerial cables between newly relocated pole #BT2173 and pole #08858 through all newly relocated pole #BT2172, pole #BT2171, pole #BT2170, pole #BT2169, pole #08856, pole #08855, pole #BT2167S	35	

	o) New (2) 200 pair aerial cables between pole #08835 and the newly relocated pole #BT2105 p) New 300 pair aerial cables between the newly relocated pole #BT2105 and pole #ACE03345 relocated by others q) New (2) 200, 300 pair aerial cables between newly relocated pole #BT2105 and pole #9 through pole #6, pole #ACE09991 relocated by others		
	a) Transfer 288 count Fiber cables and 0.750 MM coaxial cable between the relocated southbound poles by others Reconnect all related service connections Relocate TV cables		
Comcast		3	
	Insert Smartpig and Inspect the 20" gas main. Re-pressurize the existing gas main and disconnect the temporary 12"gas main on the existing bridge.		
		20	(see General Notes for other timing restrictions associated with work in the vicinity of the 20" gas main)
	Reroute 2" PP Gas Main to clear for 24" RCP at Sta. 113+88±, 20.61' RT. Reroute 8" Gas Main to clear for 18" RCP at Sta. 114+66±, 13.00' RT and for 15" RCP at Sta. 117+00±, 13.00' RT and for 33" RCP at Sta. 121+22±, 17.00' RT and for 15" RCP at Mt Pleasant Rd. Sta. 19+29±, 8.00' RT. Reroute service lines to clear for 15" RCP at Sta. 85+13±, 21.10' RT., for 30" RCP at Sta. 118+35±, 19.00' RT and at Sta. 118+77±, 19.00' RT, for 33" RCP at Sta. 119+70±, 19.00' RT. Reroute 16" Gas Main to clear for 18" RCP at Sta. 106+28±, 20.00' RT. Reset Gas valves at Sta. 121+17, 17.31' RT. and at Sta. 121+22, 20.42' RT.		
South Jersey Gas Co.		20	
	Relocate the following poles with their original appurtenances, except lighting: a) Pole #ACE03495 Sta. 82+20±, 25.43' LT Pole #ACE03494 Sta. 83+60±, 29.41' LT Pole #ACE03493 Sta. 84+91±, 31.99' LT Pole #015200 Sta. 86+04±, 32.22' LT Pole #ACE03491 Sta. 87+46±, 32.90' LT Pole #ACE03490 Sta. 88+28±, 28.98' LT		
Atlantic City Electric	Pole #ACE03481 Sta. 98+90±, 22.78' LT	53	

	Pole #ACE03480 Sta. 100+41±, 22.21' LT Pole #ACE03478 Sta. 102+94±, 22.44' LT Pole #ACE03477 Sta. 104+23±, 22.61' LT Pole #ACE03476 Sta. to be removed Pole #ACE03456 Sta. 106+70±, 21.88' LT Pole #09991 Sta. 124+08±, 24.95' LT d) Transfer aerial 3-Wire secondary and 120/240V service cables between pole #ACE03494 and pole #W25677 through pole #08876/BT-2191 relocated by others h) Transfer aerial 3-Wire secondary and 120/240V service cables between newly relocated pole #ACE03490 and pole #08874 i) Transfer aerial 3 phase primary 7.2KV to ground, 3-Wire secondary and 120/240V service cables between pole #ACE03482 and newly relocated pole #ACE03477 through pole #ACE03481, pole #ACE03480, pole #ACE03479, and pole #ACE03478, as pole #ACE03476 will be removed. j) Transfer aerial 3-Wire secondary and 120/240V service cables between newly relocated pole #ACE03477 and pole # ACE03456 through pole #W50733 relocated and upgraded to 45' class 2 pole by others, and through pole #08862, as pole #ACE03476 is eliminated. k) Transfer aerial 3-Wire secondary and 120/240V service cables between newly relocated pole #ACE03456 and pole # ACE03455 Transfer aerial 120/240V service cables to temporary Pole #BT210-10 relocated by others, and transfer again later to permanent pole location.		
	Stage Total	131	

Stage #3

Utility Company Name	Work Description	Work Duration (Day/s)	Restrictions
Verizon	Relocate the following poles with their original appurtenances: a) Pole #BT2-2195 Sta. 78+63±, 27.14' RT Pole #2193 Sta. 81+07±, 28.58' RT Pole #2191-03876 Sta. 83+81±, 24.82' RT Pole #08875-21902 Sta. 84+89±, 24.97' RT Pole #W49654 Sta. 86+50±, 24.75' RT Pole #2188W16436 Sta. 87+48±, 23.79' RT Pole #2187-08874 Sta. 88+50±, 23.58' RT Pole #BT2178 Sta. 99+50±, 22.58' RT Pole #BT2175-08864 Sta. 103+40±, 22.29' RT Pole #BT2174W50733 Sta. 104+96±, 22.63' RT Pole #BT2173 Sta. 106+28±, 22.13' RT Pole #NO NUMBER, Sta. 106+28±, 20.78' RT to be removed	58	

	b) Transfer 50 pair aerial cables between pole #ACE03498 and the newly relocated pole #BT2-2195 c) Transfer 1200 pair aerial cables between pole #ACE03496 and the newly relocated pole #BT2-2193 g) Transfer 100 pair aerial cables between pole #ACE03476 relocated by others and the newly relocated pole #BT2174 h) Transfer 300 and 900 pair, 24, 60 and 72 fiber aerial cables between all newly relocated pole #BT2175 and pole #BT2173 through pole #BT2174. Relocate ducts to new pole #2175 i) Transfer 200 pair, 24 and 72 fiber aerial cables between newly relocated pole #BT2173 and pole #03457 j) Transfer 50 pair aerial cables between newly relocated pole #BT2173 and pole #C5220 l) Transfer 50 pair aerial cables between the newly relocated pole #BT2172 and pole #ACE03455 relocated by others. Relocate conduits/cable to new pole #03455 location (approx. 5') m) Transfer 300 pair and 60 fiber aerial cables between newly relocated pole # BT2173 and pole #03345 through pole #ACE03455, pole #ACE03454, pole #ACE03453, pole #ACE03452, pole #ACE03451, pole #ACE03350, pole #ACE06050, pole #ACE0349, pole #ACE03348, pole #ACE03347, pole #ACE03346 all relocated by others **Note:** Coordination required during transfer between ACE, Verizon and NJDOT Contractor for Traffic Signal Mast Arm conflict at pole #06050 n) Transfer 60 fiber aerial cables between pole #ACE03345 and pole #ACE03338, through pole #ACE03342, pole #ACE03341, pole #ACE03340, pole #ACE03339, some of those poles to be relocated by others. r) New 100, 200, 300 pair aerial cables between newly relocated pole #9 and pole #BT210-10 At Sta. 91+58±, 16.45' RT, lower ducts and cables to accommodate 15" RCP drainage pipe, test pit contingent. Reconnect all service connections between newly relocated poles and poles relocated by others on the southbound side of Route 50. Reset manhole	
Comcast	a) Transfer 288 count Fiber cables and 0.750 MM coaxial cable between the relocated northbound poles by others	3

	Reconnect all related service connections Relocate TV cables	
	Reroute 2" PP Gas Main to clear for inlet and 15" RCP at Sta. 19+29±, 13.00' LT.	
South Jersey Gas Co.	Reset Gas valves at Sta. 80+89, 14.39' LT.	23
Atlantic City Electric	Relocate the following poles with their original appurtenances, except lighting: **a)** Remove Pole #No Number Sta. 125+90±, 18.69' RT. Pole #ACE03455 Sta. 107+34±, 22.57' RT Pole #ACE03454 Sta. 108+83±, 23.72' RT Pole #ACE03453 Sta. 109+85±, 24.16' RT Pole #ACE03452 Sta. 111+36±, 24.73' RT Pole #ACE03451 Sta. 112+30±, 24.77' RT Pole #ACE03350 Sta. 113+28±, 24.80' RT Pole #ACE06050 Sta. 113+68±, 24.53' RT Pole #ACE03349 Sta. 114+92±, 23.21' RT Pole #03345 Sta. 121+02±, 22.64' RT Pole #NO NUMBER Sta. 125+90±, removed Pole #03340 Sta. 126+03±, 31.15' RT a) Transfer aerial 1 phase primary 7.2KV to ground, 3-Wire secondary and 120/240V service cables between pole #03498 and pole #06087 through pole #08578 or pole #BT2-2195 newly relocated by others b) Transfer aerial 1 phase primary 7.2KV to ground, 3-Wire secondary and 120/240V service cables between pole #03496 and pole #05808 through pole #08878/BT-2193 newly relocated by others c) Transfer aerial 3 phase primary 7.2KV to ground, 3-Wire secondary and 120/240V service cables between pole #03496 and pole #ACE03493 newly relocated through pole #ACE03495 and pole #ACE03494 newly relocated e) Transfer aerial 3-Wire secondary and 120/240V service cables between newly relocated pole #ACE03493 and pole #08875/BT-21902 relocated by others f) Transfer aerial 3 phase primary 7.2KV to ground cables between newly relocated pole #ACE03493 and pole #ACE03489 through pole #W15200, pole #ACE03491 and pole #ACE03490 all newly relocated g) Transfer aerial 3-Wire secondary and 120/240V service cables between newly relocated pole #ACE03491 and pole #W34343 through pole #W16436 and pole #W49654 relocated by others l) See relocation scheme under (j) as pole #ACE03476 is scheduled for removal. m) Transfer aerial 3 phase primary 7.2KV to ground, 3-Wire secondary and 120/240V service cables between pole #ACE03455 and pole #ACE03338	87

	through pole #ACE03454, pole #ACE03453, pole #ACE03452, pole #ACE03451, pole #ACE03450, pole #06050, pole #ACE03349, pole #ACE03348, pole #ACE03347, pole #W60528, pole #ACE03345, pole #ACE03342, pole #ACE03341, pole #ACE03340 and pole #ACE03339 some already relocated as scheduled n) Transfer aerial 3 phase primary 7.2KV to ground, 3-Wire secondary and 120/240V service cables between newly relocated pole #ACE03350 and pole #ACE03351 o) Transfer aerial 120/240V service cables from newly relocated poles as listed in item 1 above and from relocated poles by others Between Kendall Lane and Tuckahoe River Bridge north abutment, install new decorative lighting as per layout from drawings LT-01, LT-02 and LT-03. Remove and dispose of the existing cobra head lighting units within the decorative lighting system limits.		
	Stage Total	171_____	

General Notes

Utility Company Name	Work Description	Work Duration (Day/s)	Restrictions
South Jersey Gas Co.	1. Protective measures are warranted during construction and removal of temporary bridge to avoid any impact on this 20" high pressure transmission gas main. 2.The 20" gas main can be shut down when the 12" temporary gas main is in service and only between March 15 to November 15 of the current construction year. The duration of the shutdown will be determined during the time of construction. During this shut down gas at 250 psig pressure will still be present in the main so that SJG can determine if there is any problem with the gas main due to construction activity. An SJG inspector is required on site at all times during this shut down. 3. No driving of sheeting or pilings or any excavation shall occur nearby determined location of the 20" transmission pipeline until after the SJG has installed, tested, tied in and energized a sufficient temporary 12" (12.75" O.D.) transmission pipeline across the Tuckahoe River and inspected the 20" main. 4. The contractor shall provide 5.5 ft. wide area to install approximately 200 ft. of 12" temporary gas main on the bridge and the contractor is to provide minimum 45" tall temporary jersey barriers and install temporary sheeting to support and protect 12" temporary gas main from any type of construction activity and traffic on the existing bridge. These barriers and sheeting shall be removed by the contractor after 12" temporary gas main is out of service.		

5. The exact location and depth of 20" transmission gas main across Tuckahoe River will be identified and laid out by the contractor in the field as per information provided by Starttrak Pigging Technologies.
6. A minimum of 10 ft. horizontal clearance from outside of 20" transmission gas main must be maintained from any of temporary or permanent sheeting, pile or structure.
7. Concurrent to the shop drawing review by the NJDOT's engineer, the Contractor will provide 2 copies of all shop drawing (signed and sealed), schedule, calculations, catalog cuts etc. related to the construction, demolition and removal of the temporary and permanent bridge, temporary MSE Walls to South Jersey Industries at 1 South Jersey Plaza, Folsom, New Jersey 08037 marked for the attention of Mr. Chirag Palkiwala.

South Jersey Industries (Gas) will issue any comments or take no exception to these submissions and forward such information to the NJDOT's Engineer within 40 calendar days of receipt. Any modifications or re-submittals will follow a similar procedure except that those marked as amend and return shall be reviewed and returned by South Jersey Industries (Gas) within 10 calendar days of receipt.
This will ensure that you are aware of all proposed work and allow the contractor to know exactly what they need to submit and the schedule for approvals.
8. The contractor is to provide the exact location and depth of all the piles, sheeting and any other structure installed within 20ft. of this 20" transmission gas main. Exact location of temporary and permanent bridge structural elements shall also be provided.
9. After temporary bridge is in service, SJG require minimum 8 weeks advance notice (additional 4 weeks to complete the work) to abandon 12" temporary gas main on existing bridge. This time will allow SJG to shut down 20" gas main while 12" temporary gas main is in service and to insert smart pig and perform the pressure test and find out any issues with 20" transmission gas main.
10. Provide temporary 6" DGA and 6" Stab Base
11. South Jersey Gas Company requires minimum of 14 weeks of advance notice to procure material and to mobilize its contractor and inspector on site for any gas main relocation work.
12. The contractor shall provide minimum 4 –weeks of advance notice before the beginning of any work close to 20" transmission gas main.

13. At all time, SJG engineer or inspector shall have access to temporary bridge construction site.

14. All design and construction work associated with the gas main shall be performed by South Jersey Gas Company and its contractor.

15. All existing gas facilities to be replaced shall be "In-Kind" equivalency.

16. A minimum of 36" cover for distribution gas main and 48" cover for 16" and 20" gas main are required between the top of new gas main to proposed finish

grade.

17. A minimum of 1.5 ft. horizontal and vertical clearance shall be provided between the permanent gas main and other structure / utilities.

18. NJDOT and its contractor shall provide sufficient time to finish all the work mention in Utility Agreement Plan that will be performed by SJG and its contractor.

19. NJDOT contractor shall remove any of the abandon gas facilities from the ground that is in his way.

105.08 ENVIRONMENTAL PROTECTION

3. **Navigable Waters**

THE FOLLOWING IS ADDED:

U.S. COAST GUARD - GENERAL CONSTRUCTION REQUIREMENTS

1. The Coast Guard shall be notified 30 days prior to the actual commencement and completion of any bridge work so that appropriate announcements may be prepared for our Local Notice to Mariners publication. This applies but is not limited to:

   a. Placement of any barges upstream of the existing Route 50 Bascule Bridge;

   b. Placement of a 12" Gas Pipeline by SJG on the bascule span preventing the span to be opened in accordance with 33 CFR 117.757.;

   c. Construction of the temporary Route 50 highway bypass bridge and subsequent opening same to highway traffic;

   d. Commence of demolition activities of the existing Route 50 Bascule Bridge including installation of each separate cofferdams ensuring a minimum of 25' horizontal clearance is provided at all times.

   e. Completion of demolition and commencement of construction of new bridge.

   f. Opening of new bridge to traffic and commencement of removal of temporary bypass highway bridge.

   g. Completion of temporary bridge removal and restoration of wetlands

2. **All waterway closures, channel restrictions, and vertical clearance reductions must be requested in writing, 60 days in advance, from the Fifth Coast Guard District Bridge Branch Office**. No substitution of bridges, closure times, or any extension of closures may be made without written approval from this office.

3. All submissions to the Coast Guard for review and approval must first be approved by the owner of the bridge or their authorized agent. All submission of plans, scope of work, and schedules of operation must be sent to the Fifth Coast Guard District, Bridge Branch Office.

a. Recommended Point of Contact:
Mr. Waverly Gregory
Bridge Program Manager, Fifth Coast Guard District
Federal Building
431 Crawford Street
Portsmouth, VA 23704-5004
Attn: Mr. James L. Rousseau Phone – (757) 398-6557

4. A two copies of the contractor's construction plans, emergency heavy weather plan (high winds), schedule, and sequence of operations, preferably in time line graphic format, including daily hours of operation, all anticipated bridge or channel closures, location of work barges during working and non-working hours, must be submitted to Coast Guard Bridge Administration Office for approval. All bridge construction/repair requests must be submitted at least 30 days prior to commencement of any work. A drawing/plan of the entire project area must be included in all submissions requesting construction approval depicting the following: (1) the waterway and existing/proposed permanent and temporary bridges. (2) The location of work barges, anchor lines during the various phases of the project. (3) A detailed drawing of scaffolding/netting indicating the location during working hours and off-hours. All vertical clearance reductions below low steel or concrete under the bridge as a result of the use of scaffolding must be clearly detailed and measured in feet. One copy of the plan and schedule of operations, approved by the Coast Guard, will be returned to you with CG approval stamp and comments as appropriate.

5. Any and all revisions and updates shall be forwarded to the Coast Guard highlighting changes and significant items affecting the waterway, bridge operations, channel restrictions or closures, and/or winter shutdowns and 30 days in advance of seasonal startups. There is no guarantee that the desired waterway closure dates requested will be approved. Mariners needs are taken into account by the Coast Guard in making its decision to approve or disapprove a request or revised dates.

6. Emergency 24 hour telephone numbers for all responsible individuals for this project must be submitted to the resident and the Coast Guard before any phase of construction begins. Any changes in personnel or telephone numbers shall be immediately forwarded to the Coast Guard Bridge Administration Office.

7. All barges placed in the waterway must be lighted with constant burning white lights on all four corners of the barge. The contractor is required to comply with all provisions of the Navigation Rules International-Inland**,** regarding the use of work barges or floating equipment in the waterway. Copies are available from the U.S. Government Bookstore, **To order in person,** visit the GPO Bookstore at 710 North Capitol Street N.W., Washington, DC (corner of North Capitol and H Streets) from 8:00 a.m.- 4:30 p.m. EST. **To order online,** visit the U.S. Government Online Bookstore at **http://bookstore.gpo.gov. To order by phone or inquire about an order,** call toll-free 866.512.1800 or, in the Washington, D.C. metro area, call 202.512.1800 from 7:00 a.m.- 9:00 p.m. EST. **By fax,** dial 202.512.2104.

8. A complete description of all vessels, barges, and marine equipment shall be provided to the Engineer and the Coast Guard. Identification of the owner/operator of said vessels and equipment shall be clearly displayed on the equipment along with a 24-hour emergency contact number. This is in case the barge is stolen, damaged, or observed to possibly be sinking or adrift.

9. Placement of construction barges in the navigable channel shall be done so as to provide a minimum horizontal clearance reduction. The existing bascule bridge provides 30 foot horizontal clearance, the contractor shall provide at a least 25 foot horizontal clearance with safe unobstructed approaches through the temporary bypass highway bridge and the existing bascule bridge until demolished. This may require the placement of lighted channel markers/buoys to assist the recreational boater. Barges must be moved out of the navigable channel during darkness, or after working hours unless approved in writing by the Coast Guard at least 30 days in advance. Barges held in place by anchor lines must be marked by anchor buoys which preferably should be lighted. Spud barges may be used out SJG ROW or within the SJG ROW if SJG approval is obtained per 105.07.01 Addition.

10. A Coast Guard Permit Standard Condition 1 states – No deviation from approved plans may be made either before or after completion of the structure unless the modification of said plan has been submitted to and received the written approval of the Coast Guard.

11. Changes that decrease the horizontal or vertical clearances are not authorized as part of this construction project without Coast Guard approval. The final "as-built" clearances shall be verified and certified in writing and submitted to the Coast Guard after approval and acceptance by the resident engineer. The survey shall be taken upon completion of Route 50 fixed bridge and approved by a professional engineer or land surveyor verifying the bridge clearances with the clearance tied into NOAA Tuckahoe River Benchmarks

12. VHF-FM marine radios set to the bridge communication channels 16/13 or the designated channel for the bridge must be maintained at the project site monitored by the supervisor in charge during boating season. Additional marine radios monitoring the above channels must also be maintained at the main control of any floating equipment or barges on station.

13. Positive means shall be taken to prevent any hot work, debris or construction material from entering the waterway. This includes sandblasting material, paint and any concrete work by products. If welding or burning is to take place, some type of flameproof material shall be the uppermost protective containment material. All welding and burning shall cease upon approach of a vessel and shall not start again until the vessel is past the bridge. An observer or observers shall be stationed so as to have unimpeded view of both upstream and downstream access to the waterway area thereby assuring that all workmen can be alerted of a vessel's approach by appropriate, mechanical means, such as an air horn.

14. Permanent and temporary navigational lights are required to be installed in accordance with Part 118 of Title 33, Code of Federal Regulations. Permanent navigational lighting shall be operational upon completion of bridge construction. For future reference, you may obtain a copy of our Bridge Lighting Manual on the Internet by: 1) Accessing www.uscg.mil 2) Click "Units" 3) Click "USCG Headquarters Units" 4) Click "USCG Headquarters Organization" 5) Under Operations (CG-3) and under Waterways Management Directorate CG-3PWB), select, "Office of Bridge Administration (CG-3PWB)" 6) Click "Bridge Lighting Manual."

15. If permanent bridge navigational lighting cannot be maintained operational during any phase of this project, temporary battery/power lights must be installed at the same locations. These temporary lights must be visible for a distance of 2,000 yards on 90% of the nights of the year. Generally, a lamp of 20 foot candles will meet these requirements. Deviations from the approved temporary lighting shall be permitted only upon written authorization from this office.

16. During the periods of construction each pier, abutment or other obstruction may be required to be lighted for the safety of navigation. The Coast Guard Bridge Office shall be contacted via the Engineer during construction plan development for a determination of any additional temporary lighting needs.

17. Bridge protective fenders shall not be constructed or rebuilt with any metal surfaces on the rubbing face of the fender system. All bolts, spikes, or other metal fastening devices must be countersunk. Metal splicing plates, if used, shall be mounted on back of outer wales. Any cofferdams used or required shall have the steel faces and ends facing the channel or which vessels could come in contact shall be protected by timber or UHMW sheeting until removed.

18. Note Special Conditions of the Permit will require that clearance gauges be installed to advise mariners of the available vertical clearance. This requirement applies to both the permanent and the temporary bridge while in place.

19. NJDOT is responsible to ensure that the channel depths are affected by the Contactors work, therefore prior to commencement of work and upon completion of the job, the contractor shall submit to the Coast Guard after approval by the Engineer before and after soundings of the waterway on a 10 foot grid for 100 feet above the location of the temporary highway bypass bridge and 100 feet below the out limits of the existing and/or new

bridge whichever is greater. Each submission shall be submitted within 45 days of the surveys and be related to MLLW.

20. As shown on the permit drawings, the existing fender system, wing ways, bascule and rest piers as well as their support piles are required to be removed in their entirety. All piles ,including those previously damaged or broken, shall be extracted using vibratory or jetting for extraction rather than grabbing and breaking the piles. Since the actual length of each pile is not known the Contractor shall maintain detailed records regarding the length and condition of the piles removed to demonstrate and certify to the Coast Guard that piles and structure in the channel have been completely removed. Upon completion of all work, a bottom sweep is required to determine if any piles or debris are present in the waterway. A wire-drag sweep and side-scan sonar survey with subsurface penetration is the preferred method.

21. During the progress of work should any debris or equipment enter the waterway or may become a hazard to navigation, immediate notice shall be given to the Coast Guard and the object removed as soon as possible. Until removal can be effected, the obstruction shall be properly marked. Such notification shall give the location and type of obstruction and the navigational markings installed. Upon request of the Coast Guard or Corps of Engineers, the bridge owner/contractor shall provide the necessary equipment and personnel to determine the presence of any suspected obstructions in the waterway.

22. Spillage of oil and hazardous substances is specifically prohibited by **Section 311 of the Clean Water Pollution Act**, as amended. Approved spill containment equipment and absorbent material must be located at the project site in the event of a spill into the waterway or the shoreline. The Coast Guard must be notified immediately at 800-424-8802.

23. Two sets of Black and white, 8 ½" x 11", glossy photographs of the completed bridge, taken from the mariner's perspective both up and downstream of the bridge, are to be submitted to the Coast Guard for record purposes.

24. Upon project completion, the permittee or a registered professional engineer shall certify that the waterway depths have not been impaired and that the waterway is clear of materials or debris resulting from bridge demolition and construction.

25. Should archaeological resources be encountered during construction operations, the work shall cease and the Coast Guard and the State Historic Preservation Office shall be consulted for possible recovery of those resources

26. The Coast Guard approval may be revoked and/or civil or criminal penalties imposed for failure to ensure that the above listed stipulations are adhered to or if work is determined to hazard or impair navigation. Reimburse owner for any fines levied against it by the Coast Guard.

27. Should the permittee/Engineer fail to ensure that the contractor complies with these requirements and should the Federal Government be required to take action for the protection of navigation, the Government reserves the right to recover the cost for such work from the permittee, the contractor, or both, as applicable. Reimburse owner for any fines or costs levied against it by the Coast Guard

The Government assumes no responsibility for any damages sustained or caused by the contractor's equipment or barges being anchored or moored at the aforementioned location. Also, the Coast Guard approvals shall not act as a waiver of liability for any damage that may result from the applicant's operations.

SECTION 106 – CONTROL OF MATERIAL

106.03 FOREIGN MATERIALS
THE FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH:

For steel and iron products incorporated into the Project, provide a certification from the manufacturer stating the country where the steel or iron product was melted and manufactured including application of coatings which protect or enhance the value of the material. Ensure that 4 copies of the manufacturer's certification are provided with each delivery of steel and iron products. Retain 1 copy and submit 3 copies to the RE. Ensure that the certification includes, materials description, quantity of material represented by the certification, country of manufacture, and notarized signature of a person having legal authority to bind the supplier. If a Certification of Compliance as specified in 106.07 contains a statement regarding the country of manufacture, a separate certification is not necessary.

106.04 MATERIALS QUESTIONNAIRE
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

For ITS systems as specified in Section 704, obtain approval of system working drawings including individual components and Electrical material instead of submitting a materials questionnaire.

SECTION 107 – LEGAL RELATIONS

107.04 NEW JERSEY CONTRACTUAL LIABILITY ACT
THE FOURTH PARAGRAPH IS CHANGED TO:

For purposes of determining the date of "completion of the contract" pursuant to N.J.S.A. 59:13-5, "completion of the contract" occurs on the date that the Contractor provides written notice to the Department of Acceptance or conditional Acceptance of the Proposed Final Certificate or the 30th day after the Department issues the Proposed Final Certificate, whichever event occurs first.

107.09 INDEPENDENT CONTRACTOR
THE ENTIRE SUBSECTION IS CHANGED TO:

The relationship of the Contractor to the State is that of an independent contractor. Conduct business consistent with such status. Do not hold out or claim to be an officer or employee of the Department by reason hereof. Do not make a claim, demand, or application to or for the rights or privileges applicable to an officer or employee of the Department, including, but not limited to, Workers Compensation Insurance, unemployment insurance benefits, social security coverage, or retirement membership or credit.

107.12.01 Satisfying the Notice Requirements
THE FOLLOWING IS ADDED TO THE SECOND PARAGRAPH:

Upon request, provide the RE with 3 copies of all documentation submitted in support of the claim.

107.12.02 Steps

3. Step III, Claims Committee.
THE SECOND PARAGRAPH IS CHANGED TO:

The Claims Committee will not review a claim or combination of claims valued less than $250,000 until after the receipt of conditional release as specified in 109.11. If the Contract is 75 percent complete or greater as measured by Contract Time or Total Adjusted Contract Price, the Claims Committee will not review a claim or combination of claims valued more than $250,000 until after receipt of conditional release as specified in 109.11. If the Claims Committee does not review a claim or combination of claims before Completion, the Claims Committee will review the claim or combination of claims at a single session of the Claims Committee after the receipt of the conditional release as specified in 109.11 and all claims have been reviewed at Steps I and II of the Claims Resolution Process. When reviewing a combination of claims, the Claims Committee will not review any individual claim valued less than $20,000.

THE FOLLOWING SUBSECTION IS ADDED

107.17 COMMUNICATION WITH THE NEWS MEDIA

Do not communicate with the news media or issue a news release without obtaining a prior written approval from the Department.

SECTION 108 – PROSECUTION AND COMPLETION

108.01 SUBCONTRACTING

1. Values and Quantities.

THE FOLLOWING IS ADDED TO FIRST PARAGRAPH

1.

Specialty Items are as listed below:

Above ground highway lighting items.

Above and below bridge deck lighting items.

Electrical wire items.

THE THIRD PARAGRAPH IS CHANGED TO:

If a partial quantity of work for a unit price Item is subcontracted, the Department will determine the value of the work subcontracted by multiplying the price of the Item by the quantity of units to be performed by the subcontractor.

THE FOURTH PARAGRAPH IS CHANGED TO:

If only a portion of work of an Item is subcontracted, the Department will determine the value of work subcontracted based on the value of the work subcontracted as indicated in the subcontract agreement and as shown in a breakdown of cost submitted by the Contractor.

108.02 COMMENCEMENT OF WORK

THE SUBPART 4 IN THE FIRST PARAGRAPH IS CHANGED TO:

4. Progress schedule as specified in 153.03

108.06 NIGHT OPERATIONS

2. Visibility Requirements for Workers and Equipment.

THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that workers wear a 360° high-visibility retroreflective safety garment meeting ANSI/ISEA Class 3, Level 2 standards.

108.08 LANE OCCUPANCY CHARGES

THE SECOND PARAGRAPH IS CHANGED TO:

The RE will keep record of each occurrence as well as the cumulative amount of time that a lane is kept closed beyond the lane closure schedule and provide the record to the Contractor. The Department will calculate the lane occupancy charge by multiplying the length of time of the delayed opening, in minutes, by the rate of $10 per minute per lane, unless otherwise specified in the Special Provisions. The total amount per day for the lane occupancy charge that the Department will collect will not exceed $10,000.00.

108.09 MAINTENANCE WITHIN THE PROJECT LIMITS
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

6. Access to ITS devices and their respective controllers and meter cabinets is maintained throughout the duration of the project.

108.10 CONTRACT TIME

A. Complete all work required for the intersection of Rt 49 and Weatherby Road including final paving and striping on or before 17 September, 2013.

B. Complete all work required for Substantial Completion on or before 8 February, 2016

C. Achieve Completion on or before 3 May, 2016.

108.11.01 Extensions to Contract Time

B. Types of Delays.

1. Non-Excusable Delays.
THE FOLLOWING IS ADDED:

For work performed by Utilities, delays up to 30 percent of the estimated duration specified in 105.07.02 are considered non-excusable. The duration includes both the advance notice and the completion of the work by the Utility.

For delays caused by Railroads, delays up to 30 percent of the estimated availability specified in 105.07 are considered non-excusable.

2. Excusable, Non-Compensable Delays.

b. Utilities.

THE LAST PARAGRAPH IS CHANGED TO :

If approved excusable, non-compensable delays exceed a total of 90 days, the time in excess of 90 days will become excusable and compensable as specified in 108.11.01.B.3.

108.12 RIGHT-OF-WAY RESTRICTIONS

The Department has not obtained the following Right-of-Way parcels; the anticipated availability dates are provided:

Properties and Vacation/Availability Dates

Parcel No	Approximate Baseline Station	Offset/Direction	Date
TBD – RIPARIAN MITIGATION PARCEL. TUCKAHOE UNITED METHODIST CHURCH	13+00 NJ Route 49	330 FT Left	JUNE 2014

108.14 DEFAULT AND TERMINATION OF CONTRACTOR'S RIGHT TO PROCEED

THE FOLLOWING IS ADDED AFTER THE 2ND PARAGRAPH:

If the Department directs the Surety to complete the Contract, and the Surety elects to use a completion-contractor to perform the Work, the Surety must promptly submit to the Department a request for approval of the proposed completion-contractor as a subcontractor as per Section 108.01. The Department has the right to reject a request by the Surety to use the Contractor as the completion-contractor, either directly or under the direction of a consultant to the Surety. In addition, the Department has the right to reject a request by the Surety to contract with employees of the Contractor, directly or under the direction of a consultant to the Surety, to complete the Contract. The Department's right to reject contained in this paragraph is based on the sole discretion of the Department.

108.19 COMPLETION AND ACCEPTANCE
THE FOLLOWING IS ADDED:

No Incentive Payment for Early Completion is specified for this project.

108.20 LIQUIDATED DAMAGES

Liquidated damages are as follows:

A. For each day that the Contractor fails to complete the work as specified in Subpart A of Subsection 108.10 of these Special Provisions, for Interim Completion, the Department will assess liquidated damages in the amount of $1,800.

B. For each day that the Contractor fails to complete the work as specified in Subpart B of Subsection 108.10 of these Special Provisions, for Substantial Completion, the Department will assess liquidated damages in the amount of $4,400.

C. For each day that the Contractor fails to achieve Completion as in Subpart C of Subsection 108.10 of these Special Provisions, the Department will assess liquidated damages in the amount of $1,300.

THE FOLLOWING IS ADDED:

When the Contractor may be subjected to more than one rate of liquidated damages established in this Section, the Department will assess liquidated damages at the higher rate.

SECTION 109 – MEASUREMENT AND PAYMENT

109.01 MEASUREMENT OF QUANTITIES
THE SECOND PARAGRAPH IS CHANGED TO:

The Department will designate Items as Measured Items or as Proposal Items by having a suffix of M or P in the Item number respectively. The Department will measure quantities of Measured Items for payment.

109.02 SCOPE OF PAYMENT
THE THIRD SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will not make additional or separate payment for work or portion of work unless specifically provided for in the "Measurement and Payment" Subsection.

109.05 ESTIMATES
THE SECOND PARAGRAPH IS CHANGED TO:

The RE will provide a summary of the Estimate to the Contractor. Before the issuance of each payment, certify, on forms provided by the Department, that:

1. Each subcontractor or supplier has been paid the amount due from the previous progress payment and shall be paid the amount due from the current progress payment and that full payment for any retainage withheld from a subcontractor has been or will be made within 30 days after the subcontractor's work has been satisfactorily completed; or

2. There exists a valid basis under the terms of the subcontractor's or supplier's contract to withhold payment from the subcontractor or supplier, and therefore payment is withheld.

THE TENTH PARAGRAPH IS CHANGED TO:

The RE has the right to not process an Estimate when, in the judgment of the RE, the Work is not performed or proceeding as specified in the Contract or following the Department giving the Contractor and Surety notice of default as specified in 108.14.

109.07 BONDS POSTED IN LIEU OF RETAINAGES
THE FIRST PARAGRAPH IS CHANGED TO:

The Contractor may deposit negotiable bonds of the State or any of its political subdivisions, which have been approved by the Department, in an escrow account to secure release of all or a portion of the retainage withheld as specified in 109.05. Establish the account under the provisions of an escrow agreement to be entered into between the Contractor, the Department, and a bank located in the State that is an authorized depository with a trust department. Pay the charges of the bank for services rendered according to the terms and conditions of the escrow agreement.

109.09 AUDITS
THE FOLLOWING IS ADDED:

Pursuant to N.J.S.A. 52:15C-14(d), relevant records of private vendors or other persons entering into contracts with the Department are subject to audit or review by the New Jersey Office of the State Comptroller. Therefore, the Contractor shall maintain all documentation related to products, transactions or services under the Contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request.

DIVISION 150 – CONTRACT REQUIREMENTS

SECTION 151 – PERFORMANCE BOND AND PAYMENT BOND

151.03.01 Performance Bond and Payment Bond
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Submit the broker's fees, the certified rate schedule, paid invoices and the report of execution for the bond to the RE.

151.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM'S PAY UNIT IS REVISED TO:

Item	*Pay Unit*
PERFORMANCE BOND AND PAYMENT BOND	DOLLAR

SECTION 152 – INSURANCE

152.03.01 Owner's and Contractor's Protective Liability Insurance

A. Policy Requirements.
THE FOURTH SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that policies are underwritten by companies with a current A.M. Best rating of A- with a Financial Size Category of VII or better.

B. Types

3. Owner's and Contractor's Protective Liability Insurance.
THE ENTIRE TEXT IS CHANGED TO:

Procure a separate Owner's and Contractor's Protective Liability Insurance Policy with a minimum limit of liability in the amount of $4,000,000 per occurrence as a combined single limit for bodily injury and property damage. Ensure the policy is endorsed to include Severability of Interest/Separation of Insureds clause. Ensure the policy names the State, its officers, employees, and agents as additional insured. Provide documentation from the insurance company that indicates the cost of the Owner's and Contractor's Protective Liability Insurance Policy.

Ensure the policy is endorsed to include per project aggregate.

6. Marine Liability Insurance.
THE ENTIRE TEXT IS CHANGED TO:

If construction operations require marine operations, procure Marine Liability Insurance with a minimum limit of liability in the amount of $2,000,000 per occurrence. Ensure the policy is endorsed to include:

1. Personal injury.
2. Contractual liability.
3. Waiver of Subrogation for all claims and suits, including recovery of any applicable deductibles.
4. Per project aggregate.

Ensure the policy names the State, its officers, employees, and agents as additional insured.

152.03.02 Railroad Protective Liability Insurance
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:
Ensure the policy is endorsed to include per project aggregate.

152.03.03 Pollution Liability Insurance
SUBPART 9 IS ADDED TO THE THIRD PARAGRAPH:

9. Per project aggregate.

152.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEMS' PAY UNITS ARE REVISED TO:

Item	*Pay Unit*
OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE	DOLLAR
POLLUTION LIABILITY INSURANCE	DOLLAR

THE LAST PARAGRAPH IS CHANGED TO:

The Department will make initial payment for OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE, , and POLLUTION LIABILITY INSURANCE at the lesser of the bid amount, or actual costs as documented from paid invoices. If the Bid amount is greater than the amount indicated on the documented paid invoices, the Department will make payment for any remainder, up to the Bid amount, with the final monthly Estimate.

SECTION 153 – PROGRESS SCHEDULE

153.03.01 CPM PROGRESS SCHEDULE
THE THIRD PARAGRAPH IS CHANGED TO:

The Contractor may propose alternate staging. Ensure that proposed alternate staging does not interfere with work done by Others without written concurrence from the affected Others. The Department may reject the proposed alternate staging if it causes an increase to the cost of work done by Others. The Contractor is responsible for the cost of changes or additional work required as a result of completing the work according to the proposed alternate staging.

1. Preliminary Schedule Submission.
THE SECOND PARAGRAPH IS CHANGED TO:

The RE may require 3 color paper copies of the preliminary schedule, Gantt Chart, as specified in 153.03.02.2.e, and a network diagram (PERT) printed on 36 × 22-inch plans detailing the activity relationships.

2. Baseline Schedule Submission.
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The RE may require the Contractor to submit 3 color paper copies of the baseline schedule.

THE SECOND PARAGRAPH PART 3 IS CHANGED TO:

3. The RE may require 3 color paper copies of the tabular reports, as specified in 153.03.02.2, and a printed network diagram (PERT) on 36 × 22-inch sheets detailing the activity relationships.

153.03.02 CPM Progress Schedule Updates
THE LAST PARAGRAPH IS CHANGED TO:

If the project falls behind schedule for nonexcusable delays, so that the schedule indicates that the Work will not be completed by the Completion date, as specified in 108.10, take the necessary steps to improve progress. Under such circumstances, the RE may direct the Contractor to increase the number of shifts, begin overtime operations, work extra days including weekends and holidays, and supplement its construction plant. Furthermore, the RE may require the Contractor to submit for approval a recovery schedule showing how the Contractor proposes to meet the directed acceleration.

2. Tabular Reports.
THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The RE may require 3 color paper copies of the longest path sort, total float sort, responsibility sort, area sort, and Gantt chart.

153.03.03 Bar Chart Progress Schedule and Updates

A. Schedule.

THE THIRD SENTENCE OF THE THIRD PARAGRAPH IS CHANGED TO:

Provide 3 color paper copies of a bar chart progress schedule or similar type that is acceptable to the RE for approval as follows:

THE FOLLOWING IS ADDED:

If the project falls behind schedule for nonexcusable delays, so that the schedule indicates that the Work will not be completed by the Completion date, as specified in 108.10, take the necessary steps to improve progress. Under such circumstances, the RE may direct the Contractor to increase the number of shifts, begin overtime operations, work extra days including weekends and holidays, and supplement its construction plant. Furthermore, the RE may require the Contractor to submit for approval a recovery schedule showing how the Contractor proposes to meet the directed acceleration.

153.04 MEASUREMENT AND PAYMENT

THE THIRD PARAGRAPH IS CHANGED TO:

If the Contractor's CPM Progress Schedule update is not approved by the date of the progress meeting for the following update, the Department will assess liquidated damages to recover the Department's increased administrative costs. The Department will assess damages for each delinquent update as follows:

SECTION 155 – CONSTRUCTION FIELD OFFICE

155.03.01 Field Office

4. Communication Equipment.

a. Telephones. Provide _3__ cordless phones with auto-switching.

c. Cell Phones. Provide _3___ cellular phones. Ensure the cellular phone plan provides for unlimited mobile to mobile in-network usage, unlimited push-to-talk/ walkie-talkie usage and an anticipated monthly usage of 900 any-time minutes for each phone. Ensure the phones are on the same plan. Ensure the cellular phone plan has a home rate with no roaming charges within the state. Ensure each cellular phone has the following features:

1. Push to Talk / Walkie-Talkie capable
2. Camera with 1 megapixel picture capability
3. Battery life capable of 180 minutes of continuous use and 72 hours of standby use
4. Equipped with a hands-free headset
5. Base charger and car charger

d. Computer System. Provide a computer system meeting the following requirements:

_3__ computer configurations each meeting the following:

1. Processor having a clock speed of _3.5__ GHz or faster, _4__ GB RAM, _512__ MB Video RAM, _200__ Gigabyte hard drive designated as drive C, one DVD (+/-) Writer Drive, one CD-R Recordable Drive. Ensure the system is USB 2.0 compatible and has at least two front USB ports Include Keyboard, optical mouse and 2 piece desktop speakers.
2. Wired Router with appropriate number of ports and cables and a print server. Ensure there is at least one wired Ethernet switch.

3. High-speed broad band connection and service with a minimum speed of _3__ Megabits per second (mbps) with dynamic IP address for the duration of the project.
4. 19 inch or larger Flat Screen LCD monitor with tilt/swivel capabilities.
5. _250__ Gigabyte or larger external drive with backup software for MS-Windows, and fifteen corresponding formatted data cartridges corresponding to the tape drive size.
6. _1__ Flatbed USB version 2.0 or greater Color Scanner with automatic document feed.
7. Uninterruptible power supply (UPS).
8. Surge protector for the entire computer configuration to be used in conjunction with the UPS.
9. Computer workstation, chair, printer stand, and/or table having both appropriate surface and chair height.
10. One can of compressed air and screen cleaning solution every other month of the duration of the contract.

If more than one computer configuration is specified, provide one network interface card for the base computer configuration and hardwire connections between computer configurations as directed by the RE.

Also provide:
__15_ USB _16__ GB Flash/Jump memory drives
_100__ CD-R __700_ MB (or larger) recordable CD's compatible with the CD drive and _100__ recordable DVD's.
__4_ CD/DVD Holder (each holds 50)

1_ color laser printers and supplies as follows:

1. Minimum of 192 Megabytes of expanded memory, printer cable, and legal size paper tray.
2. One set of printer ink cartridges every other month for the duration of the construction project for each printer.

Software as follows:

1. Microsoft Windows, latest version with future upgrades for the duration of the entire project.
2. Microsoft Office Professional, latest version.
3. Norton's System Works for Windows, latest version, or compatible software package with future upgrades and latest virus patches.
4. Anti-Virus software, latest version with monthly updates for the duration of the contract.
5. Visio Professional Graphics Software for Windows, latest version
6. Primavera Project Management, latest version
7. Adobe Acrobat Professional, latest version, or compatible software for Scanner

THE THIRD PARAGRAPH IS CHANGED TO:

When the computer system is no longer required by the RE, the Department will remove and destroy the hard drive, and return the computer system to the Contractor. The Department will retain other data storage media.

6. Office Equipment

PART (1) IS CHANGED TO:

1. A copier with automatic document feed, 15 pages per minute copy speed, variable reduce/enlarge capability, and letter, legal, and ledger size capabilities. Erase the copier hard drive before removing the copier from the field office and provide the RE with a certification stating that the copier hard drive has been erased.
2. __1_ digital camera(s). Ensure each digital camera has auto-focus, with rechargeable batteries and charger, _256_ MB memory card, USB Memory Card Reader compatible with camera and field office computer, 1.5 inch LCD monitor, __5_ mega pixel resolution, _10_ X optical zoom lens, built in flash, image stabilization, computer connections, and a carrying case

3. __1_ video camcorder(s). Ensure each video camcorder is a mini DVD camcorder with _10__ optical zoom, 2" LCD monitor, USB 2.0 compatible and includes USB 2.0 connections.

7. Inspection Equipment.

1. _1__ Calculators with trigonometric capability
2. _1__ Date/ Received stamp and ink pad
3. _1__ Electronic Smart level, 4 foot
4. __1__Electronic Smart level, 2 foot
5. _3__ Carpenter rulers
6. _1__ Steel tape, 100 feet
7. _1__ Cloth tape, 100 feet
8. _1__ Illuminated measuring wheel
9. _1__ Plumb bob and cord
10. _1__ Line level and cord
11. _1__ Surface thermometer
12. _1__ Concrete thermometer
13. _1__ Digital infrared asphalt thermometer
14. _1__ Direct Tension Indicator (DTI) Feeler Gage, 0.005 inch
15. _1__ Sledge hammer, 8lb
16. _1__ Self leveling laser level with range of 100 feet and an accuracy of ¼ inch per 100 feet
17. _3__ Hard hats - orange, reflectorized hard hats according to ANSI Z89.1
18. _3__ Safety garments – orange, reflectorized, 360º high visibility safety garments according to ANSI/ISEA Class 3, Level 2 standards. To be replaced yearly for the duration of the contract.
19. _3__ Sets of rain gear with reflective sheeting
20. _3__ Sets of hearing protection with a NRR rating of 22 dB
21. _3__ Sets of eye protection according to ANSI Z87.1
22. _2__ Sets of fall arrest equipment according to ANSII Z359.1 standards consisting of a full body
23. _1__ Light meter - capable of measuring the level of luminance in foot-candles
24. _3__ Lantern flashlight, 6V with monthly battery replacements
25. 0 Digital Psychrometer
26. 1 Chain Drag according to ASTM D4580-86
27. 1 Testing equipment and apparatus conforming to AASHTO T23, T119, T152
28. 3 Hard Bound Daily Diaries, 5-1/2” X 8” minimum with one day per page. To be provided yearly for the duration of the contract.
29. 500 Legal size hanging folders
30. 500 Legal size manila file folders – three tab
31. 1_ **Means of marine transportation, capable of transporting at least four passengers at a time.** Provide a boat and licensed operator for the exclusive use of the Engineer and his representatives for inspection and survey purposes throughout the life of the contract. Provide a boat that is a minimum of 15 ft in length and powered by a minimum 70 horsepower engine. The boat must be in compliance with the U.S. Coast Guard's Boating Safety Division, as well as all Federal and State laws and regulations. Equip the boat with all applicable safety features and all required Coast Guard safety equipment (including but not limited to life jackets, fire extinguishers, running lights, throwable flotation devices, etc.). Provide a boat that complies with all applicable OSHA regulations. Keep the boat seaworthy and in first class operating condition and ready for use at all times. In the event the boat becomes inoperable, provide a comparable replacement boat satisfying all contract requirements. Provide a licensed boat operator to be responsible for the operation of the boat. Be responsible for any damage that may be caused to the boat, for maintaining the boat and accessories in good repair and operating condition, for providing all necessary fuel, safety equipment and other supplies and parts, and for paying any permits, licenses, insurance premiums or fees that may be required in connection with the operation of the boat for the entire period that the boat is required under this contract. No separate payment will be made for any and all costs incurred by the Contractor in providing the boat and accessories as described, including payment for rental cost and insurance that may be necessary, and allowances

for depreciation. All costs associated with the boat are included in the item Field Office Maintenance.

155.03.03 Telephone Service
THE CONTENT OF THIS SUBSECTION IS DELETED

155.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM IS DELETED:

Item	*Pay Unit*
TELEPHONE SERVICE	LUMP SUM

THE THIRD PARAGRAPH IS DELETED.

SECTION 156 – MATERIALS FIELD LABORATORY AND CURING FACILITY

156.03 PROCEDURE

156.03.01 MATERIALS FIELD LABORATORY

Communication Equipment.

c. Cell Phones. Provide __3__ cellular phones. Ensure the cellular phone plan provides for unlimited mobile to mobile in-network usage, unlimited push-to-talk/ walkie-talkie usage and an anticipated monthly usage of 900 any-time minutes for each phone. Ensure the phones are on the same plan. Ensure the cellular phone plan has a home rate with no roaming charges within the state. Ensure each cellular phone has the following features:

1. Push to Talk / Walkie-Talkie capable
2. Camera with 1 megapixel picture capability
3. Battery life capable of 180 minutes of continuous use and 72 hours of standby use
4. Equipped with a hands-free headset
5. Base charger and car charger

d. Computer System. Provide a computer system meeting the following requirements:

_3__ computer configurations each meeting the following:

1. Processor having a clock speed of _3.5__ GHz or faster, _4__ GB RAM, __512_ MB Video RAM, __200_ Gigabyte hard drive designated as drive C, one DVD (+/-) Writer Drive, one CD-R Recordable Drive. Ensure the system is USB 2.0 compatible and has at least two front USB ports.
2. Wired Router with appropriate number of ports and cables and a print server. Ensure there is at least one wired Ethernet switch.
3. High-speed broad band connection and service with a minimum speed of _3_ Megabytes per second (mbps) with dynamic IP address for the duration of the project.
4. 19 inch or larger Flat Screen LCD monitor with tilt/swivel capabilities.
5. _250__ Gigabyte or larger external drive with backup software for MS-Windows, and fifteen corresponding formatted data cartridges corresponding to the tape drive size.
6. __1_ Flatbed USB version 2.0 Color Scanner with automatic document feed.
7. Uninterruptible power supply (UPS).
8. Surge protector for the entire computer configuration to be used in conjunction with the UPS.
9. ___Ccomputer workstations, chair, printer stand, and/or table having both appropriate surface and chair height.
10. One can of compressed air and screen cleaning solution every other month of the duration of the contract.

If more than one computer configuration is specified, provide one wireless network card for the base computer configuration and hardwire connections between computer configurations as directed by the RE.

Also provide:
_3__ USB _8__ GB Flash/Jump memory drives
_50__ CD-R _700__ MB (or larger) recordable CD's compatible with the CD drive.
_1__ CD/DVD Holder (each holds 50)

_1__ color laser printers and supplies as follows:

1. Minimum of 192 Megabytes of expanded memory, printer cable, and legal size paper tray.
2. One set of printer ink cartridges every other month for the duration of the construction project for each printer.

Software as follows:

1. Microsoft Windows, latest version with future upgrades for the duration of the entire project.
2. Microsoft Office Professional, latest version.
3. Norton's System Works for Windows, latest version, or compatible software package with future upgrades and latest virus patches.
4. Anti-Virus software, latest version with monthly updates for the duration of the contract.
5. Visio Professional Graphics Software for Windows, latest version
6. Adobe Acrobat Professional, latest version, or compatible software for Scanner

THE THIRD PARAGRAPH IS CHANGED TO:

When the computer system is no longer required by the ME, the Department will remove and destroy the hard drive, and return the computer system to the Contractor. The Department will retain other data storage media.

PART (1) IS CHANGED TO:

1. A copier with automatic document feed, 15 pages per minute copy speed, variable reduce/enlarge capability, and letter, legal, and ledger size capabilities. Erase the copier hard drive before removing the copier from the field office and provide the RE with a certification stating that the copier hard drive has been erased.

156.03.05 Nuclear Density Gauge

THE LAST PARAGRAPH IS CHANGED TO:

Provide a nuclear density gauge for the exclusive use of the ME using one of the following methods:

1. Purchase a nuclear density gauge under the Contractor's New Jersey Department of Environmental Protection (NJDEP) License or the Contractors United States Nuclear Regulatory Commission (USNRC) license.
2. Lease a nuclear density gauge from a New Jersey Department of Environmental Protection (NJDEP) or United States Nuclear Regulatory Commission (USNRC) licensed third party on the Department's New Jersey Department of Environmental Protection (NJDEP) License.

The Contractor is barred from purchasing gauges on the Department's New Jersey Department of Environmental Protection (NJDEP) license. Perform calibration and servicing of the gauge, other than routine wipe tests, every 24 months. The ME may direct additional calibrations, when necessary. Supply a replacement gauge for the Department's use during the calibration and servicing period.

SECTION 157 – CONSTRUCTION LAYOUT AND MONUMENTS

157.01 DESCRIPTION

THE LAST SENTENCE IS CHANGED TO:

This section also describes the requirements for removing and constructing monuments and monument boxes**.**

157.02 MATERIALS

THE FOLLOWING IS ADDED:

Non-Shrink Grout 903.08.02A

157.03.01 Construction Layout
THE SEVENTH PARAGRAPH IS CHANGED TO:

Provide the Utilities with the layout needed to install relocated utility facilities and coordinate the Work. Ensure that relocated facilities do not conflict with proposed construction, including High Voltage Proximity Act conflicts.

THE FOLLOWING IS ADDED AFTER THE NINTH PARAGRAPH:

For each bridge and sign structure within the Project Limits, provide the RE as-built measurements of the vertical under clearance at each lane line, shoulder line, curb line and edge of pavement line under a structure to the nearest inch. For each bridge structure, provide vertical under clearance measurements at each fascia beam.

For the entire area of the construction easement on Lot 1.01 Block 308 and Block 406 Lot 19 the contractor is to provide the RE with existing cross section information at 50' intervals prior to start of the works and after completion of works on these properties.
THE FOLLOWING IS ADDED:

157.03.04 NOAA BENCHMARKS
Verify the existence of all five bench marks at Tuckahoe River Station ID 8534883 prior to destroying and removing the existing NOAA bench marks 4883 D 1977 and 4883 E 1977. Provide formal record of destruction of the discs, including digital photos of the disk faces, to NOAA/NOS via email to: nos.coops.oetteam@noaa.gov. Include recovery notes on the other three marks as well (4883 A, B, and C 1977). Install new standard National Ocean Service (NOS) bench marks according to the "User's Guide for the Installation of Bench Marks and Leveling requirements for Water Level Stations" at http://tidesandcurrents.noaa.gov/publications/users_guide_for_installation_of_Bench_Mark.pdf.

Per Section 2.7 "Numbering Bench Marks" of the Guide, note that to help avoid confusion and ensure positive identification, bench marks replacing a destroyed or removed mark will be stamped with a new letter. Thus, NOAA will provide and assign surface bench mark discs 4883 F 2012 and 4883 G 2012(or year of installation) for installation on the new bridge abutments. Submit a written request for said discs to NOAA, Field Operations Division (N/OPS2), 672 Independence Parkway, Chesapeake, VA 23320-5177 Attn: David Lane.

Run levels between the 2 existing bridge benchmarks, and the 3 recovered station tidal bench marks to obtain height differences and for comparison to the published data. Where elevations differ from published data, submit to RE for approval before removing the 2 existing bridge benchmarks. The three NOAA bench marks to be recovered are reported located within or near to the Yank Marine, 7 Mosquito Landing Road, Tuckahoe, NJ 08250. Sketches of the location of each bench by the original surveyor are attached to the CES.

Please note that the original ground line and the referenced landmarks at time of installation of existing benchmarks may have changed. Structures may have been removed or rebuilt and ground levels raised several feet. Since job completion requires a minimum of 5 benchmarks, perform the following if after due diligence any of the existing benchmarks (4883 A, B or C) cannot be found:

-Obtain the approval of the RE to establish new benchmarks before existing bridge bench marks are destroyed.

-Obtain NOAA's guidance and assignment of a new ID(s) relating to the establishment of any additional new benchmarks.

-Use these new benchmarks to fulfill all requirements for recovered benchmarks.

Include all work and materials related to the establishing of new benchmarks under this pay item.

Make a level connection to any other geodetic marks within 1-mile leveling distance of the newly set marks. If only one mark, or no geodetic marks are recovered within one mile, the requirement for this level connection is waived. Perform leveling with Second Order Class I, precise leveling techniques, performed in accordance with National Geodetic Survey (NGS) standards for geodetic leveling, and CO-OPS "User's Guide for the Installation of Bench Mark and Leveling Requirements for Water Level Recording Stations, NOAA/NOS October 1987." If digital bar-code leveling systems are to be used, the model shall have been previously evaluated by the Federal Geodetic Control Subcommittee (FGCS). These systems include the Leica NA3003, Leica DNA03, Topcon DL101C, Trimble DiNi 12, Zeiss DiNi 10, DiNi 11, DiNi 12, and DiNi 12T.

Run levels between the 2 new benchmarks and the 3 recovered station tidal benchmarks following NOAA/NOS guidelines. Create bench mark descriptions and leveling output in a NGS-supported format to enable processing and adjustment of the levels by NOAA/NOS. Submit station descriptions and recovery notes to NOAA/NOS in computer-readable form using the most recent version of WinDesc software available on the NGS website. The basic WinDesc usage instructions are built into the program and can be found under the HELP menu. Choose type of field books and field abstract software according to the leveling equipment on this project. Translev is a NGS program that facilitates the process of editing, formatting and checking digital leveling observation data and creates abstracts, bok files, and VERTOBS datasets for submission to NOAA/NOS. WinDesc and Translev are the two programs currently being used by CO-OPS to submit leveling data to NOAA/NOS.. These NGS programs are available online at http://www.ngs.noaa.gov/PC_PROD/pc_prod.shtml. See #2 below.

The "User's Guide for Electronic Levels with Translev and Windsec" is available at http://tidesandcurrents.noaa.gov/publications/Users_Guide_for_Electronic_Levels_with_Translev_and_WinDesc_September_2010.pdf. This publication supplements "User's Guide for the Installation of Bench Marks and Leveling requirements for Water Levels" and both guides shall be followed by an approved New Jersey Licensed Surveyor. Please note that forms 76-75 and 76-89 are no longer in use. For guidance in writing the bench mark descriptions in CO-OPS format, use the publication "User's Guide for Writing to Reach Statements and Bench Mark Descriptions" at http://tidesandcurrents.noaa.gov/publications/bmguide5.pdf. Submit the following documentation for each of the five benchmarks, both recovered and new, to NOAA/NOS, via email to: nos.coops.oetteam@noaa.gov. :

1. Bench mark sketch (PDF format) – Large-scale bench mark location sketch of the station site showing the relative location of the bench marks, and major reference objects found in the bench mark descriptions. The bench mark sketch shall include an arrow indicating north direction and a title block (see attached template).

2. Bench mark descriptions with handheld GPS coordinates (d/m/s.x format), leveling output including recovery notes and "Station To Reach" statement (in Microsoft Word format). Refer to User's Guide for Writing Bench Mark Descriptions, NOAA/NOS, Updated January 2011.

3. Digital photographs of bench mark disk (new and recovered marks) - close-up and eye level view of setting, bench mark locations from two different (perpendicular) cardinal directions (JPEG format).

Submit to the RE written confirmation from NOAA/NOS that the above documentation submitted is acceptable and in compliance with NOAA/NOS guidelines.

Per Section 3.3 in "User's Guide for the Installation of Bench Marks and Leveling Requirements for Water Level Stations", the Primary Bench Mark (PBM) for Station ID 8534883 Tuckahoe River is 4883 A 1977. In order to fulfill Section 3.3b and g, use the PBM and bench marks 4883 B 1977and 4883 C 1977 in conjunction with the initial installation benches and data verification at the end of the job after the removal of the temporary by-pass bridge.

Change the last line of Section 2.9.4 "Bench Mark Disks in Large Man-Made Structures" to the following:

"When installing new bench marks, per locations on plans, locate shank to ensure it does not interfere with concrete reinforcement by use of sensors or similar means. Drill a 7/8 in. diameter hole, 3 ¼" deep, into the

concrete to accommodate the shank of the disk. Chisel off a counter-sunk solid level base for the disk. Do not crack or spall the surrounding concrete. Install non-shrink grout per manufacturers' recommendations and Specification Section 903.08.02 A. Place non-shrink grout in hole and on the underside of the disk to prevent air from becoming trapped in the concave portion. Tap the prestamped disks into the drill hole and level. Remove excess non-shrink grout and clean the disk. Apply a wet cloth on top of the disk in hot weather to help prevent the grout from drying too fast and cracking."

Since benchmarks are being installed in abutments on piles, second line in second paragraph of Section 2.9.4 is not applicable, however do not perform disk installation until abutment concrete has cured for 30 days.

- Insert BM Sketch (sketch, drawing or aerial photo)
- Clearly identify location of tide station
- Use a symbol to identify each BM
- Label each BM by its official DESIGNATION
- Include a North arrow

NOAA FORM 76-199 (08-83) U.S. Department of Commerce National Oceanic and Atmospheric Administration National Ocean Service **BENCH MARK SKETCH**	FIELD UNIT	DRAWN BY Joe Sketcher REVISED BY	DATE mm/dd/yyyy DATE
STATION NAME **Tuckahoe River, NJ**	STATION NO. **853 4883**	REVISED BY REVISED BY	DATE DATE

CO-OPS, Wyn - Sept 2006

157.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM'S PAY UNIT IS REVISED TO:

Item	*Pay Unit*
CONSTRUCTION LAYOUT	DOLLAR

THE FOLLOWING PAY ITEM IS ADDED

Item	*Pay Unit*
NOAA MONUMENT REMOVAL AND REPLACEMENT	UNIT

THE SECOND PARAGRAPH IS CHANGED TO:

The Department will adjust payment for CONSTRUCTION LAYOUT based on the final contract amount and will calculate as follows:

$$CL = \frac{CL_B \times (C_F - E_F)}{C_O - E_O}$$

Where:
CL = Adjusted payment for CONSTRUCTION LAYOUT.
CL_B = Bid price for CONSTRUCTION LAYOUT.
C_O = Original Contract Price.
C_F = Final Contract Price.
E_F = Total of CL_B and the final cost for PERFORMANCE BOND AND PAYMENT BOND, Incentive/Disincentives for completion/interim completion, and claim settlements.
E_O = Total of CL_B
E_O = Total of CL_B, and PERFORMANCE AND PAYMENT BOND.

SECTION 158 – SOIL EROSION AND SEDIMENT CONTROL AND WATER QUALITY CONTROL

158.01 DESCRIPTION
THE FOLLOWING IS ADDED:

This Section also describes the requirements for the construction and testing of the Infiltration Sand Layer, associated with the stormwater infiltration strips. The strips will consist of an excavated storage area, with a permeable soil medium (sand-peat-topsoil mixture) to promote stormwater filtration and recharge into the subgrade soils.

158.02 MATERIALS
THE FOLLOWING IS ADDED:

Sand (Soil Aggregate I-6)..... 901.11
Topsoil 917.01
Subsurface Drainage Geotextile..... 919.01

For peat moss, use Sphagnum Peat moss meeting the following requirements:

1. pH of 3.5 to 3.9;
2. Ash content less than 2%;
3. Water holding capacity 20 times its dry weight; and,
4. Less than 15% decomposed material.

158.03 CONSTRUCTION
THE FOLLOWING IS ADDED:

158.03.02 SESC Measures

8. Inlet Filters. Provide Type 1 and Type 2 inlet filters as follows:

a. Type 1.
THE ENTIRE TEXT IS CHANGED TO:

For a new inlet structure without a casting, mold welded steel wire fabric around the inlet walls. Extend the welded steel wire a minimum of 6 inches down each side of the structure. Secure geotextile to the welded wire fabric. Place No. 2 coarse aggregate against the inlet structure to hold the inlet filter in place.

For an inlet structure with a casting and exposed exterior walls, place geotextile under the casting and extend it a minimum of 6 inches below the top of the exposed walls. Place No. 2 coarse aggregate around the drain hole opening.

For an existing inlet structure without exposed exterior walls, place geotextile under the grate and extend the geotextile for a minimum of 6 inches beyond the grate.

For an inlet with a curb piece and without exposed exterior walls, ensure that the opening in the curb piece has a height of 2 inches. If the opening is greater than 2 inches, achieve the 2 inch opening size by wrapping the geotextile around an appropriately sized piece of lumber. Place the lumber against the vertical opening.

19. Oil-Only Emergency Spill Kit.
THE SECOND SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Include Oil-only Emergency Spill Kit, Type 1 consisting of the following:

158.03.04 Infiltration Sand Layer, 6" Thick

Strip topsoil as specified in 202.03.01. Excavate strip to the required elevations. Scarify or till subgrade material prior to placement of geotextile and sand. Do not compact subgrade.

Place geotextile over the entire area where the stormwater infiltration strips are to be constructed. When joining sections of geotextile, overlap the geotextile by a minimum of 18 inches in the downstream direction.

Mix sand, peat moss, and topsoil at a ratio of 60:20:20. When the mixture has a pH of less than 5.8, incorporate sufficient pulverized limestone to increase the soil pH value to 6.5. Place six inches of the mixture over the geotextile.

Fertilize and seed as specified in 806.03.01, using Type B grass seed mixture. Do not place mulch in seeded areas. Place Type 2 stabilization matting on the entire limits of the stormwater infiltration strips as specified in 807.03.

To avoid sedimentation that may result in clogging and reduction of infiltration capability and to maintain the maximum soil infiltration capacity, manage the construction of the stormwater infiltration strips according to the following:

1. Ensure that the stormwater infiltration strips are not placed into operation until the drainage areas are completely stabilized. Divert any runoff from disturbed areas around the strips and into separate facilities, as deemed necessary.
2. To avoid over-compaction of the infiltration strip subgrade soils, do not permit heavy equipment such as backhoes, dump trucks or bulldozers to operate within the footprint of the stormwater infiltration strips. Ensure that all excavation required to construct the stormwater infiltration strips is performed by equipment placed outside the strips. If this is not possible, renovate and till the soils within the excavated

area after construction is completed. Do not perform earthwork associated with stormwater infiltration strip construction, including excavation, grading, cutting or filling, when soil moisture content is above the lower plastic limit. The lower plastic limit is defined as the moisture content at which a sample of soil crumbles, when rolled into threads of 1/8 inch diameter.

As-built testing and mapping requirements:

1. After all construction activities have been completed and finished grades have been established in the infiltration strips, conduct replicate post-construction field permeability tests under the direct supervision of a certified soil scientist or licensed Professional Engineer in the State of New Jersey, to determine if as-built soil permeability rates are consistent with the minimum design permeability rate of 2 inches per hour. Submit the results of such tests to the Engineer. If the results of the post-construction field permeability tests fail to achieve the minimum required design permeability rate, utilizing a factor of safety of two, renovate and re-test the stormwater infiltration strip until such minimum required permeability rates are achieved.
2. After all construction activities and required field testing have been completed, submit as-built plans, including as-built elevations of all associated stormwater management measures to the Engineer. Based upon the Engineer's review of the as-built plans, complete all corrections or remedial actions deemed by the Engineer to be necessary due to the failure to comply with design standards and/or for any reason concerning public health or safety.

158.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

Pay Item	*Pay Unit*
INFILTRATION SAND LAYER, 6" THICK	SQUARE YARD

SECTION 159 – TRAFFIC CONTROL

159.02.02 Equipment
THE FOLLOWING IS ADDED TO THE LIST OF EQUIPMENT REFERENCES:
Portable Trailer Mounted CCTV Camera Assembly……..……1001.05

159.03.02 Traffic Control Devices

2. Construction Barrier Curb.
THE LAST PARAGRAPH IS CHANGED TO:

Provide top and side mounted flexible delineators on the construction barrier curb. For delineators located on the right side when facing in the direction of traffic, ensure that the retroreflective sheeting is white. For delineators located on the left side when facing in the direction of traffic, ensure that the retroreflective sheeting is yellow. Attach flexible delineators according to the manufacturer's recommendations.

Starting at the beginning of the construction barrier curb section mount top delineators at 100-foot intervals on tangent sections, curves of radii greater than 1,910 feet, and at 50-foot intervals on curves of radii of 1,910 feet or less.

Mount side delineators at the lead end of each barrier segment with the top of the delineator 3 inches from the top of the barrier.

6. Traffic Control Truck with Mounted Crash Cushions.
THE LAST SENTENCE IS CHANGED TO:

Submit drawings to the RE detailing the manner of securing the ballast, signed and sealed by a Professional Engineer, certifying that it is capable of withstanding the impact forces for which the impact attenuator is rated.

THE FOLLOWING IS ADDED TO THE SECOND PARAGRAPH:

Portable Trailer Mounted CCTV Camera Assembly (PTMCCA).

THE SECOND PARAGRAPH IS CHANGED TO:

Provide PTMCCA system that includes a robotic network camera remotely controllable, including Pan, Tilt and Zoom (PTZ). Provide broadband ISP and On-Site Camera Configuration for remote operation and control from the Traffic Operations Center (TOC) to the field site via the Department's existing Head-End CCTV System, Genetec. No substitution is permitted. Provide continuous viewable image at a minimum of 320H x 240V resolution and 1 frame per sec (fps). If required by the TOC specified in 105.07.01.B, establish password level designations, camera presets, and camera image displays. Provide all incidental equipment and material required for successful remote operation and communications.
Provide for one week of testing by the TOC for remotely operating the PTMCCA before the start of construction operations that require lane or shoulder closures, or other impacts to traffic.

THE FOLLOWING IS ADDED TO THE TRAFFIC CONTROL DEVICES:

Portable Trailer Mounted CCTV Camera Assembly

This work shall consist of furnishing, installing, relocating, operating and maintaining Portable Trailer Mounted CCTV Camera Assemblies for work zone traffic monitoring at any time on the internet.

The Portable Trailer Mounted CCTV Camera Assemblies shall be provided at locations along the highway within the project limits, as directed by the Engineer. The camera assemblies shall be fully operational prior to beginning of construction activities. The camera assemblies shall be relocated during the construction as directed by the Engineer or the TOCS. Relocations shall be completed within 72 hours. Repair or replace malfunctioning assembly within 12 hours of notification by the RE. When a CCTV assembly is no longer required for the Project, it shall be removed.

Provide a system that includes an IP network camera remotely controllable, including Pan, Tilt and Zoom (PTZ), viewable over the internet through a password protected website. Provide for internet access through the website hosted by Department.

Provide broadband communication service and On-Site Camera configuration for remote operation and control from the web site to the field site. Provide continuous viewable image at a minimum of 704H x 480V resolution and 1 frame per sec (fps) through the web site.

As required by the Traffic Operation center (TOC), establish password level designations, camera presets, and camera image displays. Provide any incidental equipment or material required for successful remote operation and communications. Provide for one week of testing by the TOC for remotely operating the portable camera assemblies before the start of construction operations.

159.03.06 Temporary Traffic Stripes and Temporary Traffic Markings

THE ENTIRE TEXT IS CHANGED TO:

Apply temporary traffic stripes and markings when the ambient and surface temperatures are at least 45 °F and rising and the surface temperature is no more than 140 °F. Apply the traffic paint in a wet film thickness of 6 ± 1 mil. Apply glass beads to the wet paint in a uniform pattern and at the rate of 12 pounds per gallon of paint. Ensure TRAFFIC STRIPES, LONG LIFE, EPOXY RESIN and TRAFFIC MARKINGS, THERMOPLASTIC are applied within 14 days of placing temporary traffic stripes and markings unless directed by the RE.

159.03.08 Traffic Direction

A. Flagger.
THE LAST SENTENCE IS CHANGED TO:

Ensure that the flagger is equipped with a STOP/SLOW paddle and follows MUTCD flagging procedures.

159.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEMS ARE ADDED:

Item	*Pay Unit*
PORTABLE VARIABLE MESSAGE SIGN WITH REMOTE COMMUNICATION	UNIT.
PORTABLE TRAILER MOUNTED CCTV CAMERA ASSEMBLY	UNIT.

THE FOLLOWING IS ADDED

If after being notified by the Department that the or PORTABLE TRAILER MOUNTED CCTV CAMERA ASSEMBLY has failed to function and the equipment has not been restored to good working order within 48 hours, the Department will make payment reductions as follows:

For each occasion the equipment was not restored within 48 hours the Department will assess a liquidated damage of $250 for every 48 hours period the equipment is not functioning.

The Department will make payment for TRAFFIC STRIPES, LONG LIFE, EPOXY RESIN and TRAFFIC MARKINGS, THERMOPLASTIC as specified in 610.04.

SECTION 160 – PRICE ADJUSTMENTS

160.03.01 Fuel Price Adjustment
THROUGHOUT THIS SUBPART, TABLE 161.03.01-1 IS CHANGED TO TABLE 160.03.01-1

THE THIRD PARAGRAPH IS CHANGED TO:

If the as-built quantity of an Item listed in Table 160.03.01-1 differs from the sum of the quantities in the monthly Estimates, and the as-built quantity cannot be readily distributed among the months that the Item listed in Table 160.03.01-1 was constructed, then the Department will determine fuel price adjustment by distributing the difference in the same proportion as the Item's monthly Estimate quantity is to the total of the Item's monthly estimates.

THE 13 TH AND 15 TH LINE IN THE TABLE 160.03.01-1 IS CHANGED TO:

SOIL AGGREGATE BASE COURSE, ___ " THICK	1 Gallon per Cubic Yard
DENSE-GRADED AGGREGATE BASE COURSE, ___ " THICK	1 Gallon per Cubic Yard

THE 25 TH LINE IN THE TABLE 160.03.01-1 IS CHANGED TO:

HOT MIX ASPHALT ___ ___ ___ BASE COURSE	2.50 Gallons per Ton

THE FOLLOWING ARE ADDED TO TABLE 160.03.01-1

Items	**Fuel Usage Factor**
NON-VEGETATIVE SURFACE, HOT MIX ASPHALT	2.50 Gallons per Ton
COLOR-COATED NON-VEGETATIVE SURFACE, HOT MIX ASPHALT	2.50 Gallons per Ton

160.03.02 Asphalt Price Adjustment
NOTE 1 OF THE THIRD PARAGRAPH IS CHANGED TO:

1. The Department will determine the weight of asphalt binder for price adjustment by multiplying the percentage of new asphalt binder in the approved job mix formula by the weight of the item containing asphalt binder. If a Hot Mix Asphalt item has a payment unit other than ton, the Department will apply an appropriate conversion factor to determine the number of tons used.

THE FOURTH PARAGRAPH IS CHANGED TO:

$$A = B \times [(MA - BA)/BA] \times C \times M \times G$$

Where:
A = Asphalt Price Adjustment
B = Bid Price for Tack Coat/Prime Coat
MA = Monthly Asphalt Price Index
BA = Basic Asphalt Price Index
C = Petroleum Content of the Tack Coat and Prime Coat in Percent by Volume:
Use 100% for cutbacks and Tack Coat 64-22
60% for Polymer Modified Tack Coat
60% for RS or similar type emulsions
M = Percentage of Bid Price Applicable to Materials Only: Use 82%
G = Gallons of Tack Coat and Prime Coat Furnished and Applied

160.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEMS' PAY UNITS ARE REVISED TO:

Item	*Pay Unit*
FUEL PRICE ADJUSTMENT	DOLLAR
ASPHALT PRICE ADJUSTMENT	DOLLAR

SECTION 162 – VIBRATION MONITORING

THE FOLLOWING SUBSECTIONS ARE ADDED
162.01 DESCRIPTION

This Section describes the requirements for implementing the vibration monitoring of the existing bridge, temporary bridge, and structures in the affected area due to jetting and driving of piles or sheeting. The affected area is defined as the area within 200 feet of the driving or jetting of piles or sheeting on the temporary and new bridges.

162.03 PROCEDURE

Engage the services of a firm capable of furnishing a New Jersey State licensed Professional Engineer to conduct a condition survey of the existing and temporary bridge as well as nearby structures and an experienced vibration monitoring Consultant to measure peak particle velocities prior to and during construction operations.

1. Building and Bridge Condition Survey:
Provide, as a minimum, the following information:

a. Photographic and videotape documentation of the underside, piers, abutments and top surfaces of the existing bridge and temporary bridge as well as interior and exterior condition of the structures.

b. Extent and location of existing signs of bridge and structures distress such as cracks, spalling, and signs of settlement, flooding, leaking, etc.

Notify the RE one week in advance so that he may accompany the Contractor on each structure condition survey for verification of the data recorded. Provide three copies of all documentation of each structure survey to the RE.

2. Vibration Monitoring:
Perform continuous vibration monitoring during jetting and driving of all piles, including sheet pilings. Perform the work in a manner that will limit construction vibration at the bridges to within the limits in section 3c.
Also monitor settlement of the bridges and structures on a visual basis by looking for signs of cracking, spalling or movement.

3. Vibration Monitoring Plan:
Prior to pile jetting and driving, submit a Vibration Monitoring Plan (VMP) to the RE a minimum of 15 working days in advance for approval. The VMP may be returned to the Contractor for revision or clarification.
The VMP shall include the necessary information to outline the recording collection. The VMP shall include, but not be limited to, the following items:

a. Contract Designations

- The name of vibration monitoring specialist(s).
- The scheduled start dates and length of construction operations which require vibration monitoring. There will be separate time intervals for each bridge.
- The limits of vibration monitoring work, including sites on or off State-owned right-of-way(ROW).
- The location of all structures to be monitored in proximity to the construction operation.
- The location of any underground utilities in proximity to the construction operation.

b. Experience and Equipment

- Submit proof and details, as references, of three projects in the past five years where the vibration monitoring consultant performing the work has satisfactorily monitored construction operations by recording maximum peak particle velocities (PPVs). Include contact information for each reference.
- Submit information on the required 3-component seismograph, capable of measuring particle velocity data in three mutually perpendicular directions, including: the manufacturer's name, model number, and documentation of factory calibration performed within the last 12 months.

c. Methods and Procedures

- Use maximum allowable PPVs of 0.2 inches/second for monitoring of structures and 1.0 inches/second for the monitoring of the existing and temporary bridges.
- The location of seismograph(s) placements on the existing and temporary bridges as well as nearby structures, as directed by the Contractor's Professional Engineer. Place seismographs near or on foundations.
- Appropriate details for anchoring the geophone(s).
- The procedure for tracking PPV throughout construction operations (e.g., Pile Jetting and Driving Operations: pile tip vs. vibrations may be correlated through time of day. A record of the time of day at each depth interval, included on the pile driving records, would be required to correlate to a time-based readout of PPV).

Inform the RE immediately each time measured particle velocities exceed 85% of the allowable peak particle velocity. Make equipment or procedural modifications as required in order to avoid exceeding the allowable vibration intensity. If the measured velocities exceed the maximum allowable PPVs, stop operations immediately and revise equipment and procedures to reduce vibrations to allowable levels.

If the seismographs show any indication of damage or vandalism, immediately recalibrate or replace the seismographs . Be in communication with monitoring firm's personnel during vibration monitoring at all locations to verify the data recorded.

Provide the RE with the results of daily vibration monitoring, one work day after the readings are taken. Upon completion of the construction operations for each bridge requiring vibration monitoring, synthesize daily submittals into a final report.

162.04 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Items as follows:

Item	Pay Unit
VIBRATION MONITORING	LUMP SUM

DIVISION 200 – EARTHWORK

SECTION 201 – CLEARING SITE

201.01 DESCRIPTION
THE FOLLOWING IS ADDED:
This section also describes the requirements for salvaging the operator's house and safety gates.

201.03.01 Clearing Site
THE FOLLOWING IS ADDED:

Dispose of material and debris as specified in 201.03.09.

201.03.02 Clearing Site, Bridge and Clearing Site, Structure
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH.

No work can be carried out until the temporary gas main is installed, is operational and the existing gas main has been inspected by the gas company.

See 105.07.01 for additional review requirements by South Jersey Gas (SJG) and 105.08 Section 3 for additional requirements by Coast Guard.

Follow demolition limits on permit and contract drawings.

Only the following equipment is permitted for the work:

1. **Pneumatic or Electric Equivalent Hand Operated Hammers.**
   a. When demolishing concrete not closer than 6 inches to structural members: hammers weighing no more than 90 lbs (exclusive of bit), equipped only with chisel point bits.
   b. When demolishing concrete within 6 inches of structural members: hammers weighing no more than 30 lbs (exclusive of bit).
2. **Saw Cutters.**
   a. When cutting concrete within 6 inches of structural members: concrete cutters and concrete saws. While using water in the cutting operation, provide shielding beneath the cutting operation to prevent water leakage. Continuously collect slurry and dispose of as specified in 201.03.09. Ensure that the slurry does not enter the structure or highway drainage system.
3. **Hydraulic Breakers.** Ram-hoe type breakers, hydraulic breakers, and demolition shears may be used with the following restrictions:
   a. Submit required data to the RE for Department's analysis of stresses induced to the girders.
   b. Delineate the centerline and limits of the top flange of girders before the equipment operation.
   c. Do not use equipment within 6 inches of the delineated flanges.
   d. Do not pull or twist the reinforcement steel.
4. **Hydraulic Splitters.** Hydraulic splitters.
5. **Other Equipment.** Obtain RE approval before use.

THE FOLLOWING IS ADDED:

Include all labor, equipment, submissions, methods and materials required for the removal of the existing Route 50 Bridge over the Tuckahoe River as detailed on the Demolition Plans and as described in the Demolition Notes and

the Standard Specifications. Install temporary bracing and supports for demolition of the bridge superstructure and of the counterweight and movable equipment. Create a detailed bridge demolition procedure and a debris control plan (material containment/collection scheme) and submit them to the Engineer for review and approval prior to the start of any demolition work. Include detailed plans showing the intended methods of demolition, which shall include but not be limited to the following:

1. The type of equipment for demolition.
2. Debris control plan being used during demolition.
3. Calculations showing that the existing bridges structure members and foundations are not overstressed and stability is maintained during each and every step of demolition, particularly during removal of the bridge superstructure elements and the existing movable bridge equipment.
4. Schedule for bridge demolition work which takes into account environmental timing restrictions for construction/demolition work in the waterways per the environmental plans and permits.
5. Equipment and proper method (such as vibrating) for full removal of existing pier piles to ensure that they are removed fully intact.

In addition, include a detailed survey of the channel bottom upon completion of the existing bridge demolition. Supply a video of this inspection to the Engineer for his review and approval. Promptly remove any debris found on the channel bottom at no additional cost to the State.

The existing bridge contains Lead Paint. Before flame cutting, remove the existing paint systems within 6" minimum from any flame cutting operation using either solvent cleaning or using vacuum equipped shrouded hand tools and containment as per NJDOT requirements.

Remove all debris arising from the removal of the existing bridges from the shoreline and prevent this debris from entering the waterway. Remove promptly any debris that inadvertently falls into the water or wetlands. Minimize channel bottom disturbances from demolition of pile foundations in open water through the use of cofferdams, silt curtains, or other approved methods. If the method of demolition will cause any disturbances to the channel bottoms, then such demolition activities shall be restricted from March 1 to June 30 unless performed in a method allowable by the approved environmental permit conditions.

Create proposed bridge demolition scheme and debris control plan (material containment/collection scheme) in accordance with the approved Permit Plans and Permit Conditions, as indicated on the Contract Environmental Plans. If the demolition and debris control plan are not in conformance with the approved Permit Plans and Conditions, submit revised schemes to the Department and permitting agencies for approval at no cost to the State and no impact to the construction schedule. Allow 30 days for the Department's review of the proposed schemes for completeness before submitting the applications via the RE and the Bureau of Landscape Architecture and Environmental Solutions' Environmental Team for permit modifications to the permitting agencies.

Do not use blasting for the demolition of the existing bridge or substructure.

Do not stockpile or dispose of demolished bridge material within the waters of the U.S. without specific written authorization from the U.S. Army Corp of Engineers and the U.S. Coast Guard.

In order to protect anadromous fish species, the existing bridge pile cut-off below the mudline,is only permitted in the vicinity of the abutment demolition where slope protection is authorized All other demolition activities below the mean high water line that has potential to introduce sediments into the waterway is prohibited during the period from March 1 through June 30 unless performed in a method allowable by the approved environmental permit conditions and the Coast Guard

Notification shall meet the requirements specified in Subsection 105.08 Section 3 "Environmental Protection – Navigable Waters" of the Contract Specifications.

The demolition limits shown on the Plans are not intended to provide exact and all inclusive limits of demolition, but rather to identify representative items to be demolished on the project. Conduct a detailed site evaluation and survey to determine the full extent of the demolition required at all locations including those listed above, in order to complete all project construction shown on the Plans.

Include the design and construction of all temporary shielding necessary to contain/collect all demolished materials in accordance with 201.03.03 Temporary Shielding and 105.08 Section 3 Coast Guard Requirements.

Perform work in accordance with the detailed construction sequence of various elements as shown on the plans. Remove all debris arising from the removal of the existing bridge elements and substructure from the shoreline and dispose of same at appropriate disposal sites for the specific material and prevent it entering the waterway. Remove promptly any debris that inadvertently falls into the water.

Design any required excavation, grading, or installation of temporary sheeting to facilitate the bridge or substructure demolition, and submit to the Engineer for review and approval.

THE FOLLOWING IS ADDED TO THE LAST PARAGRAPH:
REMOVE SALVAGEABLE MATERIAL AS SPECIFIED IN SECTIONS 201.03.10 AND 201.03.11.
Reimburse owner for any fines levied against it by the Coast Guard.

201.03.03 Temporary Shielding

ITEM #6 IS CHANGED TO: Does not reduce the underclearance of the bridge over the waterway, except as approved by RE.

THE FOLLOWING IS ADDED

Perform work under this section with The Tuckahoe River defined as an environmentally sensitive area.

Include with the working drawings for certification, all elements of the temporary shielding system (sizes, materials, arrangements, and details), design calculations, and the sequence of operations thereof, signed and sealed by a Professional Engineer licensed in the State.

Should the Contractor's operation or construction staging require it to install and remove the shielding more than once, no additional payment will be made.

201.03.08 Asbestos Removal
THE FOLLOWING IS ADDED:

Report to RE if any materials that will be disturbed, affected or demolished during construction activities are suspected to have asbestos.

201.03.09 Disposal of Removed Materials and Debris
THE FOLLOWING IS ADDED:

It is assumed that the existing bridge concrete encased steel superstructure elements are coated with a lead based paint. Activities such as flame or mechanical cutting, welding, demolition, and other activities related to the items described herein may cause lead to be emitted. Meet all OSHA and NJDEP requirements related to worker protection, handling, transporting and disposal.

THE FOLLOWING SUBSECTION IS ADDED:
201.03.10 – Salvage of Operator's House and Safety Gates

Provide materials as specified:

Course Aggregate (No. 57)…….901.03
Concrete……..903.03
Non-Shrink Grout……903.08.02A
Reinforcement Steel……905.01
Structural Steel……906.01
Bolts……908.01
Anchor Bolts……..908.01.03

Epoxy Mastic Coating System……..…….912.01.01

A. Operator's House

Take photographs of the contents of the inside of the Operator's House and provide to the RE for approval that these photographs encompass all salvageable items and their attachments. After the photographs have been approved, remove salvaged contents of Operator's House as needed to avoid damage during relocation. If the contents require temporary storage during relocation, store at a location approved by the RE. Contents in house include the following:

Electrical Engine
Gasoline Engine and wire mesh enclosure structure
Fuel Tank
Directional Control for bridge
Start Panel
Clutch
Electrical box for Step 1 Flasher
Electrical box for Step 2 Motor Control
Battery
Conduits
Red light bulb covers

Empty fuel tank of gasoline before moving. Clean inside of tank and cap the opening before reinstalling the tank in Operator's House.
Submit working drawings for approval for the relocation which include the following:

1. Calculations and sketches showing the temporary bracing required to move the building.

2. Installation procedures for the temporary bracing.

3. Procedures for the removal, storage, and reinstallation of the contents of the building.

4. Lifting procedures and calculations required to lift the building from the ground to a vehicle for transport then from the vehicle to the proposed house location.

5. Procedures and calculations that indicate how the Contractor will avoid interference with the overhead utilities and install the house on its new foundation.

Relocate Bridge Operator's House as shown on the Plans. Proceed with care during relocation operations to prevent damage to the structure. Install temporary bracing and other measures that are required to relocate the building without damaging the structure. Repair any damage to the structure during the relocation operations to the satisfaction of the RE. Note that this structure was built in 1925.

When rivets or bolts must be removed from Operator's House for relocation or equipment salvage, remove rivets and frozen bolts by cutting the heads with a chisel, after which punch or drill the rivets or bolts from the hole, or by any other method that will not damage the members for reuse and will meet the approval of the RE. Install new High Strength bolts as necessary to replace removed rivets and bolts. Prior to dismantling materials, match-mark all pieces.
Haul salvaged materials directly to the final location specified in the Plans. The salvaged materials may be temporarily stored at an alternate location selected by the Contractor and approved by the RE and later hauled by Contractor to final location and installed. Store salvageable items in temporary storage facilities that are enclosed, locked and dry, with the salvageable items stored off the floor and with component parts in separate neat piles.

Dispose of materials that are damaged beyond repair as determined by the RE as a result of the Contractor's operations in accordance with Subsection 201.03.09. Replace material damaged beyond repair, to the satisfaction of the RE.
Refurbish Operator's House as shown on the Plans.

B. Safety Gates

Disconnect each safety gate as shown on the Plans. When rivets or bolts must be removed from Safety Gates for relocation, remove rivets and frozen bolts by cutting the heads with a chisel, after which punch or drill the rivets or bolts from the hole, or by any other method that will not damage the members for reuse and will meet the approval of the RE. Install new High Strength bolts as necessary to replace removed rivets and bolts. Clean earth and other foreign materials, and remove adhering concrete from salvaged gate material. Where disassembly is needed for transportation, match-mark all pieces and carefully disassemble items. Exercise care to avoid damaging the salvageable material.
Haul salvaged materials to the final locations shown on the Plans. Repair any damage to the gates during the relocation operations to the satisfaction of the RE. The salvaged materials may be temporarily stored at an alternate location selected by the Contractor and approved by the RE and later hauled by Contractor to final location and installed. Store salvageable items in temporary storage facilities that are enclosed, locked and dry, with the salvageable items stored off the floor and with component parts in separate neat piles.

Dispose of materials that are damaged beyond repair as determined by the RE as a result of the Contractor's operations in accordance with Subsection 201.03.09. Replace material damaged beyond repair, to the satisfaction of the Bureau of Landscape Architecture and Environmental Solutions and the RE. Refurbishment can occur in the shop or field:

Clean safety gates to SP3 Power Tool Cleaning. Apply an epoxy mastic, urethane (EU) paint system for re-coating the existing structural steel. Match finish coat with existing color of Safety Gates (Gloss Red). Submit proposed cleaning and painting procedures, and paint sample to RE and Bureau of Landscape Architecture and Environmental Solutions for approval.

Deliver all four (4) gates to their final locations and mount the two (2) south gates onto the concrete footings as shown on the Plans.

Obtain approval from Historic Preservation Office (HPO) representatives and Landscape Architecture (LA) for the completed work.

201.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

Item	**Pay Unit**
SALVAGE OF OPERATOR'S HOUSE	LUMP SUM
SALVAGE AND REFURBISH SAFETY GATES	LUMP SUM

The Department will not make payment for the Item CLEARING SITE in excess of $275,000 until Completion.

The Department will not make payment for the Item CLEARING SITE, BRIDGE (___) in excess of $732,213 until Substantial Completion.
The Department will not make payment for any costs associated with environmental or worker protection, handling, transportation, disposal, or any work necessary for meeting the requirements of regulating agencies associated with the lead or other regulated materials associated with the lead based coating system on the existing superstructure.

SECTION 202 – EXCAVATION

202.02 MATERIALS
THE FIRST IN THE LIST IS CHANGED TO:
Coarse Aggregate (No. 57, or 67) 901.03

202.03.03 Excavating Unclassified Material

A. Excavating.
THE FIRST PARAGRAPH IS CHANGED TO:

The Department, as the generator, is solely responsible for the designation of excavated material. Unclassified excavation consists of excavation and management of material of whatever nature encountered, except for regulated material, pavement removal and acid producing soil.

202.03.04 Excavating Regulated Material

3. Temporarily Storing.
THE FIRST PARAGRAPH IS CHANGED TO:

Temporarily store regulated or hazardous material in stockpiles within the Project Limits and as shown on the Plans. Construct stockpiles on polyethylene sheeting. Contain stockpiles with haybales or silt fence placed continuously at the perimeter of the stockpiles. For hazardous material, if a stockpile area is not available within the Project Limits, sample and analyze materials in-situ for disposal. Excavate and place the hazardous regulated material directly into trucks, and haul it directly to the approved disposal facility.

SECTION 203 – EMBANKMENT

203.02.01 Materials
THIS SUBPART IS CHANGED TO:

Provide materials as specified:

Soil Aggregate (I-7, I-9, I-10, I-11, I-13, and I-14)..... 901.11

203.03.01 Constructing Embankment
THE FOURTH PARAGRAPH IS CHANGED TO:

Before placing embankment or any other unbound aggregate material, such as subbase or dense graded aggregate, on existing pavement, break the pavement into pieces that are a maximum of 12 inches in all dimensions.

DIVISION 300 – SUBBASE AND BASE COURSES

SECTION 303 – ASPHALT-STABILIZED DRAINAGE COURSE

303.03.01 Asphalt-Stabilized Drainage Course

D. Spreading and Grading

THE SECOND SENTENCE IS CHANGED TO:

Place asphalt-stabilized drainage course at a laydown temperature between 210 °F and 275 °F.

DIVISION 400 – PAVEMENTS

SECTION 401 – HOT MIX ASPHALT (HMA) COURSES

401.02.01 Materials
EMULSIFIED ASPHALT UNDER TACK COAT IS REVISED TO:

Emulsified Asphalt, Grade RS-1, CRS-1, SS-1, SS-1h, Grade CSS-1 or CSS-1h 902.01.03

401.02.02 Equipment
THE LAST PARAGRAPH IS CHANGED TO:

When an MTV is used, install a paver hopper insert with a minimum capacity of 14 tons in the hopper of the HMA paver.

401.03.01 Preparing Existing Pavement

A. Milling of HMA.

Stage	Max. time interval allowed
All Stages	48 Hours

THE FOLLOWING IS ADDED AFTER THE FOURTH PARAGRAPH:

Sawcut at the limit of paving in driveways and at other limits requiring a neat edge between new and existing HMA.

D. Repairing HMA Pavement.
THE ENTIRE TEXT IS CHANGED TO:

If potholes are discovered, notify the RE immediately. The RE may immediately direct repairs of small areas. The RE may require further evaluation of a large area to determine the need for additional milling and paving.

Sawcut existing HMA pavement to a maximum depth of 10 inches, or to the full depth of bound layers, whichever is less. Sawcut lines parallel and perpendicular to the roadway baseline and 3 inches away, at the closest point, from the damaged area to be repaired.

Remove damaged and loose material to a depth of at least 3 and no more than 10 inches below the level of milling within the boundary of the sawcuts to form rectangular openings with vertical sides. Shape and compact the underlying surface to produce a firm, level base. Ensure that the remaining pavement is not damaged.

Apply polymerized joint adhesive or tack coat to the vertical surfaces of the openings. Spread and grade HMA in the opening as directed by the RE. Ensure that the temperature of the HMA when placed is at least 250 °F, and compact as specified in 401.03.03.F. Compact areas not accessible to rollers with a flat face compactor. Compact until the top of the patch is flush with the adjacent pavement surface.

Reuse removed material as specified in 202.03.07.A.

401.03.02 Tack Coat and Prime Coat
TABLE 401.03.02-1 IS CHANGED TO:

Table 401.03.02-1 Tack Coat Application

Material	Spraying Temp, °F	Gallons per Square Yard	Season
Cut-Back Asphalt:			
RC-70	120 to 190	0.05 to 0.15	Oct 15 to Apr 15
Emulsified Asphalt:			
RS-1	70 to 140	0.05 to 0.15	All year
CRS-1	125 to 185	0.05 to 0.15	All year

SS-1, SS-1h	70 to 140	0.05 to 0.15	All year
CSS-1, CSS-1h	70 to 140	0.05 to 0.15	All year

TABLE 401.03.02-2 IS CHANGED TO:

Table 401.03.02-2 Prime Coat Application

Cut-Back Asphalt	Spraying Temp, °F	Gallons per Square Yard	Season
MC-30	85 to 150	0.1 to 0.5	Oct 15 to Apr 15
MC-70	120 to 190	0.1 to 0.5	Oct 15 to Apr 15
Emulsified Asphalt:			
CSS-1	70 to 140	0.1 to 0.50	All year

401.03.03 HMA Courses

D. Transportation and Delivery of HMA.

THE FIRST PARAGRAPH IS CHANGED TO:

Deliver HMA using HMA trucks in sufficient quantities and at such intervals to allow continuous placement of the material. Do not allow trucks to leave the plant within 1 hour of sunset unless nighttime lighting is provided as specified in 108.06. The RE will reject HMA if the HMA trucks do not meet the requirements specified in 1009.02. The RE will suspend construction operations if the Contractor fails to maintain a continuous paving operation. Before the truck leaves the plant, obtain a weigh ticket from a fully automatic scale. Before unloading, submit for each truckload a legible weigh ticket that includes the following:

1. Name and location of the HMA plant.
2. Project title.
3. Load time and date.
4. Truck number.
5. Mix designation.
6. Plant lot number.
7. Tare, gross, and net weight.

E. Spreading and Grading.

THE THIRD PARAGRAPH IS CHANGED TO:

:

Use an MTV for the construction of surface course in the traveled way. Ensure that the MTV independently delivers HMA from the HMA trucks to the HMA paver. Operate the MTV to ensure that the axle loading does not damage structures, roadway, or other infrastructure.

H. Air Void Requirements.

THE FOLLOWING IS ADDED TO THE THIRD PARAGRAPH:

Inside shoulders less than 6 feet in width will not be included in other lots unless requested by the RE.

THE FOLLOWING IS ADDED AFTER THE THIRD PARAGAPH:

If areas of existing shoulders are found to be insufficient to support the proposed HMA pavement and the required compaction cannot be achieved, notify the RE immediately. The RE may either direct additional milling and paving to provide a suitable base to pave the proposed HMA or waive coring and air void requirements in such shoulder areas.

J. Ride Quality Requirements.

THE ENTIRE SUBPART IS CHANGED TO:

The Department will not test the longitudinal profiles of the final riding surface for pay adjustment.

401.03.04 Sawcutting and Sealing of Joints in HMA Overlays
THE TEXT OF THIS SUBPART IS DELETED.

THIS SUBPART IS INTENTIONALLY LEFT BLANK

401.03.05 Core Samples
THE LAST SENTENCE OF THE 2ND PARAGRAPH IS CHANGED TO THE FOLLOWING:

Apply an even coating of tack coat to sides of the hole. Place HMA in maximum lifts of 4 inches in the hole and compact each lift. Ensure that the final surface is 1/4 inch above the surrounding pavement surface.

401.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM IS DELETED:

Item	*Pay Unit*
SAWING AND SEALING JOINTS IN HOT MIX ASPHALT OVERLAY	LINEAR FOOT

THE FOLLOWING IS ADDED:

The Department will make a payment adjustment for HMA air void quality by the following formula:

Pay Adjustment = Q x BP x PPA

Where:
BP = Bid Price
Q= Air Void Lot Quantity
PPA= air void PPA as specified in 401.03.03H.

The Department will make a payment adjustment for HMA thickness quality by the following formula:

Pay Adjustment = Q x BP x PPA

Where:
BP = Bid Price
Q= Thickness Lot Quantity
PPA= thickness PPA as specified in 401.03.03I

The Department will make a payment adjustment for HMA ride quality, as specified in 401.03.03J.

DIVISION 500 – BRIDGES AND STRUCTURES

SECTION 501 – SHEETING AND COFFERDAMS

501.03 CONSTRUCTION

THE FOLLOWING IS ADDED:

No work can be carried out until the temporary gas main is installed, is operational and the existing gas main has been inspected by the gas company

Locate all piles a minimum of 10' from the outside edge of the gas main. Jet piles to depth 10 feet below gas main before driving.

Locate all cofferdam sheeting outside of the South Jersey Gas Company Easement and at least 10' from the outside edge of the gas main. Jet sheeting to depth 10 feet below gas main before driving.

See 105.07.01 for additional review requirements by South Jersey Gas (SJG).

SECTION 502 – LOAD BEARING PILES

502.02.01 Materials

THE FOLLOWING IS ADDED:

Epoxy Bonding Compound	919.07
Prestressing and Post-tensioning Reinforcement	905.02

502.03.01 Furnishing Pile driving Equipment

THE FIRST SENTENCE IS CHANGED TO:

Perform a wave equation analysis program (WEAP) for each size pile, pile hammer and distinct subsurface profile condition.

502.03.03 Driving Piles

THE FOLLOWING IS ADDED:

No work can be carried out until the temporary gas main is installed, is operational and the existing gas main has been inspected by the gas company.

Locate all piles a minimum of 10' from the outside edge of the gas main

B. Methods of Driving.

THE FOLLOWING IS ADDED:

Install piles using jetting to facilitate the piles' penetration through the alternating sand and clay layers. Due to the existing gas main along the west side of the bridge, jet each pile to a minimum depth of 10 ft below the gas main or the pile tip jetting elevation specified on contract drawings whichever is lower elevation prior to driving piles.

While estimated elevations for jetting are on the contract drawings, confirm these values in field and submit to RE for approval before beginning work. Do not prebore with an auger.

For the prestressed concrete piles, install using internal jetting or other methods, as recommended by the jetting contractor that could facilitate installation of these piles.

Water jetting system used must be sufficient to freely erode and remove the soil material immediately adjacent to the pile without creating a crater around pile causing it to drift.

Submit all details of jetting including plant description, the number and size of jet nozzles, volume and pressure of water, and size and length of water hoses for review.

Drive piles down beyond depth of jetting to the estimated pile tip elevation on contract drawings and then drive the piles until required penetration resistance is obtained. If there is evidence that jetting has disturbed previously installed piles, restore capacity of those piles by restriking. Restrike for verification where necessary after jetting operations in area have been completed. No additional compensation will be made.

THE FOLLOWING IS ADDED TO THE THIRD PARAGRAPH:

Also do not drive or jet prestressed concrete pile before the 28-day strength of concrete has been achieved.

THE FOLLOWING IS ADDED TO THE LAST PARAGRAPH:

4. Cast-In-Place Piles. Ensure that reinforcement steel is installed as specified in 504.03.01. Place concrete as specified in 504.03.02. Clean out open end piles to the elevation shown on Plans. Weld closure plates for closed-end pipe piles as shown on Plans.

C. Test Piles.

2. Dynamic Pile Load Tests.

THE FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH:

Ensure that the pile driving analyzer is installed and operated under the supervision of a Professional Engineer.

CHANGE THE FOLLOWING:

In the 3rd paragraph first line, change “24 hours” to “5 days”

THE FOLLOWING IS ADDED

Restrike piles that do not reach the required bearing capacity at the first time driving. Leave the piles in place for a minimum of 5 days for a set-up period before restriking.

D. Production Pile Lengths.

THE LAST SENTENCE IS CHANGED TO:

Complete pile tests as indicated on the plans, before driving remaining production piles.

THE FOLLOWING IS ADDED:

502.03.06 PRESTRESSED CONCRETE PILE

1. Submit the following to the RE for approval prior to fabrication:
   a. Work plan.

b. Shop drawings prepared under the supervision of a Profession Engineer licensed in the State of New Jersey, indicating the following:
    i. Pile dimensions;
    ii. Placement of reinforcement including tendons;
    iii. Location of special embedded or attached lifting devices, employment of pick-up points, support points other than pick-up points, and any other methods of pick-up;
    iv. Pile splice and driving shoe details.
c. Product data sheets for each type of product indicated.
d. The proposed sequence for jetting and driving all piles.
e. A complete description of the jetting and driving equipment.
f. Concrete mix design for each type of concrete used for the piles.
g. Concrete cylinder compressive strength test results. The precast manufacturer's quality control procedures and inspection records established in accordance with PCI MNL-116.

2. Fabricate precast concrete at a plant as specified in 1011.
3. Delivery, Storage and Handling
    a. Do not demold or lift piles off from casting beds until the designed lifting strength or minimum works cube strength of 5,700 psi (whichever is greater) has been achieved. Ensure that lifting device or crane impose no shock or impact on piles. Ensure that the piles are not damaged or cracked at all stages or transporting, lifting and handling. Store piles on firm stable ground not susceptible to settlement under the weight of piles. Place piles on strong supports (hard wood) which are truly level and spaced so as to avoid undue bending stress in the piles. Locate supports vertically above one another. Store, handle, and transport piles in accordance with PCI MNL-116 except as follows. Do not transport cylinder piles from the casting yard until the concrete has reached the minimum required compressive strength. Use methods for handling and storage of piles such that the piles are not subjected to excessive bending stress, cracking, spalling, or other damage.
    b. Damaged Piles: Inspect each pile for sweep and structural damage such as cracking and spalling before transporting them to the project site and immediately prior to jetting or placement in the driving leads. Contact RE if piles on-site contain cracks other than crazing, surface drying, and shrinkage cracks. Reject and remove from project site any piles which are damaged during delivery, storage, or handling to the extent they are rendered unsuitable for the work, in the opinion of the RE. Repair pile if approved by the RE.
    c. Repairable Cracks: Reject piles with cracks equal to or greater than 0.006 inches but less than 0.06 inches. As an alternate to pile rejection, the Contractor may submit a proposal to repair deficient piles at the discretion of the RE. Prior to driving or jetting, restore piles to their required design capacity so that they can perform their intended structural function and achieve long term durability in corrosive environment.
    d. Non-Repairable Cracks: Reject piles with cracks equal to or greater than 0.06 inches.
    e. Pile Sweep: Limit sweep to the tolerances specified in PCI MNL-116 over the length of the pile.

4. Concrete Requirements
    a. Provide concrete with a minimum specified compressive strength, f'c, of 7000 psi at 28 days and minimum cementitious materials content of 600 pounds per cubic yard of concrete. The design shall be prepared in accordance with Section 903.
    b. Water and cement ratio shall be equal to or less than 0.40. Ensure that maximum-aggregate size does not exceed 3/4 inch.
    c. Produce concrete to conform to Table 903.03.06-2 for prestressed piles, No. 57 Coarse Aggregate.

5. Manufacturing:
    a. Full length, pretensioned concrete piles and post-tensioned pile sections can be manufactured by the centrifugal casting process. If this process is utilized, form and compact individual piles and pile sections by centrifugal force in a machine of suitable type so designed that the concrete molds may be revolved at speeds sufficient to ensure even distribution and dense packing of concrete without the creation of voids behind reinforcing steel.

a. Filling the mold and spinning should be continuous and take place before any of the concrete in the mold has taken an initial set. Excess water forced to the center must be drained or removed prior to curing. Cure section in the mold until the concrete has attained the indicated strength to prevent deformation or damage during demolding.

b. Alternatively, prestressed concrete piles can be made by the static cast method. Extruded dry cast method is not allowed for static cast piles.

c. In manufacturing by the static cast method utilize rigid steel forms and vibrate as necessary to ensure that the concrete is consolidated and homogeneous for the entire pile length.

d. Fill mold continuously and completely for each individual pile before any of the concrete in the mold has taken an initial set. Cure the pile in the mold until the concrete has attained the indicated strength to prevent deformation or damage during demolding. After initial set has occurred, the top form section may be removed to allow finishing of the pour stop along the exterior top face of the pile.

6. Perform fabrication of Prestressed Concrete Piles in accordance with 904.04.
7. Perform transfer of prestressing force when concrete has reached a minimum compressive strength 5700 psi.
8. Perform fabrication of post-tensioned centrifugally cast in accordance items 6 and 7, above, and the following:
   a. Provide forms of metal, braced and stiffened against deformation, accurately constructed, watertight, and supported on unyielding casting beds. Forms shall permit movement of pile without damage during release of the prestressing force. Make piles to dimensional tolerances in accordance with PCI MNL-116 and as follows:
   - Main reinforcement: 1/8 to 1/4 inch from position designated on drawings.
   - Spacing of spiral: plus or minus 1/2 inch from position designated on drawings exclusive of concrete cover requirements.
   -Location of pipe sleeves from true position: plus or minus 3/8 inch.
   b. Longitudinal Reinforcement - Fit main longitude reinforcement symmetrically, equally and continuously spread over the whole length without joint or lap. The main longitudinal post tensioned tendons should be level at the top of the pile and should fit tightly into the pile shoe and end plate.
   c. Provide details and positioning of ducts (holes) in accordance with PCI MNL-116, and as specified herein. Form longitudinal ducts for the prestressing tendons in the walls of the pile sections during casting. The ducts are 1-3/8 inches (nominal diameter) and positioned so that there is a minimum cover of 1-1/2 inches from the edge of the ducts to the outside surface of the pile section.
   d. Do not assemble the pile sections together into a pile until the compressive strength of the concrete has reached 5700 psi as determined by cylinders cured in the same manner as the sections.
   e. Position pile sections in accurate alignment so that the axis of the pile does not deviate from a straight line more than 1/8-inch per 10 feet of length. Position adjacent sections so that the maximum deviation of the outside surface of the joint does not exceed 1/4-inch. Where membrane curing is used, remove curing compound from abutting end-surface of sections. Cover the abutting joining surfaces by a joint sealing material of sufficient thickness to fill voids between end surfaces, except at the core holes for the stressing. The pile section shall be brought into contact and held together by a force equivalent to not less than 100 psi on the gross concrete area, until the sealing materials has set.
   f. Tension tendons to an allowable unit stress as indicated on the plans. The specified tension shall be measured by the gage pressure of the hydraulic stressing jack and verified by the elongation of the steel strand. Provide jack gage calibrated within past 6 months by a laboratory approved by the RE. Ensure that the variation in the actual elongation and the calculated elongation is not be greater than 5 percent. Maintain tension in the tendons by mechanical end-locks or anchors until final stress transfer. Aggregate prestress loss through transfer of stressing force from jack to temporary anchorage shall not exceed an average of 10 percent in any one cable or an average of 5 percent for all cables in one pile.
9. Cure piles in accordance with 904.04.03, except that the required stripping strength is 5700 psi.
10. Control and Acceptance Testing

    Sample and test concrete in accordance with 903.03.05 and 904.04.06.

11. Changes in Proportions

If, after evaluation of strength test results, compressive strength is less than specified compressive strength, make adjustments in proportions and water content and changes in temperature, moisture, and curing procedures as necessary to secure specified strength. Submit changes in mix design to RE in writing.

12. Chloride Ion Concentration

Sampling and determination of water soluble chloride ion content in accordance with ASTM C1218/C1218M. Ensure that maximum water soluble chloride ion concentrations in hardened concrete at ages from 28 to 42 days contributed from the ingredients including water, aggregates, cementitious materials, and admixtures does not exceed 0.06 percent by weight of cement.

502.03.07 CAST-IN-PLACE CONCRETE PILES

1. Submit the following to the RE for approval prior to fabrication:
   a. Mill test reports or independent laboratory test reports for steel piles.

   b. Pile details including welds.

   c. A complete description of each pile hammer, including condition, operational characteristics, rated energy, date of purchase, and date and description of last overhaul.

   d. A complete description of the jetting and driving equipment.

   e. The proposed procedure for splicing pile.

   f. The proposed sequence for jetting and driving all piles and proposed procedure for placing concrete into the pile.

   g. Proposed concrete mix and method of concrete placement.

   h. Submit details of any reinforcing to be used in piles.

2. Materials
   a. Steel Pile Material: Supply tube material with a minimum yield stress of 50,000 p.s.i.and meeting all requirements of ASTM A252 Gr. 3. Weld seam(s) with a minimum 90% weld penetration with a 12" return each end. Weld a cast steel conical driving point made from ASTM A-148 90/60 to the bottom of this section.

   Cast-in-place concrete pile to have a 16" diameter maximum and thickness as called out on contact drawing.

   The top of the tapered section is to be rounded so that the inside diameter will match the inside diameter of the pipe. The sections shall be joined as called out on contact drawing.

   b. Concrete - Supply Class "B" concrete with a minimum specified compressive strength f'c of 3000 p.s.i. at 28 days.

3. Fabricators: Subject to compliance with all of the requirements of this specification and approval by the RE, provide taper piles manufactured by either of the following:

   TAPERTUBE Piles
   DFP Foundation Products, LLC
   PO Box 688
   Franklin Lakes, New Jersey 07417
   Phone: 330-454-6111

   MONOTUBE Piles
   Monotube Pile Corporation

PO Box 7339
Canton, Ohio 44705-0339
Phone 201-337-5748

4. Alignment and Tolerances:

   a. After splicing, do not exceed 3/8 inch in 40 feet deviation in straightness in the undriven portion of the pile.

   b. After installation, the alignment of the pile axis measured at the top of the pile shall not deviate from that shown on the Drawings by more than two percent. The deviation in straightness of any point on the pile axis below the top of the pile shall not exceed four percent of the length measured from cut-off elevation.

   c. A light source lowered to the bottom of the pile shall remain visible. However, if eye contact with the light source is lost, a measurement will be made by the Subcontractor with an inclinometer and the results furnished to the Engineer for review. If the bending or deviation in straightness of the pile is within the limit stated in 4.a above, such pile would be approved.

   d. Piles at cut-off elevation shall not deviate laterally from required location by more than 3 inches.

5. Pile Driving

   a. Top of pile shall be normal to the driving force. Maintain accurate alignment of the pile, hammer and leads to minimize bowing of pile during impact of the hammer ram.

6. Pile filling

   a. Fill all approved piles with concrete.

   b. Cover piles not immediately filled with concrete with caps to prevent any material from entering them.

   c. Before concreting, remove water and other materials from each pile and verify alignment as stated in item 4 above.

   d. The Engineer will re-inspect all piles immediately prior to filling with concrete. Fill the piles with concrete in one continuous operation by method which will prevent the segregation of ingredients. Adjust the rate of concrete placement as necessary to prevent void formation.

   e. Gain approval from RE that pile is clear and dry prior to placing concrete. After the piles have been inspected and found satisfact1ory, concrete may be placed.

SECTION 504 – STRUCTURAL CONCRETE

504.03.03 Epoxy Waterproofing

THE SECOND SENTENCE IS CHANGED TO:

Apply epoxy waterproofing to bottom and exterior face of fascia box beams at limits shown on the plans.

THE THIRD PARAGRAPH IS DELETED:

SECTION 505 – PRECAST AND PRESTRESSED STRUCTURAL CONCRETE

505.03.01 PRESTRESSED CONCRETE STRUCTURES

C. Erection Plan.
THE FIRST SENTENCE IS CHANGED TO:

Submit working drawings for certification regarding the plan of operations to the RE at least 30 days before the pre-erection meeting.

E. Post-Tensioning of Prestressed Slabs and Box Beams

THE LAST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

Fill the recessed pockets at the fasica with nonmetallic, nonshrink grout matching the concrete surface.

THE FOLLOWING IS ADDED

G. Installation

Do not establish continuity in Precast Box Beam until it is at least 90 days old.

SECTION 506 – STRUCTURAL STEEL

506.03.06 Repair Galvanizing
THE LAST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

If painting is directed, treat the galvanized surface according to the manufacturer's recommendations, then apply the epoxy intermediate and urethane finish coats only.

THE FOLLOWING IS ADDED

506.03.07 Painting over Galvanizing

Where galvanized steel is painted, treat the galvanized surface according to the manufacturer's recommendations, then apply the epoxy intermediate and urethane finish coats which conform to Subcategory EPOXY MASTIC.

Comply with the following procedures, unless directed otherwise by paint manufacturer:

1. Pressure wash using equipment operating at a minimum pressure of 3000 psi, and a minimum flow of 4 gallons/minute. Hold nozzle at a distance of 6 to 12 inches from the surface. At completion, cleaned surfaces will be free of dust, dirt, oil and grease, animal waste, salts and other debris. Remove oil and grease by solvent cleaning as described in SSPC SP1. Pressure wash areas again following the solvent cleaning.
2. Light blast removes zinc oxides from the galvanized surface as well as etch the surface, but does not remove excessive amounts of zinc from the galvanized surface. During sweep blast create an anchor profile of 1 to 1.5 mils as measured using profile tape and a spring-loaded micrometer according to ASTM D4417. Establish initial thickness of the galvanizing prior to sweep blasting using a magnetic thickness gage in a manner

described under ASTM A123. Keep sweep blast from resulting in a 15% or greater loss of galvanized coating so that the article is not rejected. Perform sweep blasting in a manner that does not result in disbondment and flaking of the galvanizing.

3. Blow down the galvanized surfaces after sweep blasting with clean compressed air to remove all blast residue. Remove with hand tools, any sharp, protruding defects in the galvanized surface such as that commonly found on edges and holes.

4. Apply first coat of paint within 12 hours of sweep blasting the galvanized surface. Reblast surface if more than 12 hours elapse prior to painting. If re-blasted, the item shall not have lost 15% or more of its original coating thickness.

SECTION 507 – CONCRETE BRIDGE DECK AND APPROACHES

507.02 MATERIALS

507.02.01 Materials

THE FOLLOWING IS ADDED

Structural Steel Materials……..906.01
Polyethylene Sheeting……..919.12
Tinted concrete……..606.02

507.03 CONSTRUCTION

507.03.02 Constructing Bridge Decks

A. Forms. Construct forms as follows:

2. Removable Forms.
THIS PART IS CHANGED TO:

Construct removable forms as specified in 504.03.02.B. Do not use shoring to support stringers along the span length where the superstructure, under live load and impact loads, is designed for composite action. Do not weld attachments required for placement of the removable forms to the beam.

L. Saw Cut Grooved Surfacing.
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Do not saw cut until after the Department performs Acceptance Testing as specified in Subsection 507.03.02 N.

N. Concrete Deck Surface Requirements

1. Acceptance Testing.
THE FIRST PARAGRAPH IS CHANGED TO:

Construct deck slabs so that less than 9 percent of the measured length of the lot exceeds 1/8 inch tolerance in 10 feet. The ME will test the surface of concrete bridge deck slabs with a Class I Walking Profiler prior to the performance of saw cut grooved surfacing. The ME will calculate the percent defective using a rolling straight edge simulator analysis of the profiler data.

507.03.04 Concrete Bridge Sidewalk
THE FOLLOWING IS ADDED AFTER THE THIRD SENTENCE:

Provide materials as specified in 606.02. Tint concrete as specified in 606.03.04. Test panels as specified in 606.03.04 must be approved before this work starts. Expose aggregate as specified in 606.03.02.
THE SECOND PARAGRAPH IS CHANGED TO:

Cure using curing compound as specified 504.03.02.F. If drilling is required for subsequent construction, allow the concrete to cure for a minimum of 14 days before drilling.

507.03.06 4-Bar Open Steel Parapet
THE ENTIRE SUBSECTION IS CHANGED TO:

Ensure that the deck has cured for at least 14 days before placing concrete for 4-bar open steel parapet. Place concrete for 4-bar open steel parapet as specified in 504.03.02.D. Do not drill for 4-bar open steel parapet installation until the concrete has cured for at least 14 days. Install as shown on the Plans.
THE FOLLOWING IS ADDED:

Prepare surface and paint 4-Bar Open Steel Parapet according to Section 506.03.07 "Painting over Galvanizing." Use Fed. Standard 595B #35550 for top coat.

507.03.07 Concrete Bridge Approach
THE FOLLOWING IS ADDED:

Ensure the concrete conforms to the surface requirements as specified in 507.03.02 N, except each lot will be equal to the number of cubic yards of approach concrete placed in the lane.

507.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

Item	*Pay Unit*
Prepare Surface and Paint 4-Bar Open Steel Parapet	LS

Include the cost of sidewalk test panels in the cost of the permanent sidewalk in "Tinted Concrete Sidewalk**."**

THE SECOND PARAGRAPH IS CHANGED TO:

The Department will include payment for epoxy coated reinforcement steel for the bridge approach under the item CONCRETE BRIDGE APPROACH; for other concrete items, the Department will make payment for reinforcement steel under REINFORCEMENT STEEL, REINFORCEMENT STEEL, EPOXY-COATED, and REINFORCEMENT STEEL, GALVANIZED as specified in 504.04.

THE FOLLOWING IS ADDED:

The Department will make a payment adjustment for concrete surface requirement quality in deck slabs and approach, by the following formula:

$$\text{Pay Adjustment} = Q \times BP \times PR$$

Where:
BP = Bid Price
Q= Surface Requirement Lot Quantity
PR= percent reduction as specified in Table 507.03.02-2

SECTION 509 – BRIDGE RAILING AND FENCE

509.03.01 Bridge Railing
THE THIRD PARAGRAPH SUBPART 2 IS CHANGED TO:

2. **Adhesive Type.** Do not drill for installation until the concrete has cured for at least 14 days. Install adhesive anchors according to the manufacturer's recommendations. When drilling, ensure that spalling does not occur and existing utilities are not damaged. Repair damage to the existing concrete, utilities, and reinforcement steel as a result of drilling. Clean and dry drill holes before and during installation of the adhesive anchors.

509.04 MEASUREMENT AND PAYMENT
THE ENTIRE SUBSECTION IS CHANGED TO:

The Department will measure and make payment for Items as follows:

Item	*Pay Unit*
BRIDGE RAILING (___RAIL, ALUMINUM)	LINEAR FOOT
BRIDGE RAILING (___RAIL, STEEL)	LINEAR FOOT
CHAIN-LINK FENCE, TYPE I, ZINC-COATED STEEL, BRIDGE, __'__" HIGH	LINEAR FOOT
CHAIN-LINK FENCE, TYPE II, ALUMINUM-COATED STEEL, BRIDGE, __'__" HIGH	LINEAR FOOT
CHAIN-LINK FENCE, TYPE III, ALUMINUM ALLOY, BRIDGE, __'__" HIGH	LINEAR FOOT
CHAIN-LINK FENCE, TYPE IV, PVC-COATED STEEL, BRIDGE, __'__" HIGH	LINEAR FOOT
CHAIN-LINK FENCE, TYPE I, ZINC-COATED STEEL, BRIDGE, __'__" HIGH, CURVED TOP	LINEAR FOOT
CHAIN-LINK FENCE, TYPE II, ALUMINUM-COATED STEEL, BRIDGE, __'__" HIGH, CURVED TOP	LINEAR FOOT
CHAIN-LINK FENCE, TYPE III, ALUMINUM ALLOY, BRIDGE, __'__" HIGH, CURVED TOP	LINEAR FOOT
CHAIN-LINK FENCE, TYPE IV, PVC-COATED STEEL, BRIDGE, __'__" HIGH, CURVED TOP	LINEAR FOOT

SECTION 510 – TIMBER STRUCTURES

510.03.02 Sheeting and Wales

510.04 METHOD OF MEASUREMENT
THIS SUBSECTION HEADING IS CHANGED TO:

510.04 MEASUREMENT AND PAYMENT

SECTION 511 – BULKHEAD, FENDER, AND DOLPHIN SYSTEMS

511.02.01 Materials
14 TH ON THE LIST IS CHANGED TO:
Fiberglass Reinforced Plastic Lumber (FRPL) 916.01

ADD THE FOLLOWING TO LIST:

Fiber Reinforced Polymer (FRP) pile. – Constructed of E-glass fiberglass reinforcements with a polyurethane matrixpiles as manufactured by:

Creative Pultrusions, Inc.
214 Industrial Lane
Alum Bank, PA 15521
814-839-4186
www.creativepultrusions.com

511.02.02 Equipment

THE FOLLOWING IS ADDED:

Use the following Equipment during installation of FRP pile

1. Install driving cap to spread the compression load across the entire surface of the top of the hollow pile. Ensure that cap efficiently directs energy into the pile by evenly loading the top of the pile during the jetting and driving process.
2. If vibro-hammer is used, fabricate and use adaptor that fits into each pile to guide it. Fabricate adaptor per manufacturer's instructions.

511.03.01 Bulkhead, Fender, and Dolphin Systems

A. Working Drawings

THE FOLLOWING IS ADDED:

See 105.07.01 for additional review requirements by South Jersey Gas (SJG).

2. Composite Piles
THE FIRST SENTENCE IS CHANGED TO:
When using composite piles, the Contractor may use FCCP, FRPP or FRP.

ADD THE FOLLOWING;

9. Jetting recommendations including procedures, and equipment.
10. For FRP, include driving cap shop drawings and description of shipping methods and packaging. Where vibro-hammer is used, submit adaptor shop drawings.

B. Shipping, Storing, and Handling
ADD THE FOLLOWING:

Upon delivery of piles, inspect for damage. Confirm that FRP piles are free from delamination over 3/8" wide, dry fiber and fracture.

D. Constructing Bulkhead, Fender and Dolphin Systems
ADD THE FOLLOWING:

Install HDPE sleeve over the top of piles where the steel wire cable will be wrapped and stapled. Use 18" IPS DR26 HDPE sleeves.

ADD THE FOLLOWING:

G. GAS MAIN No work can be carried out until the temporary gas main is installed, is operational and the existing gas main has been inspected by the gas company.

Locate all dolphin piles a minimum of 10' from the outside edge of the gas main

Due to the existing gas main along the west side of the bridge, jet each dolphin pile to a minimum depth of 10 ft below the gas main or the pile tip elevation specified on contract drawings whichever is lower elevation prior to driving piles. Then drive to tip elevation specified on contract drawing or until required penetration resistance is obtained, whichever is lower elevation.

While estimated elevations for jetting are on the contract drawings, confirm these values in field and submit to RE for approval before beginning work. Do not prebore with an auger.

SECTION 513 – RETAINING WALLS

513.01 DESCRIPTION
THE FIRST PARAGRAPH IS CHANGED TO:

This section describes the requirements for constructing mechanically stabilized earth (MSE) wall systems. The retaining structure is temporary. It will be removed after the completion of the permanent RT 50 Tuckahoe River Bridge.

513.02.01 Materials
THE FOLLOWING IS ADDED:

For MSE Walls, use either Soil Aggregate, I-15 or Coarse Aggregate, No. 57. For Prefabricated Modular Retaining Walls and T-Wall, use either Soil Aggregate, I-9 or Coarse Aggregate, No. 57.

513.03.01 Proprietary Retaining Walls

F. Backfilling.
THE SECOND PARAGRAPH OF MODULAR BIN WALL IS DELETED.

THE HEADING AND FIRST PARAGRAPH UNDER SUBPART (1) ARE CHANGED TO:

1. Soil Aggregate.

G. Compacting.
THE HEADING AND FIRST PARAGRAPH UNDER SUBPART (1) ARE CHANGED TO:

1. Soil Aggregate. With the exception of the 5-foot zone directly behind the units, compact soil aggregate with large, smooth drum, vibratory rollers using the density control method as specified in 203.03.02.D.

I. Removal. Remove the entire retaining structures as specified in 201.03.02 and 202.03.03. Include the cost of removal and excavation in the cost of constructing the temporary retaining walls.

513.03.02 Cast-In-Place Retaining Walls
THE TEXT OF THIS SUBPART IS DELETED.

THE FOLLOWING SECTION IS ADDED:

SECTION 514 – TEMPORARY STRUCTURES

514.02 MATERIALS

THE FOLLOWING IS ADDED:

Decks for temporary bridges will be supplied with an all-weather non-skid surface. Metal or timber decks are not acceptable.

514.03 CONSTRUCTION

ADD THE FOLLOWING:

No work can be carried out until the temporary gas main is installed, is operational and the existing gas main has been inspected by the gas company.

514.03.01 Temporary Structures

A. Working Drawings

ADD THE FOLLOWING:

See 105.07.01 for additional review requirements by South Jersey Gas (SJG) and 105.08 Section 3 for Coast Guard Requirements.

B. Erection Plan

ADD THE FOLLOWING:

See 105.07.01 for additional review requirements by South Jersey Gas (SJG) and 105.08 Section 3 for Coast Guard Requirements.

C. Structures.

THE ENTIRE PARAGRAPH IS CHANGED TO:

For overpass and waterbody structures, construct to provide horizontal clearance that is at least equal to the clearances provided by the existing structure and vertical clearance 9.5 ft above mean high water. Remove temporary structures, temporary roadway approaches and the associated temporary retaining structures after the new work is open to traffic.

THE FOLLOWING IS ADDED:

D. Temporary Bridge Design. The design will conform to the New Jersey Department of Transportation Design manual for Bridges and Structures, 5th edition, 2009. Design live load will be HS-25 plus any additional load due to the Contractor's own construction equipment. Pedestrian live load will be 100 psf. Temporary utility load will be included.

E. Temporary Bridge Fabrication. Workmanship, fabrication, and shop connections will be in accordance with the American Institute of Steel Construction, the American Welding Society D1.1 and D.1.5 Welding Codes, AASHTO, and ISO9000 (International Standard for quality control). Welding will be performed by properly certified operators. Temporary bridges will be fabricated by a fabricator who is currently certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability, and commitment to produce fabricated structural steel for the category "Simple Steel Bridge Structures".

F. **Navigation Lights.**

a. Supply and energize navigation lights on the east and west sides of the temporary bridge to the same requirements as those on the permanent bridge as specified in 750. Install and reposition lights during construction according to the Navigation Lights Sequencing on the Plans. See also 105.08 Section 3, Environmental Protection – Navigable Waters – General Coast Guard Requirements.

b. Submit catalog cut sheets and/or drawings per 750.03.03 to the RE for any equipment to be used for temporary purposes and which would not remain as part of the finished construction. Navigation lights which may be purchased for use during any part of the staging of demolition/construction work of the temporary bridge would be in this category.

c. Install and make operational navigation lights on the west side of the temporary bridge while the existing bridge is demolished. During this stage only operate the navigation lights on the west side of the new bridge.

d. Determine when to mount navigation lights on the east side of the temporary bridge based on the possibility of damage. If they cannot be protected from damage during the demolition of the existing bridge then elect not to mount them.

   Once the existing bridge is demolished and the existing navigation lights are no longer operational install and or activate the navigation lights on the east side of the temporary bridge while in the temporary position as required to mark the channel.

   During this stage the temporary bridge must provide the necessary channel marking for both approaches by the mariner.

G. **Piles**

a. Designate one pile at each abutment to be a test pile and be PDA tested and analyzed using CAPWAP.
b. Perform all substructure work in accordance with 502.
c. During removal of temporary bridge, cut off piles to 2 feet below ground level and follow wetland restoration procedures. Do not remove piles.

H. **Temporary Gas Main**

Provide and install the following items to protect the temporary 12" gas main on the existing bridge. See 105.07.01 Section F, for information on scheduling of this work.

a. 45" high construction barrier.
b. Sand layer around gas main.
c. Temporary sheeting to support sand layer.
d. 4" perforated pipe and its wrapping infiltration fabric.

Protect this temporary gas main while working on site from traffic and any type of construction activity.

514.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

All costs incurred by compliance with the above requirements for temporary navigation lights and markers will be included with the lump sum price for "Temporary Structure, Two-Way"

The following items, which will be installed to protect the temporary 12" gas main on the existing bridge, will be included in the bid price for "Temporary Structure, Two-way":

1. 45" high construction barrier.
2. Sand layer around gas main.
3. Temporary sheeting to support sand layer.
4. 4" perforated pipe and its wrapping infiltration fabric.

All installation, removal and maintenance cost to be included in the lump sum price of "Temporary Structure, Two-way". No separate payment for these items will be made.

DIVISION 600 – MISCELLANEOUS CONSTRUCTION

SECTION 601 – PIPE

601.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

The Department will make payment for restoring the pavement structure for trenches in the traveled way and shoulder under various Items of the Contract.
SECTION 602 – DRAINAGE STRUCTURESTHE FOLLOWING SUBPART IS ADDED:

602.02 MATERIALS

602.02.01 Materials

Provide materials as specified by the manufacturer of the MTD unit.

602.03 CONSTRUCTION
THE FOLLOWING IS ADDED TO FIRST PARAGRAPH OF SUBPART

The contractor will utilize dewatering system when installing the headwalls. The cost of dewatering will be included in the unit price of the headwalls. No separate payment will be made for dewatering.

602.03.02 Inlets and Manholes
THE FOLLOWING IS ADDED TO SUBPART (1).

1. **Precast**.

Fabricate Manufactured Treatment Device (MTD)'s diversion structures according to the MTD manufacturer's instruction. Obtain the shop drawings of diversion structures and submit for approval.

THE FOLLOWING IS ADDED TO THIS SUBPART

3. **Cast-In-Place**. All Special Inlet, Type B shall be cast-in-place according to the construction details. Controlled low strength material (CLSM) with a compressive strength of 150 psi as specified in 903.09 shall be used as backfill under the chute according to the construction details.

602.03.09 Manufactured Treatment Device (MTD)

Select a MTD model as shown in the drainage plans. Other MTD models listed in New Jersey Department of Environmental Protection, Stormwater Management, MTD Certifications and Guidance (http://www.nj.gov/dep/stormwater/treatment.html), that provides minimum 50% TSS removal rate and are able to tie to specific elevations listed in the drainage plans, can be submitted for approval. The Contractor shall submit the device model and shop drawings for each MTD location for approval. Install the devices according to the manufacturer instructions. Connect the drainage pipes to the MTD as specified in 601. The payment of junction and diversion manhole structures shall be paid under 2007 NJDOT standard items 602054M Manhole, 4' Diameter.

602.04 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Items as follows:

Item	*Pay Unit*
MANUFACTURED TREATMENT DEVICE	UNIT
SPECIAL INLET, TYPE B	UNIT

SECTION 603 – SLOPE AND CHANNEL PROTECTION

603.03.03 Riprap Stone Slope or Channel Protection

THE FOLLOWING IS ADDED:

See Section 901 – Aggregates, for gradation of Rip Rap and coarse aggregate.
Fabricate Geotextile according to Section 919.01, "Erosion Control Geotextile", Class 1.

Supply geotextile so it
1. is inert to commonly encountered chemicals,
2. is resistant to rot and mildew,
3. has no tears or defects which adversely affect or alter its physical properties.
4. has permeability that does not exceed the permeability of the underlying sub-grade and earth,
5. does not have sand or rock dust in excess of 5 percent by volume.

Submit the following to Resident Engineer – in addition to the requirements in AASHTO M288:
1. Manufacturer's installation instructions
2. Technical data concerning physical and chemical properties of the material.
3. Geotextile installation plan, which includes equipment proposed for Installation, method of joining the strips of geotextile together and other recommendations as established by the geotextile manufacturer.
4. Shop drawings, showing geotextile roll layout with proposed size, number, position, and sequence of placing of all field joints and the direction. The seam direction shall intersect the geo-membrane liner by 90 degrees. Shop drawings shall also show complete details and/or methods for anchoring the geotextile at top of slopes and attachments to structures if applicable.

Additional installation requirements:

1. Use mechanical or manual laydown equipment that is in accordance with the geotextile manufacturer's recommendations and is capable of handling full rolls of fabric.
2. Do not place geotextile fabric when weather conditions, in the opinion of the Resident Engineer, are not suitable to allow placement or installation. This will normally be at times of wet or snowy conditions, heavy rainfall, extreme cold or frost conditions, or extreme heat.
3. Do not place fabric by dragging across the finished surface.
4. Use a minimum of 24 inch overlap at longitudinal and transverse joints.
5. Do not allow traffic or construction equipment directly on the geotextile Pins, when used.
6. Avoid overstressing the subgrade soil by utilizing equipment in spreading and dumping that exerts only moderate pressures on the soil.
7. If ruts of 2 inches or greater occur in the aggregate, use lighter equipment which transmits less ground pressure. Fill any ruts which develop during spreading or compacting aggregate with additional aggregate rather than bladed from adjacent areas so that the final design aggregate thickness is maintained.
8. Do not allow construction equipment to turn or stop suddenly on the aggregate placed over the geotextile fabric.
9. Do not mix or process aggregate base material on the geotextile fabric, instead premix it at the stockpile area or another location in a manner approved by the Engineer.
10. Sample the aggregate base materials for acceptance after premixing and prior to placement on the geotextile.
11. Minimize the contamination and segregation of aggregate base materials prior to or during placement.

SECTION 606 – SIDEWALKS, DRIVEWAYS, AND ISLANDS

606.01 DESCRIPTION
THIS SUBSECTION IS CHANGED TO:
This Section describes the requirements for constructing HMA sidewalks, driveways, and islands, concrete sidewalks, driveways, and islands, and 4-inch thick tinted concrete sidewalks and test panels. This Section also describes the requirements for constructing imprinted crosswalks.

606.02 MATERIALS
THE FOLLOWING IS ADDED TO THIS SUBSECTION:

A. Provide materials for Tinted Concrete Sidewalks as follows:
Provide tinted concrete sidewalks as shown on drawings and details.

1. **Color:**
   a. **Concrete Pigment:** Federal Standard 595B Colors (July 1994) 23690, 23717, 27769, 20460, and 33564.
   b. **Sand:** Locally available native sand South Jersey yellow sand or approved alternative.
   c. **Aggregate:** Locally available native quartzose South Jersey blend 3/8" to ¾" gravel or approved alternative.

B. Provide materials for Imprint Crosswalk as follows:
For Imprinted Crosswalk, use a hot applied wearing surface that is a mixture of thermoplastic resins, polymer, rubber, aggregates, glass fibers, pigments and/or fillers that produce a product with superior adhesion, flexibility and abrasion resistance characteristics as well as color stability, chemical resistance and scrub ability. Ensure that it is capable of being produced in the specified color and pattern, and it has been developed specifically for use on asphalt and concrete pavement. The below list of companies can produce the required material:

1. **TrafficPrint by Traffic Calming USA, 266 South Main Street, Suite 800, Dallas, Georgia, 30132, 770-505-4044, www.trafficcalmingusa.com**
2. **Imprint by Dynamic Surface Applications Ltd., 373 Village Road, Pennsdale, PA 17756, 800-491-5663, www.dsa-ltd.com**
3. **Or Approved Equal**

Provide material to match color chip number range 30109 to 30166 of the Federal Standard 595B Color Fan Deck (July 1994). Provide the brick imprint mold in a running bond pattern.

Ensure that the imprinted crosswalk material meets the requirements in Table 606.02.01-1.

Table 606.02.01-1 Imprinted Crosswalk Material Properties

Property	Test Method	Requirement
Water Absorption, maximum	ASTM D 570	0.5%
Softening Point, minimum	ASTM D 36	200ºF
Bond Strength, minimum	ASTM D 4796	300 psi
Impact Resistance, minimum	ASTM D 256, Method A	10 in-lbs
Flash Point, minimum	ASTM D 92	440ºF
Skid Resistance, minimum	ASTM E 303	55
Low Temperature Stress Resistance	AASHTO T 250	No cracks

Ensure that pigment used for imprinted crosswalk is well dispersed in the resin. Ensure that the pigment, or any other materials in the imprinted crosswalk, does not contain lead, lead chromate or hexavalent chromium. Ensure that the imprinted crosswalk material, upon heating to application temperature, does not exude fumes that are toxic or injurious to persons or property.

As cover aggregate for the imprinted crosswalk, use only manufactured stone sand that conforms to 901.05.02 except that not more than 5 percent passing No. 200 sieve is permitted.

606.03 CONSTRUCTION

606.03.02 Concrete Sidewalks, Driveways, and Islands

REPLACE THE FIRST PARAGRAPH OF PART G:

G. Finishing Concrete. Strike off the concrete using a transverse template resting upon the side forms to the required cross-section. Finish the concrete using a light wash and/or broom to remove just enough concrete surface to expose the aggregate without dislodging aggregate. Round edges using an edging tool with a ¼ inch radius.**H. Protection and Curing.**

THE LAST SENTENCE IS CHANGED TO:

Ensure vehicles and other loads are not placed on sidewalks, islands, and driveways until the concrete has attained compressive strength of 3000 pounds per square inch, as determined from 2 concrete cylinders field cured according to AASHTO T 23.

THE FOLLOWING IS ADDED:

606.03.04 Tinted Concrete Sidewalk

Provide Class A tinted concrete sidewalks with Exposed Aggregate Finish as shown on drawings and details.

A. Before Installation:

1. Installer Qualifications: An installer with a minimum of 5 years experience with work of similar scope and quality.
2. Comply with the requirements of ACI 301.
3. Obtain each specified material from the same source and maintain high degree of consistency in workmanship throughout Project.
4. Integrally Colored Concrete Test Panels:
    a. Prior to fabrication, construct Six (6) 24 inch by 24 inch by 4 inch test panels. Provide one (1) test panel for each color and one (1) untinted panel.
    b. Prepare all test panels using South Jersey native sand and quartzose.
    c. Ensure that integral colors conform to Federal Standard 595B Colors 23690, 23717, 27769, 20460, and 33564.
    d. Follow in all respects the mixing and placing procedures, form surface material, curing methods and mix constituents proposed for each of the cast-in-place concrete elements in the preparation of test panels.
    e. Light wash and/or broom to remove just enough concrete surface to expose aggregate.
5. Ensure that the test panels are reviewed and one (1) of six colors shall be chosen by Landscape Architecture (LA) and Historic Preservation Office (HPO) representatives. Transport and handle as directed by the RE.
    a. Prepare a new test panel to replace any rejected panel, until approval is received.
    b. The test panels that represent the final approved panels are kept by the RE for purposes of future comparison with production concrete.
    c. Include the cost of the test panels in the cost of the permanent sidewalk in "Tinted Concrete Sidewalk.**"**

606.03.05 Imprinted Crosswalk

Ensure that the installation of the imprinted crosswalk is performed by a manufacture qualified applicator who has a minimum of five years experience with asphalt pavement texturing.

Submit product data in accordance to the RE with the Materials Questionnaire. Submit samples showing color, texture, and pattern to the RE for approval by the Office of Landscape Architecture.

Prepare the HMA pavement area that is to receive the imprint resin material by removing all dirt, debris, salts, concrete admixtures, and any chemical residues. Ensure the hot applied resin is not installed when precipitation is expected or temperatures are below 32 ºF.

Prepare the imprinted crosswalk for installation utilizing a heating kettle specifically designed for hot applied mixed resin. Ensure the material is heated to within a temperature range of 385 ºF to 420 ºF. Uniformly distribute the hot applied resin material onto the pavement surface by means of preheated finishing irons that are used to smooth and level the material. Immediately apply dry sand over the hot applied resin to cover the surface at an approximate rate of 1.75 lb/sf. Immediately after applying the sand, stamp the pattern into the semi-molten resin material using an approved stamp capable of providing a 5/16 inch ±1/16 inch deep impression. Ensure the stamp has a brick pattern.

Allow the hot applied resin to cure for a minimum of 1 hour until the material has hardened and remove all excess sand from the surface.

606.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

Item	*Pay Unit*
TINTED CONCRETE SIDEWALK , 4" THICK	SQUARE YARD
IMPRINTED CROSSWALK	SQUAR YARD

SECTION 607 – CURB

607.01 DESCRIPTION
THIS SUBSECTION IS CHANGED TO:

This Section describes the requirements for constructing concrete curb, granite curb, tinted concrete curb, and HMA curb, resetting granite curb, and test panels.

607.02 MATERIALS
THE FOLLOWING IS ADDED TO THIS SUBSECTION:

A. Provide materials for Tinted Concrete Curb as follows:
Provide tinted concrete curb as shown on drawings and details.

1. **Color:**
   a. **Concrete Pigment:** Federal Standard 595B Colors (July 1994) 23690, 23717, 27769, 20460, and 33564.
   b. **Sand:** Locally available native sand South Jersey yellow sand or approved alternative.
   c. **Aggregate:** Locally available native quartzose South Jersey blend 3/8" to ¾" gravel or approved alternative.

607.03 CONSTRUCTION

607.03.01 Concrete Barrier Curb

D. Placing Concrete.
THE THIRD SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

To place concrete between November 1 to March 15, submit to RE for approval a plan detailing the method of protecting the concrete from salt for at least 30 days after placing.

THE FOLLOWING IS ADDED:

607.03.02 Concrete Vertical Curb and Concrete Sloping Curb

D. Placing Concrete.

THE ENTIRE TEXT IS CHANGED TO:

Place concrete for vertical curb and sloping curb as specified in 607.03.01.D, except that consolidation may be achieved by hand spading or internal mechanical vibrators.

H. Before Installation:

Use the same color in the construction of the curb as color chosen for the construction of the concrete sidewalk, 4" Thick, as specified in 606.03.02

607.03.04 Concrete Vertical Curb and Concrete Sloping Curb, Dowelled

D. Placing Concrete.

THE ENTIRE TEXT IS CHANGED TO:

Place concrete for vertical and sloping curb as specified in 607.03.02.D

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607.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

Item	*Pay Unit*
TINTED CONCRETE CURB, 9" X 18"	LINEAR FOOT

SECTION 608 – NON-VEGETATIVE SURFACES

THE ENTIRE SECTION IS CHANGED TO:

608.01 DESCRIPTION

This Section describes the requirements for constructing non-vegetative surfaces of HMA; color-coated HMA; porous HMA; broken stone, and polyester matting.

608.02 MATERIALS

608.02.01 Materials

Provide materials as specified:

Broken Stone, Coarse Aggregate No. 3……..... ……..901.03
HMA (9.5M64)……..... ……...902.02
Asphalt-Stabilized Drainage Course……..... ……..……902.06
Non-Vegetative Surface Coating……..... ……...912.02.04
Herbicide…… ..... ……917.11.03
Polyester Matting……..…….....…….…..919.15

Provide Non-Vegetative Surface, Porous HMA conforming to the requirements of Asphalt-Stabilized Drainage Course.

608.02.02 Equipment

Provide equipment as specified:

HMA Compactor…….....……..1003.05
Vibratory Drum Compactor……. ..... ……..1003.06
HMA Plant…….....……1009.01
HMA Trucks…….....……....1009.02

608.03 CONSTRUCTION

608.03.01 Non-Vegetative Surface, HMA

Excavate as specified in 202.03.03. Shape and compact the underlying material to produce a firm, even surface. Obtain RE approval before finishing excavation. If the RE determines that the bottom of the excavation is unstable, undercut, backfill, and compact as directed by the RE.

Construct the non-vegetative surface, HMA before installing guide rail. Obtain RE approval for alternate methods of construction.

Deliver HMA as specified in 401.03.03.D. Construct non-vegetative surfaces 4 inches thick. Place and compact the material to produce a surface free of roller marks and ridges. Spread and grade the HMA as specified in 401.03.03.E. Ensure that the finished surface is smooth, even, and graded to drain away from the guide rail. Compact HMA as specified in 401.03.03.F. Spread, rake, and lute areas not accessible to pavers and rollers with hand tools and compact with dynamic compactors.

Repair non-vegetative surface damaged by guide rail installation with HMA. Use hand tampers around posts and other obstacles where mechanical compactors are not accessible.

608.03.02 Color-Coated Non-Vegetative Surface, HMA

Construct color-coated non-vegetative surfaces as specified in 608.03.01.

Uniformly apply the final color at the rate of 0.3 to 0.5 gallons per square yard by spraying, brushing, or squeegeeing over the HMA surface course. Ensure that the surface is clean and dry at the time of application. Reapply the coating to any missed spots or areas to obtain a uniform coating.

Avoid spilling the color coating on adjacent surfaces. If the color coating spills, immediately clean it with water before the coating dries. If the coating dries, repair as directed by the RE.

The RE will not allow traffic on the color-coated surface until it is dry.

608.03.03 Non-Vegetative Surface, Broken Stone

Ensure that areas to receive non-vegetative surface, Broken Stone, are free from vegetation. Vegetation removal may require manual removal, herbicide treatment as specified in 608.03.06 or both.

Apply a pre-emergent herbicide to the area before placement of broken stone. Spread broken stone, aggregate size No. 3, in a uniform layer, to prescribed thickness.

608.03.04 Non-Vegetative Surface, Porous HMA

Ensure that areas to receive non-vegetative surface, Porous HMA, are free from vegetation. Vegetation removal may require manual removal, herbicide treatment as specified in 608.03.06 or both. Excavate as specified in 202.03.03. Shape and compact the underlying material to produce a firm, even surface. Obtain RE approval before finishing excavation. If the RE determines that the bottom of the excavation is unstable, undercut, backfill, and compact as directed by the RE.

Construct the non-vegetative surface, porous HMA before installing guide rail. Obtain RE approval for alternate methods of construction.

Construct porous HMA surface course to prescribed thickness according to the requirements of Section 303 except for the application of prime coat. Repair non-vegetative surface damaged by guide rail installation with porous HMA. Use hand tampers around posts and other obstacles where mechanical compactors are not accessible.

608.03.05 Non-Vegetative Surface, Polyester Matting

Install polyester matting according to the manufacturer's requirements by manufacturer certified workers.

Ten days before installation, submit to the RE a list of manufacturer certified workers and one copy of the "engineering package" including demonstration compact discs and samples of product components; such as foot prints, finished seams, etc. The manufacturer may elect to train the workers and Department inspectors on a test section on the worksite.

Ensure that the surface areas to receive the matting are smooth, firm, stable and free of rocks, clods, foliage, roots or other material which might prevent the matting from lying in direct contact with the ground surface, free of wrinkles or bulges. Existing non-vegetative surface or HMA that is in the same location as proposed polyester matting may be left in place as long as its surface area is properly prepared as previously stated. Mow grass as low as possible prior to installation of matting. Install the matting immediately following installation of guide rail posts and prior to installation of the guide rail hardware by lifting the matting above the posts and allowing it to drop to the ground with the posts passing through prefabricated openings.

Stake the matting along its edges in accordance with the manufacturer's recommendations.

Seal matting openings with a separate prefabricated piece of matting that will provide a snug fit around the post and completely cover the opening. Ensure that seams are sealed.

Ensure that the matting surface is vegetation-free from installation until final acceptance. Vegetation removal may require herbicide treatment, mechanical removal, or both, as specified in 608.03.06.

608.03.06 Post-Emergent Weed Control of Non-Vegetative Surfaces

Manually remove or spray vegetation growing on the non-vegetative surface with a post-emergent non-selective herbicide treatment for total control of vegetation on the non-vegetative surface area, as directed by the RE. Select post-emergent herbicides for control of targeted vegetation based on the manufacturer's recommendations and product label. Begin the work associated with vegetation removal as early as the conditions permit. Herbicides must be applied by, or under the direct supervision of, a Certified Commercial Pesticide Applicator, according to the manufacturer's recommendations. Restore areas where herbicide has been applied and not intended to its prior existing condition at no cost to the State. Do not apply herbicide in the rain or when wet weather is expected within 24 hours. Do not apply herbicide after rain until approved by the RE.

The RE will notify the ME after Acceptance for inclusion of the non-vegetative surface in its herbicide spraying program including the date that the herbicide was last applied on the project section.

608.04 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Items as follows:

Item	*Pay Unit*
NON-VEGETATIVE SURFACE, HOT MIX ASPHALT	SQUARE YARD
COLOR-COATED NON-VEGETATIVE SURFACE, HOT MIX ASPHALT	SQUARE YARD
NON-VEGETATIVE SURFACE, BROKEN STONE,___THICK	SQUARE YARD
NON-VEGETATIVE SURFACE, POROUS HOT MIX ASPHALT,___THICK	SQUARE YARD
NON-VEGETATIVE SURFACE, POLYESTER MATTING	SQUARE YARD

When the RE directs undercutting of unstable material in the excavation area, the Department will make payment, as specified in 104.03.03, for the additional excavation. The Department will also make payment, as specified in 104.03.03, for the additional bedding if there is not an excess of excavated material available for use as bedding.

SECTION 609 – BEAM GUIDE RAIL

609.03.01 Beam Guide Rail
THE SEVENTH PARAGRAPH IS CHANGED TO:

Install flexible delineators with white retroreflective sheeting on the right side of the direction of traffic. Install flexible delineators with yellow retroreflective sheeting on the left side of the direction of traffic. Mount flexible delineators on the blockout of beam guide rail using either a "U" channel base on the I-beam blockout or a flat base attached to a wood, polymer, or other solid top blockout. Attach the base to the blockout using an adhesive recommended by the manufacturer of the base and panel.

609.03.03 Terminals and Anchorages
THE FOLLOWING IS ADDED:

Excavate cut slope as specified in 202.03.03 within the limits of the buried guide rail terminal. Drive beam guide rail posts for buried guide rail terminal to the required position. Ensure that posts are driven plumb, properly spaced, and to the line and grade shown. Attach the beam guide rail element to the spacer at every post. Attach the beam guide rail element and plate to the terminal posts. Align the top edge of the beam guide rail element in a straight line. Where a vertical transition is required, ensure that the top edge of the beam guide rail element forms the chords of a smooth vertical curve. Backfill with excavated material as specified in 203.03.02C.

609.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM IS ADDED

Item	*Pay Unit*
BURIED GUIDE RAIL TERMINAL	UNIT

SECTION 610 – TRAFFIC STRIPES, TRAFFIC MARKINGS, AND RUMBLE STRIPS

610.03.04 Removal of RPMs
THE ENTIRE TEXT IS CHANGED TO:

Remove RPMs as directed by the RE. Dispose of RPMs as specified in 201.03.09. If directed by the RE, fill the hole with HMA patch as specified in 159.03.07 except sawcutting is not required.

610.03.06 Ground Mounted Flexible Delineators
THE FIRST PARAGRAPH IS CHANGED TO:

Use white retroreflective sheeting for delineators located on the right side when facing in the direction of traffic. Use yellow retroreflective sheeting for delineators located on the left side when facing in the direction of traffic.

610.04 MEASUREMENT AND PAYMENT
THE FOLLOWING ITEM IS DELETED:

Item	*Pay Unit*
RPM, BI-DIRECTIONAL, WHITE LENS	UNIT

SECTION 611 – CRASH CUSHIONS

611.02 MATERIALS
THE SECOND PARAGRAPH IS CHANGED TO:

Ensure that the sand has a dry density of 90 to 100 pounds per cubic foot and a 3 percent maximum allowable moisture content. The RE may require the Contractor to test the moisture content of the sand according to AASHTO T 255 and to submit certified test results.

SECTION 612 – SIGNS

612.01 DESCRIPTION

THE FOLLOWING IS ADDED:

This Section also describes the requirements for the furnishing and installation of two Tuckahoe River signs including: cast iron signs, cast iron sign posts (one new and one refurbished), concrete footings, and all associated hardware, at the locations shown on the plans. Restoration of the cast iron post consists of cleaning, surface preparation, painting, and sealing. This work also includes obtaining all measurements of the sign post required for fabrication and submittal of these measurements in the form of Shop Drawings to the RE for approval.

A new Route 49 pedestrian sign will be erected by the contractor. NJDOT sign shop will provide the new sign. The contractor shall coordinate with RE for the location of the new sign, provide a new U-post, remove the existing Route 49 sign, and erect the new sign as RE instructs. The cost of the procedures shall be included as part of the sign installation in this project.

612.02 MATERIALS

THE FOLLOWING IS ADDED TO THE LIST OF MATERIALS:

Paints & Solvents: Alkyd zinc chromate primer conforming to Federal Specification TT-P-645
Lusterless alkyd enamel conforming to Federal Specification TT-E-527
Paint thinner
Turpentine

Footing: Provide excavation according to Section 202.
Provide Class B concrete for footing, as specified under Subsection 903.03.

Ground Surface: No. 57 broken stone

THE FOLLOWING IS ADDED TO THIS SECTION:

Use a smooth white baked enamel or approved equal finish on the background and a smooth black baked enamel or approved finish on the raised portions of the single face cast iron signs. Ensure that castings are free of pits and gas holes and all letters are sharp with a clean edge. Use white conforming to Color # 27780 of the Federal Standard 595B Colors Fan Deck for the field color of the signs. Use black conforming to Color # 27038 of the Federal Standard 595B Colors Fan Deck for sign trim, lettering and post color. Submit sample color chips to the RE for approval prior to construction.

Use brackets capable of supporting at least 100 pounds in both the vertical and transverse directions. Submit catalog cuts of the bracket selected to the RE for approval prior to construction.

THE FOLLOWING IS DELETED FROM THE MATERIALS LIST.

Non-Breakaway Sign Supports.....911.02.03

THE SECOND PARAGRAPH IS DELETED.

612.03.02 Type GA Breakaway and Non-Breakaway Support Guide Signs

THE SUBPART HEADING IS CHANGED TO:

612.03.02 Type GA Breakaway Support Guide Signs

612.03.02 Type GA Breakaway Support Guide Signs

C. Constructing Pedestals

THE SUBPART IS CHANGED TO:

Place reinforcement steel as specified in 504.03.01 before placing the concrete. Ensure that concrete placement complies with the limitations as specified in 504.03.02.C. Place concrete as specified in 504.03.02.D. Cure concrete as specified in 504.03.02.F.

D. Erecting Posts

THE SUBPART IS CHANGED TO:

Erect posts as specified in 512.03.01.G.

THE FOLLOWING IS ADDED:

F. Constructing Anchor, Hinge, Bracket and Coupling Assemblies.. At least 10 days before beginning the work, submit the manufacturer's installation guide and installer's certification to the RE.

Ensure that the installer is certified by the manufacturer.

Ensure that the manufacturer's representative is present during the foundation pour and the installation of the first sign. Install anchor, hinge, bracket and coupling assemblies according to the manufacturer's recommendations. The RE may require the system manufacturer's representative to be present at all times during the installation to provide on-site technical support.

THE FOLLOWING IS ADDED:

612.03.04 Cast Iron Posts

A. Cast Iron Post Restoration.

Remove the cast iron post from its existing location and bring it to a company that is highly experienced in the restoration of cast iron posts. Provide a delivery receipt from the place of restoration. On completion of the restoration process, return the post to the RE for storage prior to reinstallation. Exercise care in removing, transporting, and storing the post to prevent damage. Remove all concrete from post prior to restoration.

Remove loose paint from the post by wire brushing, sanding or other method that does not compromise the post's quality. Clean/prepare all surfaces by washing/scrubbing with turpentine and lightly wire brushing. Apply a minimum of two coats of primer to all surfaces, allowing for thorough drying between coats. Paint the post with two coats of black alkyd enamel.

B. Reproduction Cast Iron Post.

1. Working Drawings. Prior to creating working drawings, obtain and verify all dimensions by taking measurements from the existing cast iron post.

At least 30 days before beginning work, submit working drawings to the RE and Office of Landscape Architecture for certification in accordance with Subsection 105.05 and include details of the post indicating the dimensions, color, material, and finish of the final product.

Upon approval of the drawings, fabricate the post and submit it for approval by the RE and Office of Landscape Architecture prior to installation. The RE and Office of Landscape Architecture will reject a post that does not match the dimensions of the existing post or the requirements of this specification. Do not install posts until approved by the RE.

2. Capacity. Ensure that the design, including loadings, conforms to the current New Jersey Department of Transportation Design Manual for Bridges and Structures.

612.03.05 Installation

Erect the sign posts per the locations on the contract plans. Include a poured concrete footing with an imbedded post in the installation of each sign. Ensure that the footings are a minimum of 3 feet deep and 1 foot in diameter and adhere to the footing specifications indicated above.

Install signs four feet (4') from top of ground to bottom of sign or as determined in the field. Provide shop drawings for installation. Mount the cast iron signs on the sign posts, to the satisfaction of the RE.

Upon installation, remove vegetation within 3' of the sign and place 4" of No. 57 broken stone.

The Contractor is responsible for repairing or replacing any damage, to the satisfaction of the RE, at the Contractor's expense.

612.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

Item	*Pay Unit*
CAST IRON SIGN & POST RESTORATION	LUMP SUM

THE FOLLOWING ITEM IS DELETED:

Item	*Pay Unit*
GUIDE SIGN, TYPE GA, NON-BREAKAWAY SUPPORTS	SQUARE FOOT

DIVISION 650 – UTILITIES

SECTION 651 – WATER

651.04 MEASUREMENT AND PAYMENT
THE LAST PARAGRAPH IS DELETED.

SECTION 652 – SANITARY SEWERS

652.03.01 Sewer Pipe

F. Thrust Blocks.

THE THIRD SENTENCE IS CHANGED TO:

Ensure that thrust blocks do not come in contact with other utilities or structures without the approval of the RE.

H. Sewer Pipe Testing.

1. Gravity Main Sewer Testing.

652.04 MEASUREMENT AND PAYMENT
THE LAST PARAGRAPH IS DELETED.

DIVISION 700 – ELECTRICAL

SECTION 701 – GENERAL ITEMS

701.03.01 Existing Systems

Deliver and unload salvaged materials to a location designated by the RE:
THE FOLLOWING IS ADDED:

If new cable or wire is designated to be installed into existing conduit systems, clean and swab the conduit system prior to installing the cable or wire. After cleaning, test each conduit by pulling through a metal ball with a diameter at least 85 percent of the nominal inside diameter of the conduit to ensure the conduit is free of any obstruction or foreign material. If the ball fails to pass through the conduit, repair or replace the defective conduit as directed by the RE. Restore disturbed areas to original condition.

701.03.05 Rigid Nonmetallic Conduit

B. Installation.
THE LAST PARAGRAPH IS CHANGED TO:

Install true tape marked in 1-foot increments for the length of the rigid non-metallic conduit. Install a tracer wire continuously for the entire run of conduit, including through the junction boxes, mounting it on the wall. Splice the tracer wire only in the junction box. Seal the ends of rigid nonmetallic conduit carrying the tracer wire. If wire or cable is not scheduled to be installed within 6 months of conduit installation, cap and seal the other conduits leaving the true tape inside. Install warning tape in the trench above the conduit.

701.03.07 Flexible Nonmetallic Conduit

B. Installation.
THE SECOND PARAGRAPH IS CHANGED TO:

Terminate flexible nonmetallic conduit according to manufacturer's recommendations.

THE LAST PARAGRAPH IS CHANGED TO:

Install true tape marked in 1-foot increments for the length of the flexible non-metallic conduit. Install a tracer wire continuously for the entire run of conduit, including through the junction boxes, mounting it on the wall. Splice the tracer wire only in the junction box. Seal the ends of flexible nonmetallic conduit carrying the tracer wire. If wire or cable is not scheduled to be installed within 6 months of conduit installation, cap and seal the other conduits leaving the true tape inside. Install warning tape in the trench above the conduit.

701.03.15 Cable and Wire

A. Installing.
THE FOLLOWING IS ADDED

Test the existing tracer wire in the conduit for continuity. If there is no existing tracer wire in any of the conduits in the same trench, then install a continuous tracer wire between the adjacent junction boxes without any splice when installing the cable and wire as directed by the RE.

C. Connection and Coordination with Utility Services.
THE FOLLOWING IS ADDED TO THE FOURTH PARAGRAPH:

At Substantial Completion provide the RE with a letter requesting transfer of utility services providing the latest copy of the utility bill from each utility company. Such transfers are to be effective beginning the next monthly billing cycle after Substantial Completion or as directed by the RE.

For transfer of utility services involved with ITS system devices, successful ITS system testing is also required to be completed as specified in Section 704

. **D. Testing.**

THE SIXTH PARAGRAPH IS DELETED.

701.04 MEASUREMENT AND PAYMENT
THE FOLLOWING IS ADDED:

If restoration of disturbed areas includes pavement, curb, sidewalk, driveway or island, the Department will make payment for such work as specified in 104.03.03.

When the RE directs the installation of a new conduit or a repair to the defective conduit, the Department will make payment for this work as specified in 104.03.03.

When the RE directs the Contractor to install a tracer wire in existing conduit, the Department will make payment for this work as specified in 104.03.03.

SECTION 702 – TRAFFIC SIGNALS

702.02 Materials and Equipment

THE FOLLOWING IS ADDED

All traffic signal equipment is to be powder-coated black to match Federal Standard 595B Colors (July 1994) 27038. The color of the finish coat of all ITS equipment has to match, including the traffic signal equipment.

702.03 CONSTRUCTION
THE FOLLOWING IS ADDED:

After placing a new, temporary or interim traffic signal system into operation, inspect the traffic signal system every 2 months. Fill out a Contractor Maintenance Traffic Signal Inspection Report (Form EL-16C) when the traffic signal system becomes operational, when the traffic signal system is modified, and at every 2-month inspection.

Maintain as-built drawings of each signal modification. Place copies of the as-built drawings for each traffic signal system modification, Forms EL-16C, and Forms EL-11C in a plastic pocket mounted inside the cabinet door of each controller cabinet. Also provide a copy of all forms and as-built drawings to the RE.

If a new, temporary or interim traffic signal system fails or becomes damaged, repair and restore the traffic signal system to normal operation. Begin repair of the traffic signal system within 2 hours of receiving notice of damage or malfunction from the Department, State police, or local authorities. Ensure that workers assigned to such repair work continuously until the traffic signal resumes normal signal operation.

For each response to a system failure or damage, fill out a Contractor Maintenance Emergency Call Record (Form EL-11C) and place it in a plastic pocket mounted inside the cabinet door of each controller cabinet.

If the Contractor fails to respond to a failure or damage notification and begin work within 2 hours of notification, or does not continue to work until the traffic signal system resumes normal operation, the Department, in the interest of safety, will respond with its own forces to restore normal operation. If the Department mobilizes its forces to effect repairs, the Contractor agrees to pay the Department a sum of $3000 for costs of mobilizing its forces and equipment. In addition, the Contractor must pay the Department the actual cost of material used for the repair and pay the actual costs of police traffic protection.

702.03.02 Standards
ITEM 2 ON THE FIRST PARAGRAPH IS DELETED:

702.03.11 Temporary and Interim Traffic Signal Systems

THE FIRST THROUGH FIFTH PARAGRAPHS ARE DELETED:

SECTION 703 – HIGHWAY LIGHTING

703.03 CONSTRUCTION
THE FOLLOWING IS ADDED:

Maintain up-to-date as-built drawings of the highway lighting system and temporary highway lighting system. Place copies of the as-built drawings in a plastic pocket mounted inside the meter cabinet, and provide a copy to the RE

If the highway lighting system or temporary highway lighting system fails or becomes damaged, repair and restore the system to normal operation. Begin repair of the signal system within 2 hours of receiving notice of damage or malfunction from the Department, State police, or local authorities. Ensure workers assigned to such repair work continuously until the lighting system is restored to normal operation.

For each response to a system failure or damage, fill out a Contractor Maintenance Emergency Call Record (Form EL-11C) and place it in a plastic pocket mounted inside the cabinet door of each controller cabinet.

If the Contractor fails to respond to a failure or damage notification and begin work within 2 hours of notification, or does not continue to work until the lighting system is restored to normal operation, the Department, in the interest of safety, will respond with its own forces to restore normal operation. If the Department mobilizes its forces to effect repairs, the Contractor agrees to pay the Department a sum of $3000 for costs of mobilizing its forces and equipment. In addition, the Contractor must pay the Department the actual cost of material used for the repair and pay the actual costs of police traffic protection.

703.03.07 Temporary Highway Lighting System
THE SIXTH PARAGRAPH IS DELETED:
THE EIGHTH THROUGH TENTH PARAGRAPHS ARE DELETED:

SECTION 704 – INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

704.02.01 Materials

THE FOLLOWING IS ADDED

All traffic ITS equipment is to be powder-coated black match Federal Standard 595B Colors (July 1994) 27038. The color of the finish coat of all ITS equipment has to match, including the traffic signal equipment.
THE FOURTH PARAGRAPH IS CHANGED TO:

Provide materials as specified in the Contract and in the New Jersey ITS and Electrical Materials Specifications that are available on the Department's websites. A list of pre-qualified ITS material (QPL) and application forms to request listing of new products is also available at http://www.state.nj.us/transportation/eng/elec/ITS/qualified.shtm.

FIFTH PARAGRAPH IS CHANGED TO:

Submit catalog cut sheets of the ITS and electrical material specified components along with the system working drawings, in a complete package for approval. The complete package of the system working drawings includes but is not limited to the ITS System Block Diagrams, Fiber Assignment Diagrams, and Rack/Cabinet Equipment Layout Diagrams;.Electrical material catalog cut sheets, Certified Structural Details & Calculations. All components must be approved in the system working drawings before use on the Contract. Submit structural components separately for

structural review and approval with the required certification and include a copy of all approvals when submitting the system working drawings to meet the complete package requirement.

THE FIRST SENTENCE OF THE LAST PARAGRAPH IS CHANGED TO:

For materials furnished and installed, provide a minimum 2-year warranty from the latter date of Substantial Completion and Successful ITS System Testing against any imperfections in workmanship, components and materials.

704.03.01 General System (GS)

THE FOLLOWING IS ADDED BEFORE

A. COMPONENTS

Networking Requirements.
Provide all ITS network devices as directed by both the Department and the State Office of Information Technology (OIT) to ensure the efficient operation, security and diagnostic capability of the ITS network being installed or modified.

The contractor is required to provide the necessary personnel with the proper credentials (specifically with a Cisco Certified Network Professional certification) to properly interface and configure the ITS network to the State's network and to also interface with OIT and the Department's IT staff. These designated personnel are also required to obtain a VPN into the Department's network to set up and monitor the network they are constructing. This includes providing necessary Layer 3 configurations, obtaining and installing network assignments, security provisions, multiple VLAN's for IP switches, routers and ITS devices as directed. Settings and additional hardware that includes but not limited to enabling Rapid Spanning Tree protocols; IGMP, setting up VPNs, White lists, Black lists, NATting, providing hardened routers for broadband services and other settings and hardware configurations that are enacted at the behest of the Department and OIT.

In addition the contractor is to ensure the correct Fiber Optic Transceiver is utilized for each switch and to ensure the correct power is used based on distance and dB loss. Ensure that all Internetwork Operating System (IOS) and protocols for the network devices are compatible across the network and as specified by NJDOT and OIT. As a condition of acceptance, ensure that the default IP addresses and passwords set from the manufacturer are changed for all electronic devices where applicable and forward that information to the RE for each device. This includes ITS devices, IP switches, routers, modems and wireless equipment. Provide a Networking Block Diagram that includes the aforementioned plus the descriptions of device type, IP address, and corresponding switch port and other requirements subsequently noted as it pertains to Ethernet networking.

B. Installation.
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

When installing a new system or modifying an existing system, ensure the respective manufacturer certified field representative of ITS components and related equipment is on site to put the equipment into operation.

1. Junction Box ITS.
THE ENTIRE TEXT IS CHANGED TO:

a. Installation. Excavate as specified in 202.03.02. Install junction boxes only in areas where the slope is not less than 22H: 1V. Place junction boxes on 10 inches of coarse aggregate No. 57. With each junction box, provide 6 coiling brackets, inserts and fasteners, and a ground rod and clamp. A ground rod is only required for locations where electrically conductive material is present. Backfill and compact using the directed method as specified in 203.03.02.D. Restore disturbed areas to the original conditions, the conditions specified in the Contract, or as directed by the RE.

4. Controller ITS.
THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Identify each component by manufacturer and model number.

6. Control Center System.

THE FOLLOWING IS ADDED:

Ensure the ITS System Network working drawing is submitted in a format acceptable to the Department. Sample Working Drawings are available at:

http://www.state.nj.us/transportation/eng/elec/ITS/pdf/sampledrawings.pdf

Ensure the working drawing contains the following information:

1 Affected network nodes are shown in nodal format with Latitude/Longitude
2. Each node shows equipment type and the proposed communication links between them.
3. Distances between Ethernet switches and calculated dB loss between them.
4. A Communication Network Assignment Table specifying Equipment Location (Node, Site ID, Lat/Long, Plan sheet reference, Route, Mile Post), Equipment Information (Item No., Description, Function, VLAN No., Subnet Mask, and IP Address)

Supply and install equipment, software, software revisions, firmware, miscellaneous wiring and cabling, at the specified Control Centers to ensure the remote operation and control of all ITS field devices from the Traffic Operation Centers. Provide the appropriate vendor/ manufacturer certified support for intergration of all ITS devices installed new or modified in this project into the respective various Controller Software suites. Comply with building installation requirements, restrictions, access, and security requirements in the performance of work. The material and work required for the integration of the various ITS installations into the various existing operating systems or subsystems used by the Department includes, but is not limited to, the following:

1. At least 6 days in advance of requiring access to the designated Control Center, submit a written notice to the RE requesting access.
2. Ensure complete functionality with field devices. Coordinate with the Department for access, rack space, and LAN connections to Client Workstations, respectively.
3. Ensure CCTV encoders are compatible with approved camera system especially for PTZ and focus control and CCTV Controller Software.
4. Ensure CCTV Controller Software is updated by integrating new cameras installed and ensure video and control is available to all necessary Traffic Operations personnel.
5. Ensure CTSS components are fully integrated and all the necessary functionality is demonstrated in the designated CTSS Controller Software.
6. Secure and provide all necessary Network configurations and assignments as directed by the Department.
7. Provide and install any other electronic equipment that may become necessary as a result of network protocol translation, electrical signal transmission degradation or communications media translation (fiber optic, coax, ISP or High Speed ISP interface, network interface, etc.)
8. Provide for software support to integrate new ITS devices into new and existing platforms for all workstations and servers utilized by DOT operators. This includes any required work from each of the software suppliers for workstations located remotely from the Traffic Operation Centers. The Department will provide information regarding the respective system, on particulars for authorized remote users.
9. Provide for the installation of network assignments for all field devices as well as enabling the network and device management protocols as directed by the Department.
10. Ensure that network support requests through the RE to the Department are made at least 60 days prior to the installation of any device to be included in the network.

THE FOLLOWING IS ADDED:

7. ITS Conduits. Install Flexible Nonmetallic Conduits as specified in 701.03.07 with the following exceptions:

a. Do not install mechanical joints on conduit runs between junction boxes.

b. Obtain RE approval for fusion joints that may be permitted under special circumstances on conduit runs between junction boxes.

c. Provide an as-built list indicating the location of all joints to the RE.

d. Install a continuous tracer wire without any splice in the conduits and from junction box to a termination point in the field cabinet.

e. Ensure that all conduits and ducts entering a junction box, foundation, cabinet, hub, or building are terminated based on manufacturer's recommendation and are rodent proofed and sealed around cables, or plugged if conduit is built for future use.

f. Ensure that the ITS Conduits facilitate the various means of cable and wire installations including but not limited to pulling, jetting, and blowing of Fiber optic cable and electrical wires.

g. When lateral ITS conduits are installed under a roadway, install a Schedule 80 rated protective sleeve around the group of conduits.

C. Testing.

THE FIRST PARAGRAPH IS CHANGED TO:

Perform wiring and cable testing, as specified in 701.03.15.D, before performing any other testing. Complete the device and system testing as specified on the Department provided forms and instructions. The contractor is responsible for having the proper personnel test the system and subsystems. This may include having manufacturer certified representatives present to ensure complete functionality of said systems and subsystems. The period of testing under this section and in the various testing forms available from the Department's website are in terms of business days. The test will be extended if there is any state holiday during the designated testing period. When a device fails during testing period, the testing period will be rescheduled to progress again after the problem is addressed for the testing time period specified.

1. Device Testing.

b. Level B.

THE FIRST SENTENCE IS CHANGED TO:

Demonstrate that each device is fully operational from the designated control center to the work site with the original equipment manufacturer's software.

c. Level C.

THE FOLLOWING IS ADDED

Upon successful completeion of level C testing of any device, the Department will accept the device on an interim basis and will pick up the cost of all associated utility services for that device as specified in section 701.03.15.

2. Project Testing.

THE FIRST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

After the Contractor's verification test, the Department will conduct a 14-day observational and functional test period of all systems on the Project.

D. Maintenance

1. Regular Maintenance

THE FIRST SENTENCE IS CHANGED TO:

Perform regular maintenance and repairs as specified in 108.09 after interim acceptance of a device and/or project testing until acceptance of the project.

E. Final Documentation.

THE FOLLOWING IS ADDED AT THE END OF FIRST PARAGRAPH:

Place one set of all manuals of each device in the respective controller cabinet installed in the field, and provide a set to the RE. Also, send an electronic set to the RE. Provide all documentation listed under this section at or prior to Substantial Completion of the project.

THE FOLLOWING IS ADDED TO THE FOURTH PARAGRAPH:

10. Certification of successful deployment of ITS components from the respective equipment manufacturers with complete details of any repair work performed under warranty.

THE FOLLOWING IS ADDED:

G. Warranty. In addition to the provisions set forth in Section 108.21, document all repairs made by the manufacturer or its designated representative to the device under warranty during construction. Include an explanation of the exact repairs made and identification of parts replaced by part number and circuit number. Provide all necessary equipment for safe access to the installed device along with traffic control promptly upon request by the manufacturer to perform the repairs under warranty during this period. Provide the Department with a complete record of the repairs made to each device as part of the Final Documentation. Ensure that a minimum two year warranty certificate by the manufacturer is provided and transferred to the Department with documentation as set forth in Section 704.02.01 for any repairs to be performed by the manufacturer after substantial completion.

704.03.02 Camera

B. Installation.

THE FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH :

If directed by the RE, provide a bucket truck with safety equipment that can reach the height of the camera. Operate the bucket truck for the Department to use to determine the camera's final location and orientation, and for testing.

1. Foundation CSS.

THE FOLLOWING IS ADDED:

Ensure that the anchor bolts are placed after verifying the orientation of the camera lowering system to minimize the obstruction of desired camera view by the Camera Standard.

2. Camera Standard.

THE FOLLOWING IS ADDED:

At least 30 days before beginning construction, submit working drawings for approval that include structural calculations meeting the specified criteria. Ensure the calculations are signed and sealed by a Professional Engineer.

3. Camera

THE FIRST PARAGRAPH IS CHANGED TO:

Mount the camera housing and camera according to the manufacturer's recommendation. Ensure that the camera's field of view is unobstructed. Perform tree trimming and site clearing to provide an unobstructed field of view as directed by the RE. Set up "On Screen Display" to indicate the quadrant views with directional titles (e.g. NB view, EB view, SB view, WB view) displayed in the bottom right corner of the screen for each camera. Leave the display blank for any quadrant not representing any highway view. For a camera with multiple highway views, include route and directional title (e.g. Rt 1 NB view). Also, establish a pan and tilt zones system and set up 4 presets for quick pan-tilt-zoom views prior to level B testing. At least 6 days prior to Level C testing, submit a request to the RE for the Department to integrate each camera into the designated control center CSS control software management system in use at the time of construction.

THE FOURTH PARAGRAPH IS CHANGE TO:

Provide a drill, a drill adaptor assembly and a manual crank assembly with handle for each impacted TOC when a CSS Type A or B standard is installed.

4. Controller, Camera

THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Indentify each component by manufacturer and model number

THE FOLLOWING IS ADDED:

5. CCTV Broadband ISP Communication.

Apply for and install broadband ISP communication on the camera site to allow the video to be seen from the Traffic Operations Center (South) and to allow full control of the camera's PTZ capabilities.
When install the ISP modem in the CCTV cabinet, install a mechanical timer to reset the modems by turning off/on twice a day at 10 AM and 10 PM.
Provide secured private IP address in coordination with OIT through RE.
Perform necessary work at TOCS to allow integration into the existing system including reconfiguration of an existing or installation of a new Ethernet switch, rack mountable at TOC and all incidental cabling work.
Contractor shall be responsible for all related bills, including monthly bills, until NJDOT accepts the CCTV camera and the project is deemed substantially complete.

C. Testing

Perform wiring and cable testing as specified in 701.03.15 before performing any other testing.

On forms available on the NJDOT website, perform testing

Testing includes but is not limited to the following: Verify video signal to noise ratio at the control center; IP communications; controller diagnostic capability; PTZ; preset settings; iris; focus; communications bit error rate; bandwidth throughput; camera housing pressurization; weather proofing; electrical power; control center database; NTCIP protocol conformance.

F. Equipment Training.

THE FOLLOWING IS ADDED:

G. Warranty. Perform repairs under warranty and provide documentation as specified in 704.03.01.G.

704.03.11 COMMUNICATION CABLE

The purpose of this specification is to identify to use Ethernet cable as communication cable and to describe the minimum acceptable design requirements for Ethernet copper cable.

The cable shall consist of 4 pairs of No. 24 AWG solid bare annealed copper conductors for outdoor installation.

The Cable shall be UL listed for intended use.

The cable shall conform to the following requirements:

- ANSI/TIA/EIA 568B.2-1 (category 5e).
- ISO 11801 (category 5e).
- NEMA WC-63.1 category 5e.
- CMR, CMX-outdoor, UL444

Each conductor shall be insulated with Non Plenum polyolefin material.
The inner jacket shall be polyvinyl chloride (PVC) with a nominal wall thickness of 0.2″. Ripcord shall be provided longitudinally under the inner jacket.

The outside jacket shall be unshielded industrial grade polyvinyl chloride (PVC) of wall thickness 0.035″. Ripcord shall be provided longitudinally under the jacket.

The cable normal outer diameter shall be less than 0.285″.

Color code for Ethernet copper cable shall be as follows:

Pair Color Code Chart:

Number	Color
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

Electrical Characteristics:

The cable shall meet at a minimum the following electrical performance requirements:
- Nom. Mutual Capacitance @ 1 KHz: 15 pF/ft
- Maximum Capacitance Unbalance (pF/100 m): 66 pF/100 m
- Nominal Velocity of propagation: 70 %
- Maximum Delay (ns/100m): 510 ns/100 m
- Maximum Delay Skew (ns/100m): 25 ns/100 m
- Maximum Conductor DC Resistance @ 68°F (20°C): 9 Ohms/100 m
- Maximum DCR Unbalance @ 68°F (20°C): 3 %
- Maximum Operating Voltage – UL: 300 V RMS

The storage and operating temperature for cable shall be -29°F to +165°F (-34° C to +74° C).

The Minimum bending radius shall be 0.29″.

The Pulling Tension Shall be 40 lbs.

The cable shall be equipped with RJ 45 male connectors at both ends.

The cable shall be identified with manufacturer's identification, cable type, category and year of manufacture at 2 feet intervals on the outer jacket.

704.03.12 ROUTER

The purpose of this specification is to identify the material requirement of the Ethernet Router in field cabinet as required by the JOC for central integration.

The Ethernet router shall be Hardened Cisco® 819 Integrated Services Router series or approved equal by the Department/TOC. The Hardened Cisco® 819 Integrated Services Router shall be integrated into Cisco IOS Software as an enterprise class feature that provides highly secure video and data communications for video surveillance and camera control.

The Contractor shall contact the Department/TOC for approved list of the Cisco® 819 router series and system requirements prior to purchase of the equipment.

704.03.13 ISP SERVICE

The purpose of this specification is to identify the construction requirements of the Broadband Internet Service for the proposed camera assembly as required by the TOC.

The Contractor shall remove the existing DSL circuits and connections at the designated camera site as shown on plans and replace with a Broadband Internet service connection. The Broadband Internet connection shall include the application, installation, and test of the Broadband ISP routers and modems and to port the video IP Streams to TOC via the Leased ISP approved by TOC.

When ISP modem is installed in the CCTV cabinet, install a mechanical timer to reset the modems by turning off/on twice a day at 10 AM and 10 PM. Provide secured private IP address in coordination with OIT through RE.

At the TOC, the Contractor shall verify, install and test the Broadband Internet Service, if such service connection is not available, which shall connect with the camera in the field via the leased high speed Internet to receive video streams for video surveillance and to send control signals for camera control and diagnostics.

Provide any incidental equipment, routers, modems, or cabling connection required for successful Broadband ISP connections at the equipment cabinet and at TOC. The ISP application shall be coordinated with TOC so that the new ISP circuits can be integrated into existing system in operation in TOC.

The Contractor shall be responsible for all related bills, including monthly ISP bills, until the Department accepts the CCTV camera and the project is deemed complete by the Department.

704.03.14 ITS INTEGRATION

The purpose of this specification is to identify the construction requirements necessary to integrate the proposed camera assembly to the existing TOC video network.

Prior to the start of TOC Integration Work, the Contractor shall submit working drawings for approval that include a block wiring diagrams that illustrate the interconnections of the system components from the field location to TOC. The working drawings shall also verify and show the existing central equipment in operation and how to integrate the proposed camera into existing video network. The TOC shall be informed at least 72 hours prior to the start of any ITS Integration work.

The Contractor shall verify, install and test the Ethernet Router paired with the field Ethernet Router (Cisco® 819 Integrated Services Router series) and the MPEG-4 video decoder paired with the field MPEG-4 video encoder, if not available at TOC. The Contractor shall connect the video and data signals for the CCTV camera to the existing AD matrix switch, existing network routers or servers at the TOC in order to integrate the camera into existing video network (Nextiva system).

ITS Integration shall include all electronic equipment, material, wiring, switches, connectors and other incidental material and labor to make the ITS field devices operational at the TOC.

704.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEMS ARE ADDED:

Item	*Pay Unit*
METER CABINET ITS	UNIT
FOUNDATION CSS	UNIT
FOUNDATION ITS	UNIT
CAMERA STANDARD, TYPE C	UNIT
CONTROLLER, CAMERA	UNIT

COMMUNICATION CABLE	LF
CAMERA	UNIT
ROUTER	UNIT
ISP SERVICE	UNIT
ITS INTEGRATION	UNIT

THE TABLE UNDER SECOND PARAGRAPH IS REVISED TO:

Work Completed Payment	
Installing the Item	60% of Total Contract Price
Successful completion of Level A testing	10% of Total Contract Price
Successful completion of Level B testing	10% of Total Contract Price
Successful completion of Level C testing	10% of Total Contract Price
Successful completion of Project testing	10% of Total Contract Price

THE FOLLOWING IS ADDED:

SECTION 750 - NAVIGATION LIGHTS

750.01 DESCRIPTION

This section describes the requirements for constructing the navigation system on the new bridge. It includes:

1) Installing a navigation light system on the bridge and connecting infrastructure to a new service entrance/navigation light control cabinet;

2) arranging with the utility for the replacement of the existing bridge service drop and relocation of the existing utility service drop pole as detailed in the Contract drawings;

3) trenching and installing underground conduit for a service lateral and branch circuit run between the service entrance cabinet and the bridge for connection to the navigation light circuits on the bridge;

4) maintaining the navigation light system in operation on the existing bridge during construction

5) coordinating the installation, operation and maintenance of interim navigation lights and signage to mark the channel with the removal of the navigation light system from the existing bridge, all in accordance with the Coast Guard requirements and subject to inspection and fines for failure to maintain the required lighting and signage;

6) testing the navigation light system all in accordance with the referenced standards, these special provisions and the Contract plans

Prior to commencing work submit documentation of the plan and schedule of work to the United States Coast Guard Sector Delaware Bay for review and approval. Submit plans and schedules and other information as may be requested to the following office:

USCG Sector Delaware Bay
1 Washington Ave.
Philadelphia, PA 19147
Attn: Lt. Corrina Ott
Telephone: 215 271-4902
Email: corrina.ott@uscg.mil

750.02 MATERIALS

Provide materials as specified in:

Concrete	903.03
Reinforcement Steel	905.01
Conduit and Fittings	918.01
Cable and Wire	918.02
Bonding and Grounding Materials	918.03
Cable Connectors	918.04
Resin Splicing Kits	918.05
Electrical Tape	918.06
Cable Racks	918.07
Cast Boxes and Fittings	918.08
Cabinets	918.09
Panel Boards and Circuit Breakers	918.10
Photoelectric Controls	918.11

Provide UL Listed electrical equipment including all connecting electrical infrastructure such as raceways, wiring, conduit fittings and bodies, junction/pull boxes and terminations.

Provide UL Listed and/or certification by an independent testing laboratory citing compliance of the lantern photometry to standards established by the Coast Guard.

Provide additional equipment not covered under General Items in accordance with the following descriptions.

750.02.01 Navigation Lights

A. Provide LED-type navigation lights of sufficient candlepower as to be visible against the background lighting at a minimum distance of 2000 yards (1.8 km), 90% of the nights of the year. Use optically aligned lamp and lens of such design to provide this visibility.

B. Design navigation light system to operate directly at 24VDC nominal from a battery and charger sourced as part of the service entrance cabinet. See 750.02.05 Battery and Battery Charger. (part of **750.02.03)**

C. Navigation light fixtures are herein defined as assemblies consisting of LED type lantern with integral driver/power supply and pendant-type swing arm assembly designed and manufactured by a single manufacturer.

D. Subject to compliance with all of the requirements of this specification, active membership in IALA or other national or international association of manufacturers such as ISO and approval by the RE provide navigation light fixtures manufactured by:

Tideland Signal Corporation:
4310 Directors Row, Houston, TX 77092
(713) 681-6101
MLED Series, ML-140 with MLED-RETRO AC Light Source
mailto:us-sales@tidelandsignal.com

Automatic Power Inc.:
213 Hutcheson St., Houston, TX 77003
(713) 228-5208
Model FA-143079

mailto:sales@automaticpower.com?subject=Sales%20Department

Pro Access Systems.
1785 W Armitage Court, Addison, IL 60101
(800) 800-EDKO
sales@edko.com
Federal Series Type 1-P and Type 6-PSU

E. Furnish lanterns that are part of the manufacturer's standard product line and in production for a minimum of five years with an installed base. Ensure that lantern housings are copper-free cast aluminum (NPC 356) with clear anodized finish and fittings are #316 stainless steel. Fit mounting base with a grommeted hole for wires to pass into the lantern directly from the pendant swing arm.

F. Use lantern optical section with Fresnel lens, made of glass or acrylic in the color indicated specifically engineered for use with the particular LED light source. Design lens and focal point for not less than an eight degree vertical beam divergence and provide lenses of the color indicated. Clear lenses with LEDs of the indicated color are not acceptable. On pendant swing arm type mounts provide the lantern lens with a 0.125" drain hole at the end of the lens.

G. Provide current-regulated LED driver/power supply which is designed to operate with the LED array to produce the required candela for the application at a drive current not to exceed 525mA. Ensure that driver/power supplies are rated for 10-36 VDC input for nominal operation at 24VDC and protect with a surge protective device (SPD) furnished integral with the lantern power supply or supplied by the manufacturer as a device for separate mounting and connection to the 24VDC branch circuit tap.

H. Provide driver/power supply with an alarm contact to signal failure of the LED power supply. Wire out the contact via two #14 conductors, part of the power cord, for field connection by the Contractor to a separately supplied signal light, mounted at the roadway level to indicate that the navigation light is not functioning. See 750.02.02 "Navigation Light – Signal Fault Light".

I. Design the swing arm assembly for field wiring to enter the pendant through a water-tight grommeted connection. Provide the lantern with a manufacturer supplied quick-disconnect plug/receptacle combination to facilitate tool-less removal of the wiring connecting to the LED driver power supply with the lantern rotated into position for servicing. Use self-retaining hardware connecting the lantern base to the connecting flange on the pendant.

J. Provide option only for individual photocell with each lantern. See 750.02.04 **Photocell** (part of **750.02.03**).

K. Design the swing arm to be counterweighted as required to limit pulling force as indicated on the Contract plans but in no case exceed 35 pounds force. Supply the swing arm with two suspension chains to enable the lantern fixture to be pulled from either side of the swivel suspension. Ensure that when installed the movement of the arm through the full arc of travel is free and clear of interference with any part of the assembly, the signal light for example, such that the pulling motion will be smooth and continuous. Include a locking mechanism on arm to prevent it from swinging when not being serviced. Ensure that the manufacturer of the assembly provides all necessary retaining clips and anchors suitable for anchoring in preformed concrete and indicate on the shop drawings the method for installing them.

L. Isolate cast aluminum mounting plates, part of the pendant assembly, from steel or concrete with a neoprene pad matching the area dimensions of the plate or a matching *Fabreeka*® pad.

750.02.02 Navigation Light – Signal Fault Light

A. Provide a signal light, mounted and wired in accordance with the Contract drawings

B. The signal light shall be a low-profile, LED type with blue lens, rated NEMA 4X with an operating temperature rating to -20 degrees C. The light shall be fitted with an integral ½ inch NPT threaded opening for pipe-mounting. The LED array shall be rated 24VDC. The lens shall be protected with a wire guard as provided by the manufacturer of the signal light. The manufacturer of the navigation light fixture shall provide the signal light and pipe mount either as part of the complete assembly or as a separate field-mounted item with all necessary fittings for connecting the signal light wiring to the lantern fault relay contact.

750.02.03 Service Entrance Cabinet

Conform to Section 918.09 "Cabinets" and the following:

A. Provide a Type "M" – Fabricated Meter Cabinet in accordance with NJDOT Electrical Details Drawing L-1407

B. Provide the cabinet equipped and wired with the bill of material items and circuitry in accordance with the Contract plan drawing Sheets B39, "NAVIGATION LIGHTS-ELECTRICAL SCHEMATICS" and Sheet B40, "NAVIGATION LIGHTS-ELECTRICAL CABINET".

C. Coordinate with the utility and the fabricator for the required meter box for installation during fabrication within the Service Entrance Cabinet.

D. Coordinate with the utility a Service Entrance Rated disconnect switch per the utility standard, padlockable with NJDOT designated as the owner of the lock.

E. Provide spare parts as indicated in a water-tight container marked 'Spare Parts' and secure inside the Meter Cabinet.

F. Furnish four bound O&M manuals containing manufacturer's operating instructions, specifications and wiring diagrams of the equipment contained within the cabinet.

G. Include a circuit schematic/wiring diagram in a protective plastic jacket or envelope and a storage bracket inside the cabinet to contain it.

H. Install NEMA 3R breather fitting in accordance with the Contract drawings.

I. Bond all metal conduit stub ups to enclosure using bushings with grounding lugs and #6 AWG BC wire.

750.02.04 Photocell (part of **750.02.03)**

Conform to Section 918.11 "Photoelectric Controls" and the following:

A. Photocell sensitivity of 1-3 footcandles turn-on for operation from sunset to sunrise and at other times when visibility is less than one nautical mile (1.8km)

B. Turn-on/off ratio: 1:3

C. Operation from -40°F to 115°F

D. Weather-proof, vandal-resistant photocell in an aluminum or stainless steel housing for surface mounting on the outside wall of the Service Entrance Cabinet

E. Threaded stud mount with adjustment to orient the sensor for optimal operation in the location

F. Rated to switch 24VDC, 1A load

750.02.05 Battery and Battery Charger (part of **750.02.03)**

A. Furnish a 24VDC battery and charger sized to operate the navigation light system for 120 hours continuously in the event of loss of AC power from the utility and to be rechargeable from that point to full charge in 32 hours.

B. Ensure that the manufacturer of the navigation lighting system provides sizes and warrants this item as part of the total package.

C. Provide a maintenance-free battery of the required voltage and ampere-hour rating in a stainless steel, vandal-proof, vented enclosure, with hinged, pad-lockable, water-tight cover, for mounting and wiring by the Contractor on the service entrance cabinet mounting pad in accordance with the Contract drawings.

D. Ensure that charger is fused internally on the AC input, rated for 240VAC.

E. Provide charger that is compatible with the type of battery and allows for maintenance of float charge and equalizing charging. Use current-limited output during charging.

F. Provide monitoring functions in the charger to enable the user to measure charging current, battery voltage and the charging circuit operation.

G. Ensure that the charger enclosure NEMA rating is suitable for the application and rated to operate over the range -10°F to 115°F inside a NEMA 4 cabinet.

H. Furnish four copies of bound, manufacturer published O&M manuals; one for inclusion in the service-entrance cabinet.

750.02.06 Metal Junction Boxes

A. The following exception is taken to the material specification in Section 918.08 “Cast Boxes and Fittings” on all bridge-related conduit infrastructure relating to the navigation light circuiting.

B. Provide NEMA rated 4X, SS 316 surface-mount junction boxes at abutments and along the bridge, with bolted and gasketed covers and factory-fitted mounting lugs. Drill and tap all boxes for bottom-entry only. Install UL Listed water-tight galvanized steel conduit hubs with grounding lugs at all conduit connections to boxes.

C. Confirm boxes sized in accordance with N.E.C., the indicated tap connections and additional space requirements for in-line fuses where used.

D. Install NEMA 4X drain plug in all outdoor junction/pull boxes.

750.02.07 Conduit and Fittings

A. Install service lateral and underground feeder/branch circuit conduits in accordance with Section 701.03/02.

B. Install conduits on the bridge structure in accordance with Section 701.03.04.

C. To allow for settlement install a weatherproof rated rigid galvanized steel conduit ‘pull box’ PVC coated fitting (O-Z Gedney Type PBW or Engineer accepted equivalent) in above-ground vertical conduit stubup between the ground and the bridge in accordance with the Contract drawings. Select the required sleeve length when ordering the fitting and install the fitting to allow for the indicated range of movement. Follow the manufacturer’s recommendation for orienting the fitting (confirm sealing assembly on the lower end as installed vertically)

D. Install expansion/deflection fittings in accordance with the Contract drawings to allow for the indicated horizontal expansion. Notify the Engineer of situations before applying deflection fittings not otherwise indicated on the Contract drawings.

E. Liquid-tight flexible metal conduit is not approved for use in any part of the construction.

750.02.08 Cable and Wire

A. Comply with the requirements of Section 701.03.15 and the following;

B. Subject to approval by the Engineer use flexible cord for final connection to the pendant swivel-mount of the navigation lights as required by the construction to allow for the free and complete rotation of the pendant-mounted light from the fully extended position to the maintenance position. The connection will vary with the chosen manufacturer and must be indicated on a shop drawing prepared and submitted for review and acceptance by the Engineer.

750.02.09 In-Line Fuses and Fuse Holders

A. Provide UL Listed in-line watertight fuse holders in navigation light junction boxes in accordance with the Contract drawings.

B. Use ¼"x1-¼" fast-acting ceramic tube fuses rated per navigation light power supply spec sheet subject to review and approval by the Engineer.

C. Provide two spare fuses in each navigation light junction box.

750.03 CONSTRUCTION

750.03.01 Existing Systems

Comply with the requirements specified in 701.03.01.

750.03.02 Permitting

In advance of beginning work coordinate with NJDOT for preparation of 'Requests for Service' to the utility and for the preparation and submission of documentation to the Coast Guard indicating the bridge site plan showing existing navigation markings and the proposed markings for the new bridge.

750.03.03 Submittals

A. Submit shop drawings and catalog cut sheets of all equipment for review by the Engineer before starting work on the service entrance and navigation light system. The location of the wiring cables, conduits and navigation light fixtures shown on the plans is diagrammatic only and may be subject to slight shifting as required to meet field conditions as approved by the RE.

B. Submit alternative Navigation staging plans to the RE if circumstances require changes to the Navigation Light Sequencing plan or as may be required by the Coast Guard.

C. Promptly submit requests for information or variances to the RE for review where discrepancies between field conditions, plans and specifications or installation occur.

D. Submit catalog cut sheets and/or drawings to the RE for any equipment to be used for temporary purposes and which would not remain as part of the finished construction. Navigation lights which may be purchased for use during any part of the staging of demolition/construction work of the temporary/new bridge would be in this category.

750.03.04 Existing Navigation Lights

A. Maintain existing navigation lights in use during the construction period as required by the staging.

B. Provide power to maintain the navigation light system throughout construction using, as availability of service changes, either utility power or temporary on-site generators.

C. Note: The existing navigation light system is powered at 120VAC. The new navigation light system is designed to operate from a battery-backed 24VDC power source located in the service entrance cabinet. Lanterns from the existing system will not be interchangeable with the new lanterns or with the power supply.

D. Maintain and operate the existing lights until the permanent lights are in operation including all circuits, switching devices, re-lamping and power service for the existing lights, any temporary or interim lights and the permanent navigation lights until the final and formal acceptance of the complete work. Operate navigation lights automatically from sunset to sunrise and at other times when visibility is less than 2000 yards (1.8 km).

750.03.05 New Service Entrance

Conform to Section 701.03.14 “Meter Cabinet” and the following:

Fabrication

A. Coordinate the provision of the battery charger and battery with the service entrance cabinet fabricator for mounting, wiring and combination testing.

B. Arrange with the cabinet fabricator for an operational test under power at the factory of the navigation light system control equipment contained within the cabinet.

C. Witness the test at the factory and prepare a test report consisting of a detailed check list, the bill of material, all nameplate information, the results of the test and any failures of components during test with the reason. Submit the test report including photos of the equipment to the RE for review and approval as a condition for release-to-ship. The equipment may not ship without the RE’s approval.

Installation

A. Orient the service entrance cabinet on the concrete pad with the battery box as shown on the plans. Isolate the service entrance cabinet from concrete with a neoprene pad matching the area dimensions of the cabinet or a matching *Fabreeka*® pad.

B. Coordinate with the utility a Service Entrance Rated disconnect switch per the utility standard, padlockable with NJDOT designated as the owner of the lock.

C. Perform all work to provide the service lateral connection between

1. the service entrance cabinet pad and the utility’s service drop pole in accordance with the utility’s requirements and
2. the underground conduit connections and wiring between the service entrance cabinet and the bridge and all conduit infrastructure on the bridge required to connect to the navigation lights in accordance with the Contract drawings

D. Stage the application and installation of the new service entrance cabinet and related work to be performed by the utility with the construction of the new bridge to maintain power to the navigation light system on the existing bridge as well as be available for the new bridge lights as construction requires.

E. Submit a plan for review and acceptance by the Engineer indicating the method to be used to supply temporary electrical service to both the new bridge and the existing bridge prior to demolition.

F. Commission the service entrance cabinet prior to connecting load. Follow the battery/battery charger O&M instructions to initially charge the battery correctly.

750.03.06 New Navigation Lights

A. Install 180° red margin-of-channel lanterns and 360° green center-of-channel lanterns, in accordance with the plans and Coast Guard approvals and directives indicated in the permit documentation through the various stages of construction.

B. Align margin-of-channel lights to show 90° on either side of a line perpendicular to the axis of the channel so as to be visible from an approaching vessel.

C. Align center-of-channel lights in line with the axis of the channel so as to be visible from an approaching vessel in either direction.

D. Isolate cast aluminum swivel mounting plates, part of the navigation lantern assembly, from steel or concrete with a neoprene pad matching the area dimensions of the plate or a matching *Fabreeka*® pad.

E. Install a flexible power cord from the last junction box to the swivel/pendant assembly in accordance with the plans and arrange so that the cord does not obstruct the range of movement of the pendant in either direction of rotation for maintenance.

750.03.07 Junction Boxes

Conform to Section 701.03.09 "Metal Junction Boxes" and the following:

A. Install outdoor surface-mount boxes with conduits connected in accordance with Contract drawings.

B. Install surface-mount junction boxes to concrete with stainless steel bolts and anchors; submit shop drawing and cut sheets showing all details for review and approval by the Engineer.

750.03.08 Navigation Light Testing

A. Immediately at the point where the new bridge becomes the primary transit point for mariners inspect and test the navigation light system to determine compliance with the plans and the Coast Guard permitting directives and as may be further dictated by a Coast Guard inspection of the bridge.

B. Inspect all of the navigation lights from the water, navigating the channel in both directions from a distance of at least 2000 yards or the greatest distance permitted by land contours to check alignment and visibility.

C. Prepare a report for review and acceptance by the RE recording the findings showing the approach routes to the bridge.

D. Indicate in the report any limitations for any light as a function of the horizontal angle of approach to the channel and any point where the light is not fully visible as a function of the vertical angle formed by the line-of-sight from the boat to the light.

E. Indicate the height directly below each light to the water as measured from the transiting boat. Note weather conditions, time and date, height and type of boat used for the inspection and all other factors relevant to the measurements including deficiencies whether of a factual nature or an opinion expressed.

F. Use a map or chart of the area on which to describe the approach angles and other relevant information.

G. Provide specific information regarding navigation lights, lenses and LED light sources installed at the time of observation and current and voltage measurements made at each light.

H. Test and verify the signal fault lights at each navigation light location.

750.03.09 Temporary Navigation Lighting and Markings

A. Conform to 105.03, Section 3.

B. Provide temporary navigation lights during construction until the new permanent lights on the bridges are operational. In addition to temporary lights on the bridges, install the prescribed temporary navigation lighting on all barges, cofferdams and other obstructions in the channel. No unmarked objects will be allowed during nighttime hours.

C. Provide all temporary navigation lanterns and markers as certified navigation aids installed in accordance with Coast Guard Bulletin CG-208 "Aids to Navigation Regulations."

D. If any obstructions to navigation are placed or accidentally dropped into the river, mark such obstructions by one or more lighted buoys. Deploy buoys horizontally striped orange and white with the top stripe orange. Align buoys cross-channel at intervals of about 25 feet, or as close as practicable to the obstruction in the river. Light each buoy at night with a quick flashing white light (60 flashes per minute) if steel is extending above the water. Orange flags by day and quick flashing white lights by night may be displayed on the steel in lieu of any buoy.

750.04 MEASUREMENT AND PAYMENT

The Department will measure and make payment for Items as follows:

Item	*Pay Item*
ELECTRICAL WORK, NAVIGATION SYSTEM	LUMP SUM

All costs incurred by compliance with the above requirements for temporary navigation lights and markers will be included with the lump sum price for “Temporary Structure, Two-Way"

DIVISION 800 – LANDSCAPING

SECTION 811 – PLANTING

811.03.01 Planting

E. Excavation for Plant Pits and Beds.
THE LAST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

Obtain RE approval before reusing topsoil from the excavated pits.

I. Watering.
THE FIRST PARAGRAPH IS CHANGED TO:

Water plants with sufficient frequency and quantity to ensure that the soil surrounding the root system remains moist but not saturated.

811.03.02 Plant Establishment Period
THE THIRD AND FOURTH PARAGRAPHS ARE CHANGED TO:

The Department will reinspect the plants annually for two (2) years, beginning approximately 1 year after the start of the plant establishment period. If the Department determines that plants need to be replaced after each inspection, replant plants as specified in 811.03.01 within 3 weeks of notification. If replacing outside of the optimal planting season as specified in Table 811.03.01-1, only use containerized or balled and burlapped plants that are certified as being dug dormant.

2. Maintenance Bond.

Provide a bond to the Department in the amount of $20,000

DIVISION 900 – MATERIALS

SECTION 901 – AGGREGATES

901.03 COARSE AGGREGATE

THE FOLLOWING IS ADDED:

Use Size No. 1 per Table 901.03-1 for coarse aggregate under rip rap.

901.08 RIP RAP STONES

THE FOLLOWING IS ADDED:

Use the following for riprap gradation:

Approximate Given Size Weight (lbs)	Approximate Given Size Volume (Cubic Feet)	Equivalent Cubic Dimensions (inch)	Total Size Smaller than Given Size (%)
700	4.52	20	100
500	3.23	18	80
200	1.29	13	50
20	0.13	6	10**

** This material consists of spalls and fragments graded to provide a stable compact mass.

Provide Rip Rap material that is hard, angular to subangular, of such quality that it will not disintegrate on exposure to water or weathering, and free from segregation, seams, cracks, deleterious material, clay, organics, waste, alkali, and other defects tending to reduce its resistance to weather. Supply rip rap stone so that neither breadth nor thickness of a single stone is less than one-third its length, and has the following requirements:
1. Apparent Specific Gravity, 2.50 Min.
2. Absorption, 4.20 % Max.
3. Coarse Durability Index, 52 Min.

901.11 SOIL AGGREGATE

1. Composition of Soil Aggregate.

THE FOLLOWING IS ADDED TO THE LAST PARAGRAPH:

For Designation I-14, the Contractor may use up to 30 percent steel slag by weight of the coarse aggregate portion of the soil aggregate. Obtain steel slag from a source listed on the QPL as specified in 901.01. Use steel slag that was produced as a co-product of the steel making process. Ensure that the steel slag consists of tough, durable pieces that are uniform in density and quality. Stockpile steel slag as specified in 901.02. Ensure steel slag for blending with I-14 Soil Aggregate does not exceed 0.50 percent expansion from hydration when tested according to ASTM D 4792.

SECTION 902 – ASPHALT

902.02.02 Composition of Mixtures

TABLE 902.02.02-2 IS CHANGED TO:

Table 902.02.02-2 Additional Fine Aggregate Requirements for HMA		
Tests	**Test Method**	**Minimum Percent**
Uncompacted Void Content of Fine Aggregate	AASHTO T 304, Method A	45
Sand Equivalent	AASHTO T 176	45

902.02.04 Sampling and Testing

B. Sampling.
THIS ENTIRE PART IS CHANGED TO:
The ME will take a random sample from each 700 tons of production for volumetric acceptance testing and to verify composition.. The ME will perform sampling according to AASHTO T 168, NJDOT B-2, or ASTM D 3665.

902.03.02 Mix Design
THE FOURTH PARAGRAGH IS CHANGED TO:

The ME will test 2 specimens to verify that the final JMF produces a mixture that has a minimum void content as specified in Table 902.03.03-1. The ME will determine percent air voids according to AASHTO T 209, and either NJDOT B-6 or AASHTO T 331.

902.03.03 Sampling and Testing
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that the mix meets the requirements as specified in 902.02.04.A, otherwise the RE or ME will reject the material.

THE SECOND PARAGRAPH IS CHANGED TO:

During production, the ME will take one random acceptance sample from each 700 tons of production to verify composition. Conduct air voids and draindown tests as directed by the ME.

THE FOURTH PARAGRAPH IS CHANGED TO:

The ME will perform sampling according to NJDOT B-2 or ASTM D 3665, and will perform testing for composition according to AASHTO T 308 or NJDOT B-5. Perform testing for air voids according to AASHTO T 209 and either NJDOT B-6 or AASHTO T 331. Perform testing for draindown according to NJDOT B-7 or NJDOT B-8.

902.04.03 Sampling and Testing
THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that the mix meets the requirements as specified in 902.02.04.A, otherwise the RE or ME will reject the material. Maintain the temperature of the mix between 300 °F and 330 °F. Perform and meet requirements for quality control testing as specified in 902.02.04.C.

THE SECOND PARAGRAPH IS CHANGED TO:

During production, the ME will take one random acceptance sample from each 700 tons of production to verify composition. Conduct draindown tests as directed by the ME.

902.05.01 Composition of Mixture
THE FIFTH PARAGRAPH IS CHANGED TO:

For fine aggregate, use stone sand conforming to 901.05.02. Ensure that the combined fine aggregate in the mixture conforms to the requirements in Table 902.02.02-2.

902.05.02 Mix Design
THE FIRST PARAGRAPH IS CHANGED TO:

Design the SMA to meet the requirements in Table 902.05.02-1 and Table 902.05.02-2. Prepare the JMF according to AASHTO R 46. Determine the JMF at 4 percent air voids and 75 gyrations of the Superpave gyratory compactor.

TABLE 902.05.02-2 IS CHANGED TO:

Table 902.05.02-2 SMA Mixtures Volumetrics For Design and Plant Production

Property	Production Control Tolerances	Requirement
Air Voids	±1%	4.0%
Voids in Mineral Aggregate (VMA)	–	17.0% minimum
VCA_{mix}	–	Less than VCA_{dry}
Draindown @ production temperature	–	0.30% maximum
Asphalt Binder Content (NJDOT B-5)	±0.15%	6% minimum
Asphalt Binder Content (AASHTO T 308)	±0.40%	6% minimum
Tensile Strength Ratio (AASHTO T 283)	–	80% minimum

902.05.03 Sampling and Testing
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that the mix meets the requirements as specified in 902.02.04.A, otherwise the RE or ME will reject the material.

THE SECOND PARAGRAPH IS CHANGED TO:

During production at the plant, the ME will take a sample from each 700 tons of production to verify composition and air voids. Conduct draindown, VCAmix, VCAdry, and VMA testing as directed by the ME. Perform tests according to AASHTO R 46.

THE FOURTH PARAGRAPH IS CHANGED TO:

The ME will perform sampling according to NJDOT B-2 or ASTM D 3665, and will perform testing for composition according to AASHTO T 308, or NJDOT B-5. The ME will determine bulk specific gravity of the compacted sample according to AASHTO T 166 or AASHTO T 331. The ME will use the most current QC maximum specific gravity test result, obtained according to AASHTO T 209, in calculating the volumetric properties of the SMA. Perform testing for draindown according to AASHTO T 305.

902.06.03 Sampling and Testing
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that the mix meets the requirements as specified in 902.02.04.A, except that the temperature of the mix at discharge is required to be between 230 °F and 275 °F, otherwise the RE or ME will reject the material.

THE SECOND PARAGRAPH IS CHANGED TO:

During production, the ME will take one random acceptance sample from each 700 tons of production to verify composition. Conduct draindown tests as directed by the ME.

SECTION 903 – CONCRETE

903.03.05 Control and Acceptance Testing Requirements

E. Acceptance Testing for Strength for Pay-Adjustment Items.
Concrete Items which are subject to pay adjustment and the base prices are as follows:

ITEMS	DESCRIPTION	UNIT	BASE PRICE
505030P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BII-48), 48" X 33"	LF	$185.00

903.03.06 Tables

Table 903.03.06-2 Requirements for Structural Concrete Items
THE SEVENTH LINE UNDER CAST-IN-PLACE ITEMS IS CHANGED TO:

Table 903.03.06-2 Requirements for Structural Concrete Items

	Concrete Class	Slump[1] (inches)	Percent Air Entrainment for Coarse Aggregate[1]	
			No. 57 & No. 67	No. 8
Decks, Sidewalks, Curbs, Parapets, Concrete Patch	A	3 ± 1	6.0 ± 1.5	7.0 ± 1.5

903.05.04 Control and Acceptance Testing Requirements
THE SUPERSCRIPT REFERENCE NO. 4 UNDER TABLE 903.05.04-1 IS CHANGED TO:

4. For chloride permeability testing, the ME will mold 4 additional cylinders, taking 2 cylinders each from 2 randomly selected delivery trucks for testing at 56-days.

THE FOURTH PARAGRAPH IS CHANGED TO:

If, upon testing at 56 days, 1 or more individual test results exceed 2000 coulombs, the RE may:

1. Require that the Contractor remove and replace the defective lot, or
2. Allow the Contractor to submit a corrective action plan for approval.

SECTION 904 – PRECAST AND PRESTRESSED CONCRETE

904.01.02 Fabrication
THE LAST SENTENCE OF PART 2 IS CHANGED TO:

If using SCC, minimize or eliminate the use of vibrators to prevent segregation.

904.02.06 Quality Control and Acceptance Requirements
STEP 2 IN THE THIRD PARAGRAPH IS CHANGED TO:

2. Dimensions not conforming to the tolerances specified in Table 904.02.02-1.

904.04.05 Shipping and Handling

THE FOLLOWING IS ADDED:

After 60 days from fabrication, prestressed beams should be loaded with a distributed load equivalent to the one of the concrete slab.

SECTION 905 – REINFORCEMENT METALS

905.01.03 Welded Wire Reinforcement
THE SECOND PARAGRAPH IS CHANGED TO:

When approved as an alternate to galvanized reinforcement bars, use galvanized welded wire reinforcement that meets the requirements of ASTM A 641, Table 1, Class 1.

905.01.05 Dowels
THE ENTIRE SUBPART IS CHANGED TO:

Use plain reinforcement bars according to ASTM A 615, Grade 60. Galvanize according to ASTM A 123.

905.03.03 Dowel Bars
THE FIRST PARAGRAPH IS CHANGED TO:

For dowel bars in transverse joints, use epoxy-coated, Grade 60, plain reinforcement steel according to ASTM A 615. If shown on the Plans, use dowel bars fitted with end caps. Ensure that the end caps are non-metallic and designed to prevent the entrance of grout or mortar into the expansion void.

SECTION 909 – DRAINAGE

THE FOLLOWING SUBPART IS ADDED:

909.02.09 Fiberglass Pipe for Bridge Storm Drainage

Fabricate fiberglass pipe conforming to ASTM D2996, RTRP-12EA1-2122 and fiberglass pipe fittings conforming to ASTM D3840.

Ensure that all fiberglass pipe, fittings and adhesives use pigmented resin throughout the wall and the color is concrete gray or designated color with UV stabilized resin. Painted gel-coat or exterior coating is not acceptable.

Ensure that adhesives are in accordance with the pipe manufacturer and adhesive manufacturer's recommendations.

SECTION 911 – SIGNS, SIGN SUPPORTS, AND DELINEATORS

911.02.02 Breakaway Sign Supports for Ground Mounted Signs
THE ENTIRE SUBPART IS CHANGED TO:

Fabricate and construct breakaway sign supports for ground mounted signs using materials conforming to the requirements in Table 911.02.02-1.

Table 911.02.02-1 Materials for Breakaway Sign Supports

Item	Test Method	Type or Grade	Galvanizing
Aluminum Materials (other than bracket)	911.01.01		
Bracket	B308	6061-T6	
Structural steel shapes	ASTM A709	Grade 36	ASTM A123
Steel Sheet	ASTM A1011	Grade 36	ASTM A 653
Bolts (except special bolt for coupling)	ASTM A325		ASTM A153
Special bolt for coupling	ASTM A449		ASTM A153
Cap Screw	ASTM A307		ASTM A153
Lock Washer	ANSI B18-21-1		ASTM A153
Nut	ASTM A563	Grade DH	ASTM A153
Coupling	AMS 6378 F		ASTM A153
Steel Hinge Plate	AISI 4130		ASTM 123
Anchor Rod	AISI 1045		
Anchor Coil	AISI 1008		
Anchor Washer	908.04		

Submit mill certificates for the component materials.

911.02.03 Non-Breakaway Sign Supports for Ground Mounted Signs
THE TEXT OF THIS SUBPART IS DELETED.

THIS SUBPART IS INTENTIONALLY LEFT BLANK

911.03 FLEXIBLE DELINEATORS

1. Delineator Dimensions.

b. Guide Rail Mounted.
THE ENTIRE TEXT IS CHANGED TO:

Ensure that the unit for beam guide rail mounted flexible delineators has a minimum width of 3 inches and a minimum thickness of 0.100 inch. Use units of a height that will ensure that the top of the reflective area is 5 ± 2 inches above the top of post.

Design the base of the unit to mount over the I-beam blockout or to the top of a wood or synthetic blockout, of the beam guide rail.

c. Barrier Curb Mounted.
THE ENTIRE TEXT IS CHANGED TO:

For barrier curb mounted flexible delineators, use a delineator that is 3-1/2 × 3-1/2 inches, with a minimum thickness of 0.100 inch, and that has a base that forms a "T" shape with the panel for mounting on the side of the barrier curb, and is flexible or hinged so as to return to its original position after being struck.

THE FOLLOWING IS ADDED:

d. Construction Barrier Curb Mounted. For construction barrier curb top mounted flexible delineators, use a delineator that is 6 x 12 inches with a minimum thickness of 0.100 inch. For construction barrier curb side mounted flexible delineators, use a delineator that is 3-1/2 x 3-1/2 inches with a minimum thickness of 0.100 inch, and that has a base that forms a "T" shape with the panel for mounting on the barrier curb and is flexible or hinged so as to return to its original position after being struck.

4. Retroreflective Sheeting.

b. Guide Rail Mounted.
THE ENTIRE TEXT IS CHANGED TO:

Ensure that the sheeting is a minimum of 3 inches square and is mounted on the upper portion of the delineator.

THE FOLLOWING IS ADDED:

d. Construction Barrier Curb Mounted. Ensure that the sheeting for top mounted flexible delineators is 6 x 12 inches and the sheeting for side mounted flexible delineators is 3-1/2 x 3-1/2 inches.

Submit a certification of compliance, as specified in 106.07, for delineators.

SECTION 912 – PAINTS, COATINGS, TRAFFIC STRIPES, AND TRAFFIC MARKINGS

912.02.02 Epoxy Waterproofing

CHANGE THE FIRST SENTENCE:

Change "Grade 1, 2 or 3" to "Grade 1 or 2".

912.03.01 Epoxy Traffic Stripes

B. Glass Beads.
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic.

912.03.02 Thermoplastic Traffic Markings
THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic.

912.04.01 Latex Paint
THE FOLLOWING IS ADDED TO THE SECOND PARAGRAPH:

Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic.

SECTION 913 – GUIDE RAIL, FENCE, AND RAILING

913.01.05 Miscellaneous Hardware
SUBPART 3 OF THE FIRST PARAGRAPH IS CHANGED TO:

3. Use plates for guide rail on bridges and buried guide rail terminals conforming to ASTM A 36 and galvanized according to ASTM A 123.

SECTION 914 – JOINT MATERIALS

914.04.01 Preformed Elastomeric (Compression Type)

B. Joint Sealer.
THE LAST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

If splicing of a sealer is allowed, ensure that the sealer at the splice point has no significant misalignment at its sides or top and that misalignment at the bottom does not exceed half of the bottom wall thickness.

SECTION 917 – LANDSCAPING MATERIALS

917.05.01 Grass Seed Mixture
THE FOLLOWING IS CHANGED:

Table 917.05.01-4 Type B Grass Seed Mixture

Kind of Seed	Minimum Purity Percent	Minimum Germination	Percentage of Total Weight

		Percent	of Mixture
Redtop	**92**	**85**	**10**
Red Fescues (Creeping or Chewings)	**95**	**80**	**45**
Blackwells Switchgrass	**95**	**85**	**20**
Perennial Ryegrass	**98**	**85**	**10**
Kentucky 31	**95**	**80**	**15**

917.05.02 Wildflower Seed Mixture

THE FOLLOWING IS CHANGED:

Table 917.05.02-1 Wildflower Seed Mixture

Kind of Seed	**By Weight per Acre**
Asclepias tuberosa	40 oz.
Aster novae-angliae	30 oz.
Coreopsis lanceolata	55 oz.
Echinacea purpurea	60 oz.
Festuca ovina	65 oz.
Rudbeckia hirta	40 oz.
Soldago sempervirens	40 oz.
TOTAL	**330 OZ.**

917.10 PLANT MATERIALS

H. Inspection.

THE SECOND PARAGRAPH IS CHANGED TO:

The Department may inspect plant materials before delivery to the Project Limits and upon delivery to the Project Limits before installation. The Department may seal the inspected plant materials. For plant material originating from nurseries farther than 100 miles from the Project Limits, stock plant material at a Contractor-provided holding yard that is acceptable to the Department. The Department may inspect plant material originating from nurseries within 100 miles of the Project Limits at the nursery. Ensure that all plant material is untied and located so that trunk or stem and branch structure can be easily inspected. Provide sufficient notice to allow Department inspection at the nursery or holding yard and to allow time for Contractor reordering of rejected material. Notify the RE at least 72 hours in advance of delivery to the Project Limits for installation. The Department will reject materials arriving with broken or missing seals, broken or loose balls, broken or pruned leaders, insufficient protection, or that have been damaged in transit. The Department may randomly inspect the root system of the plant material by breaking open the earth balls. Provide necessary assistance during Department inspections.

SECTION 918 – ELECTRICAL MATERIALS

918.01 CONDUIT AND FITTINGS

4. Flexible Nonmetallic Conduit.

THE FOLLOWING IS ADDED:

For colored conduits (other than black and natural) ensure the "X" designation as part of the Cell Classification under Section 6.2 of ASTM D 3350 is "E".

For ITS Conduit Type __, one of the conduits that is designated for electrical use is to be extruded integrally colored red to indicate its use for Electrical wiring.

918.01 CABINETS
THE FIRST SENTENCE IS CHANGED TO:

For cabinets use powder-coated black to match Federal Standard 595B Colors (July 1994) 27038.

918.12 PEDESTALS, POLES, TRANSFORMER BASES, AND MAST BRACKET ARMS
THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Fabricate pedestals, poles, transformer bases, and mast bracket arms for traffic signal, highway lighting, and camera standards with materials according to the appropriate ASTM standard and the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

THE FIRST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

Ensure that aluminum poles, lighting, bracket arms, and traffic signal mast arms are powder-coated black to match Federal Standard 595B Colors (July 1994) 27038.

SECTION 919 – MISCELLANEOUS

THE FOLLOWING IS ADDED:

919.15 POLYESTER MATTING

Provide polyester matting of commercial quality that is a composite of polyester base fiber and vinyl chloride resin and is permeable to air and water, but shall prevent sunlight from reaching the soil. Ensure that the matting resists ultraviolet light, mildew and algae. Ensure that the matting is self-extinguishing when removed from flame. Ensure that the matting has a minimum thickness of 1/4 inch.

DIVISION 1000 – EQUIPMENT

SECTION 1001 – TRAFFIC CONTROL EQUIPMENT

THE FOLLOWING SUBSECTION IS ADDED:

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA ASSEMBLY

Provide a Portable Trailer Mounted CCTV Camera Assembly (PTMCCA) with the following:

A. Trailer Platform

1. Maximum size, including tongue, 14 feet long by 7 feet wide by 8 feet high.
2. NJDOT approved lighting package to include electrical brake and marker lights with wire connections.
3. Primed and painted with powder coated orange color.
4. Fitted with manual telescoping outriggers with adjustable jacks sized to counter full mast extension.
5. Four 3500 pounds, drop leg, top wind screw jacks.
6. All equipment secured to prevent theft or separation from platform.
7. 24/7 operation in all weather conditions.
8. One locking NEMA-4 equipment box for operational controls.
9. Removable wheels (with wheel locks) when trailer is in deployed position.
10. Operation manual with a copy placed in the storage bin.

B. Mast

1. 150 pounds payload capacity.
2. 29 feet to 32 feet of extension with capability to mount antenna at 20 feet, 25 feet or at the top, 10 feet maximum nested length of mast - 3 to 9 sections.
3. Un–guyed.
4. Driven by galvanized steel cable.
5. Spiral conduit for cables.
6. Compactly retractable when nested into storage container at the bottom & foldable for easy transport.
7. Operated by a power winch with a safety brake.
8. Capable of being raised or lowered during sustained wind speeds of 30 miles per hour.

C. Power Source

Equip the PTMCCA with either a diesel charged or a solar charged battery system. Ensure that the PTMCCA is also capable of operating on 120-volt AC electrical service. The Department may require a solar charged battery system in noise sensitive areas. Provide the power with a battery backup system capable of providing continuous operation when the primary power source fails. Ensure that the power source meets the following requirements:

1. Diesel. Ensure that the fuel tank is capable of operating the sign for a period of 72 hours without refueling. Equip with an exhaust muffler and a United States Department of Forestry approved spark arrester. Ensure that the engine is shock mounted to reduce vibration and locked in a ventilated enclosure.
2. Solar. Provide solar panels capable of recharging the batteries at a rate of 4 hours of sun for 24 hours of camera usage. Ensure that the battery capacity is capable of operating the sign for a period of 18 days without sunlight.

D. Equip the Portable Trailer Mounted CCTV Camera Assembly with a solar charged battery system. Provide solar panels capable of recharging the batteries at a rate of 4 hours of sun for 24 hours of camera usage. Ensure that the assembly is also capable of operating on 120-volt AC electrical service when such service is available at the project site.

Primary Power Source:
1. 12 VDC battery operated with multi crystal solar electric panel.
2. Fuse panel to protect electronics.
3. Four 110 watt solar panels on collapsible mounts.
4. Charge controller that automatically switches charging sources.
5. Isolated 12 VDC starting battery.
6. Inverter and battery charger

Auxiliary Power Source:
Provisions for operation on auxiliary power (Electric, Gasoline or fuel generated power source) for deployment if approved by the Department.

D. Electronics

THE FOLLOWING SUBSECTION IS DELETED AND REPLACED:1. Cellular (CDMA), 802.11 bandwidth option.
2. Onboard Ethernet switch to connect cameras, bandwidth, and monitoring devices.
3. Work lights in all cabinets.
4. Remote trailer diagnostics (battery level, charging output, etc).

E. Camera and Software

THE FOLLOWING SUBSECTION IS DELETED AND REPLACED:

The camera shall have the following characteristics:
1. Weather resistant powder coated aluminum case with stainless steel hardware fittings.
2. Impact resistant viewing window.
3. Minimum resolution of NTSC 704 (H) x 480 (V).
4. Backlight compensation.
5. Image stabilization.
6. Light Sensitivity 0.02 lux NIR Mode.
7. Auto Focus with Manual Focus capability.
8. Auto White Balance with Manual White Balance capability.
9. Motorized Zoom up to 16x optical, 10x digital.
10. Motorized Pan-Tilt, pan 360°, tilt 180°.
11. Thermostatically controlled heater and defroster -50° to 140°F operating range.
12. Windshield wiper.
13. 24/7 operation in all weather conditions.
14. Time and date stamp.
15. Max power consumption 70 VA.

The software shall have the following functions:
1. Remote control of pan, tilt and zoom.
2. Display streaming video in MPEG format, motion-JPEG, and single snapshot JPEG images, remotely central selectable through software.
3. Preset controls of pan/tilt/zoom combinations. All presets to be accessible from drop-down menu with descriptive name of preset. Set first 8 presets with quick- launch icons with graphical representation of the preset views.
4. Provide pre-programmed options to control the time-of-day operation of cameras to reduce power consumption.
5. Display of local time and weather conditions including temperature and humidity.
6. Save images or e-mail images.
7. View archived images via a graphical calendar control and to store archived images at least every five minutes.

8. Three levels of password protection admin, user & guest, individual user accounts.
9. Remote camera diagnostics and "self-healing" automatic problem rectification.
10. Monitor and control the cameras from the web.

SECTION 1003 – HMA SITE EQUIPMENT

1003.05 HMA COMPACTOR

THE THIRD PARAGRAPH IS CHANGED TO:

Ensure that the roller is equipped with an automatic audible warning signal when operating in reverse. Use rollers capable of reversing direction without backlash and that conform to the following, with the exception that vibratory rollers must be used in static mode only to prevent damage to underground utilities.

SECTION 1004 – PILE DRIVING EQUIPMENT

1004.01 IMPACT HAMMER

3. Pile Drive Head

THE FOLLOWING IS ADDED:

Use an approved driving head designed to properly fit the head of the pile to prevent damage to the top of the pile during driving.

SECTION 1009 – HMA PLANT EQUIPMENT

1009.01 HMA PLANT

A. Requirements for HMA Mixing Plants.

THE FOLLOWING IS ADDED AFTER THE SECOND PARAGRAGH:

The HMA producer is required to have a quality control (QC) program plan approved annually by the ME as per Materials Approval Procedure MAP-102. The HMA producer is required to ensure that the QC plan conforms to the requirements outlined in the report entitled "Hot Mix Asphalt Quality Control Program Plan" prepared by the Department of Transportation and New Jersey Asphalt Paving Association. Failure to follow these requirements will result in rejection of HMA materials supplied by the HMA producer and removal of the HMA supplier from the QPL.

THE FOLLOWING SUBSECTION IS ADDED AFTER 1009.02:

1009.03 ASPHALT-RUBBER BINDER BLENDING EQUIPMENT

Provide equipment for preparation of Asphalt-Rubber Binder. Ensure that the unit is equipped with a crumb rubber feed system capable of continuously supplying the asphalt cement feed system, and is capable of fully blending the individual crumb rubber particles with the asphalt cement. Use an asphalt-rubber binder storage tank that is equipped with a heating system capable of maintaining the temperature of the binder between 325 and 375 °F during the reaction. Ensure the asphalt-rubber binder storage tank is also equipped with an internal auger mixing device, oriented horizontally in the tank, capable of maintaining a uniform mixture of the asphalt-rubber binder.

Ensure that the tanks for storage of asphalt-rubber binder are equipped to uniformly heat the material to the required temperature under effective and positive control at all times. Ensure that heating is accomplished so that no flame comes in contact with the heating tank.

Provide a circulating system of sufficient capacity for the binder to ensure continuous circulation between the storage tank and proportioning units during the entire operating period. Ensure that the discharge end of the binder circulating pipe is maintained below the surface of the binder in the storage tank to prevent discharge of hot binder into the open air.

Ensure that pipe lines and fittings are steam or oil jacketed, electrically or otherwise heated, and insulated to prevent heat loss.

Provide valves according to AASHTO T 40, except ensure that a sampling valve is also located in the lowest third of each storage tank.

If the plant has been equipped with a water injection type asphalt foaming system, ensure that the system will allow the proper amount of asphalt rubber binder to be supplied continuously or provide a by-pass to ensure that the proper amount of asphalt rubber binder is supplied to the mix.

SECTION 1011 – PRECAST AND PRESTRESSED CONCRETE PLANT EQUIPMENT

1011.03 ME'S OFFICE

THE SECOND PARAGRAPH SUBPART 2 &3 ARE CHANGED TO:

2. One high-speed broad band connection with a minimum speed of 3 megabits per second (mbps) with dynamic IP address (DSL, Cable, etc.).
3. Two desks and 2 chairs.

NJDOT TEST METHODS

NJDOT B-8 – DETERMINING JOB MIX FORMULA FOR MODIFIED OPEN-GRADED FRICTION COURSE MIXES

C. Procedure.

3. Relative VMA Asphalt Content.

THE FOURTH SENTENCE IN THE FIRST PARAGRAPH IS CHANGED TO:

Determine the bulk specific gravity, Gmb from each specimen according to NJDOT B-6 or AASHTO T 331.

THE FOOTNOTE FOR GMB IN THE SECOND EQUATION IS CHANGED TO:

Gmb = the bulk specific gravity of the specimen as determined by NJDOT B-6 or AASHTO T 331.

THE FOLLOWING TEST METHODS ARE ADDED:

NJDOT B-10 – OVERLAY TEST FOR DETERMINING CRACK RESISTANCE OF HMA

A. Scope. This test method is used to determine the susceptibility of HMA specimens to fatigue or reflective cracking. This test method measures the number of cycles to failure.

B. Apparatus. Use the following apparatus:

1. Overlay Tester. An electro-hydraulic system that applies repeated direct tension loads to specimens. The machine features two blocks, one is fixed and the other slides horizontally. The device automatically measures and records a time history of load versus displacement every 0.1 sec at a selected test temperature.

   The sliding block applies tension in a cyclic triangular waveform to a constant maximum displacement of 0.06 cm (0.025 in.). This sliding block reaches the maximum displacement and then returns to its initial position in 10 sec. (one cycle).

2. Temperature Control System. The temperature chamber must be capable of controlling the test temperature with a range of 32 to 95 ^{o}F (0 to 35 ^{o}C).
3. Measurement System. Fully automated data acquisition and test control system. Load, displacement, and temperature are simultaneously recorded every 0.1 sec.
4. Linear Variable Differential Transducer (LVDT). Used to measure the horizontal displacement of the specimen (+/- 0.25 in.). Refer to manufacturer for equipment accuracy for LVDT.
5. Electronic Load Cell. Used to measure the load resulting from the displacement (5000 lb capacity). Refer to manufacturer for equipment accuracy for load cell.
6. Specimen Mounting System. Used two stainless steel base plates to restrict shifting of the specimen during testing. The mounting jig holds the two stainless steel base plates for specimen preparation.
7. Cutting Template.
8. Two Part Epoxy. Two part epoxy with a minimum 24 hour tensile strength of 600 psi (4.1 MPa) and 24 hour shear strength of 2,000 psi (13.8 MPa).
9. 10 lb weight (4.5 kg). Used to place on top of specimens while being glued to specimen platens**.**
10. ¼ inch Width Adhesive Tape. Placed over gap in plates to prevent the epoxy from bonding the plates together.
11. Paint or Permanent Marker. Used to outline specimens on platens for placement of epoxy.
12. 3/8-in. Socket Drive Handle with a 3-in. (7.6 cm) extension.

C. Procedure. Perform the following steps:

1. Sample Preparation.

a. Laboratory Molded Specimens - Use cylindrical specimens that have been compacted using the gyratory compactor (AASHTO T 312). Specimen diameter must be 6 inches (150 mm) and a specimen height must be 4.5 inches +/- 0.2 inches (115 +/- 5 mm).

Note 1 - Experience has shown that molded laboratory specimens of a known density usually result in a greater density (or lower air voids) after being trimmed. Therefore, it is recommended that the laboratory technician produce molded specimens with an air void level slightly higher than the targeted trimmed specimen. Determine the density of the final trimmed specimen in accordance with AASHTO T 166.

b. Core Specimens – Specimen diameter must be 6 inches +/- 0.1 inch (150 mm +/- 2 mm). Determine the density of the final trimmed specimen in accordance with AASHTO T166.

2. Trimming of Cylindrical Specimen. Before starting, refer to the sawing device manufacturer's instructions for cutting specimens.

a. Place the cutting template on the top surface of the laboratory molded specimen or roadway core. Trace the location of the first two cuts by drawing lines using paint or a permanent maker along the sides of the cutting template.

b. Trim the specimen ends by cutting the specimen perpendicular to the top surface following the traced lines. Discard specimen ends.

c. Trim off the top and bottom of the specimen to produce a sample with a height of (1.5 inches +/- 0.02 inches (38 mm +/- 0.5 mm).

d. Measure the density of the trimmed specimen in accordance with AASHTO T 166. If the specimen does not meet the density requirement as specified for performance testing for the mix being tested, then discard it and prepare a new specimen.

e. Air dry the trimmed specimen to constant mass, where constant mass is defined as the weight of the trimmed specimen not changing by more than 0.05% in a 2 hour interval.

3. Mounting Trimmed Specimen to Base Plates (Platens).

a. Mount and secure the base plates (platens) to the mounting jig. Cut a piece of adhesive tape approximately 4.0 inches (102 mm) in length. Center and place the piece of tape over the gap between the base plates.

b. Prepare the epoxy following manufacturer's instructions.

c. Cover a majority of the base plates (platens) with epoxy, including the tape. Glue the trimmed specimen to the base plates.

d. Place a 10 lb (4.5 kg) weight on top of the glued specimen to ensure full contact of the trimmed specimen to the base plates. Allow the epoxy to cure for the time recommended by the manufacturer. Remove the weight from the specimen after the epoxy has cured.

e. Turn over the glued specimen so the bottom of the base plates faces upward. Using a hacksaw, cut a notch through the epoxy which can be seen through the gap in the base plates. The notch should be cut as evenly as possible and should just begin to reach the specimen underneath the epoxy. Great care should be taken not to cut more than 1/16 inch (1.58 mm) into the specimen.

f. Place the test sample assembly in the Overlay Tester's environmental chamber for a minimum of 1 hour before testing.

4. Start Testing Device. Please refer to manufacturer's equipment manual prior to operating equipment.

a. Turn on the Overlay Tester. Turn on the computer and wait to ensure communication between the computer and the Overlay Tester occurs.

b. Turn on the hydraulic pump using the Overlay Tester's software. Allow the pump to warm up for a minimum of 20 minutes.

c. Turn the machine to load control mode to mount the sample assembly.

5. Mounting Specimen Assembly to Testing Device. Enter the required test information into the Overlay Tester software for the specimen to be tested.

a. Mount the specimen assembly onto the machine according to the manufacturer's instructions and the following procedural steps.

1. Clean the bottom of the base plates and the top of the testing machine blocks before placing the specimen assembly into the blocks. If all four surfaces are not clean, damage may occur to the machine, the specimen, or the base plates when tightening the base plates.
2. Apply 15 lb-in of torque for each screw when fastening the base plates to the machine.

6. Testing Specimen.

a. Perform testing at a constant temperature recommended by the New Jersey Department of Transportation for the mixture in question. This is typically either 59 °F (15 °C) or 77 °F (25 °C).

Note 3 – Ensure the trimmed specimen has also reached the constant temperature required.

b. Start the test by enabling the start button on the computer control program. Perform testing until a 93% reduction or more of the maximum load measured from the first opening cycle occurs. If 93% is not reached, run the test until a minimum of 1,200 cycles.

c. After the test is complete, remove the specimen assembly from the Overlay Tester machine blocks.

D. Report. Include the following items in the report:

1. Date and time molded or cored.
2. NJDOT mixture identification.
3. Trimmed specimen density.
4. Starting Load.
5. Final Load.
6. Percent decline (or reduction) in Load.
7. Number of cycles until failure.
8. Test Temperature

NJDOT B-11- DETERMINING GRADATION OF CRUMB RUBBER FOR ASPHALT MODIFICATION

A. Scope. This method is used to determine the gradation of the crumb rubber for asphalt-rubber binder

B. Apparatus. Use the following apparatus:

1. Oven capable of maintaining a temperatures of 140 ± 10 °F for drying sample to a constant weight.
2. Rubber balls having a weight of 8.5 ± 0.5 grams, a diameter of 24.5 ± 0.5mm mm, and a Shore Durometer "A" hardness of 50 ± 5 per ASTM Designation D 224
3. No. 8, 16, 30, 50, 100, and 200 sieves conforming to AASHTO M 92.
4. Mechanical sieve shaker conforming to AASHTO T 27.
5. Balance conforming to AASHTO M 231 and having a minimum capacity of 100 grams with a precision of 0.1 gram.

C. Procedure. The crumb rubber for asphalt rubber binder is required to conform to the gradations specified below when tested in accordance with ASTM Designation C 136 except as follows:

1. Obtain 100 ± 5 grams from the crumb rubber sample and dry to a constant weight at a temperature of not less than 135 °F nor more than 145 °F and record the dry sample weight.
2. Place the crumb rubber sample and 5.0 grams of talc in a one pint jar, then shake it by hand for a minimum of one minute to mix the crumb rubber and the talc. Continue shaking or open the jar and stir until the particle agglomerates and clumps are broken and the talc is uniformly mixed.

3. Place one rubber ball on each sieve. After sieving the combined material for 10 ± 1 minutes, disassemble the sieves. Brush remaining material adhering to the bottom of a sieve into the next finer sieve. Weigh and record the weight of the material retained on the No. 8 sieve and leave this material (do not discard) on the scale or balance. Ensure that observed fabric balls remain on the scale or balance and are placed together on the side of the scale or balance to prevent the fabric balls from being covered or disturbed when placing the material from finer sieves on to the scale or balance. Add the material retained on the next finer sieve (No. 16 sieve) to the scale or balance. Weigh and record that weight as the accumulative weight retained on that sieve (No. 16 sieve). Continue weighing and recording the accumulated weights retained on the remaining sieves until the accumulated weight retained in the pan has been determined. Before discarding the crumb rubber sample, separately weigh and record the total weight of the fabric balls in the sample.
4. Determine the weight of material passing the No. 200 sieve (or weight retained in the pan) by subtracting the accumulated weight retained on the No. 200 sieve from the accumulated retained weight in the pan. If the material passing the No. 200 sieve (or weight retained in the pan) has a weight of 5 grams or less, cross out the recorded number for the accumulated weight retained in the pan and copy the number recorded for the accumulated weight retained on the No. 200 sieve and record that number (next to the crossed out number) as the accumulated weight retained in the pan. If the material passing the No. 200 sieve (or weight retained in the pan) has a weight greater than 5 grams, cross out the recorded number for the accumulated weight retained in the pan, subtract 5 grams from that number and record the difference next to the crossed out number. The adjustment to the accumulated with retained in the pan is made to account for the 5 grams of the talc added to the sample. For calculation purposes, the adjusted accumulated weight is the same as the adjusted accumulated weight retained in the pan. Determine the percent passing based on the adjusted total sample weight and recorded to the nearest 0.1 percent.

D. Report. Report all test results on ME provided forms.

NJDOT B-12 – DETERMINING ROTATIONAL VISCOSITY OF ASPHALT RUBBER BINDER

A. Scope. This method presents procedures for sampling and testing of asphalt-rubber binder in the field using a hand held portable rotational analog or digital viscometer.

B. Apparatus. Use the following apparatus:

1. **Viscometer.** A hand held high range rotational viscometer. Analog models with indicator needles and scaled dial displays or digital read out viscometers may be used. Analog models that have been found acceptable include Rion Model VT-04E and Haake Model, VT-02. Digital models that have been found acceptable include Haake VT 2 Plus.
2. **Rotor.** A cylinder with a diameter of 24 ± 1.1 millimeters, height of 53 ± 0.1 millimeters, and a vent hole attached to a spindle or shaft with length of 87 ± 2 millimeters that is compatible with the selected viscometer. Acceptable rotors include Rion No. 1, Haake No 1, or an equivalent.
3. **Thermometer.** Digital with metal jacket probe accurate to 1 °F.
4. **Sample Containers.** Clean 1 gallon metal cans with lids and wire bale.
5. **Viscosity Standard Oils.** Fluids calibrated in absolute viscosity centipoise (cP).
6. **Viscometer Holder.** Clean metal container or stand for safely storing the viscometer between tests.
7. **Level Surface.** Level surface not directly on the ground.
8. **Heat Source.** A controllable heat source (i.e. a hot plate, gas stove, or burner) to maintain the temperature of the asphalt-rubber sample at 350 ± 3 °F while measuring viscosity.
9. **Personal Equipment.** Eye protection and heat resistant gloves.

C. Procedure. Perform the following steps:

1. **Calibration of Equipment.** Calibrate the equipment as follows:

   a. Verify the accuracy of the viscometer by comparing the viscosity results obtained with the hand held viscometer to 3 separate calibration fluids of known viscosities ranging from 1000 cP to 5000 cP. The

known viscosity value are based on the fluid manufacturer's standard test temperature or based on the test temperature versus viscosity correlation table provided by the fluid manufacturer.

b. The viscometer is considered accurate if the values obtained are within 300 cP of the known viscosity.

c. Verify the calibration of the rotational viscometer using viscosity standards before use at each site.

2. Sampling Asphalt-Rubber Binder. Provide new sample containers and ensure that they are clean before using. Before sampling, draw at least 1 gallon from an appropriate sample valve on the interaction tank and discard. Then reopen the sample valve and draw at least 3/4 of a gallon for testing.

3. Preparing Asphalt-Rubber Binder Samples for Testing. Prepare the asphalt-rubber binder as follows:

a. Immediately transport the sample to the testing area. Ensure that the testing area is close to the sampling location to reduce the potential for temperature loss.

b. Set the open asphalt-rubber binder sample container on the level surface on or over the heat source.

c. To prevent scorching or burning, manually stir the asphalt-rubber binder sample using a metal stir rod or the temperature probe.

d. Continue stirring until a consistent asphalt-rubber binder temperature of 350 ± 3 °F is achieved. Record the actual test temperature with the corresponding viscosity measurement.

e. Insert the viscometer spindle and rotor into the hot asphalt-rubber binder sample near the edge of the can. Ensure that the spindle and rotor are not inserted deeper than the immersion depth mark on the shaft and are not plugging the vent hole. During insertion, the spindle and rotor may be tilted slightly to keep the vent hole clear.

f. Allow the rotor to acclimate to the temperature of the asphalt-rubber binder for approximately 1 minute. During acclimation, stir the sample thoroughly and measure the temperature.

g. Orient the sample and the rotor so that the rotor is near the center of the sample, align the depth mark on the shaft with the asphalt-rubber binder surface, and level the viscometer in order to measure viscosity.

4. Testing. Analog viscometers include a level bubble to help orient the device to ensure that the rotor and shaft remain vertical. Digital viscometers may not include a level bubble. If a level bubble is not included, attach a small adhesive bubble to the viscometer or use a framework with a level bubble.

Test the asphalt-rubber binder as follows:

a. As soon as the viscometer is leveled and the depth mark is even with the asphalt-rubber binder surface, begin rotor rotation. When using a digital viscometer, activate the continuous digital display according to the manufacturer's recommendations. Read and record the peak viscosity value (The peak measurement typically represents the viscosity of the asphalt-rubber binder; report and log that value. As the rotor continues to turn, it "drills" into the sample and spins rubber particles out of its measurement area. This may cause thinning of the material in contact with the rotor erroneously indicating a drop in the apparent viscosity of the asphalt-rubber binder) from the graduated scale labeled with the corresponding rotor number or from the digital display.

b. After completing the first measurement, move the viscometer rotor away from the center of the sample can without removing it from the asphalt-rubber binder sample. Turn off the rotor rotation.

c. Stir the asphalt-rubber binder sample thoroughly.

d. Repeat Steps 1, 2, and 3. Take 3 measurements and average the results to determine the viscosity.

e. Return the viscometer to its holder with the rotor suspended in a suitable solvent. Before using the rotor again, wipe off the solvent and dry the rotor to avoid solvent contamination of the next sample.

D. Calculations. Some meters read in units of mPa·s (0.001 Pascal·seconds) or dPa·s (0.1 Pa·s), while others may read in centipoise (cPs) units. The conversion is 1 Pa·s = 1000 cPs.

E. Report. Include the following items in the report:

1. Date and time sampled.
2. Location of asphalt-rubber binding blending plant.
3. Test temperature and viscosity.
4. Rotor designation.
5. Viscometer model and serial n

NJDOT R-1 – OPERATING INERTIAL PROFILER SYSTEMS FOR EVALUATING PAVEMENT PROFILES

THIS ENTIRE TEST METHOD IS CHANGED TO:

A. Scope. This test method describes the procedure for operating, verifying the calibration of an ASTM E 950 Class 1 Inertial Profiler System (IPS) and testing riding surface for pavement profiles evaluation.

B. Apparatus. Use an IPS that meets the requirements of AASHTO M 328 and ASTM E 950, Class 1 and the following:

1. Certify the IPS according to AASHTO R 56 at least every 2 years. If a system component is replaced, re-certify the system. Perform the certification at a site approved by the Department.
2. The data system provides the raw profile data in an ASCII format acceptable to the Department.
3. The computer program uses a high-pass filter set at 300 feet and reads an ASCII or text file for computing the International Roughness Index (IRI) in inches per mile.
4. The current version of *ROADRUF*, *ProVal*, or other Department approved pavement profile analysis software is used to compute the IRI.

C. Procedure. Perform the following steps:

1. Operate the IPS according to AASHTO R 57 and ASTM E 950.
2. On a daily basis before data collection, check the equipment and operating system for operational stability and calibration. Perform necessary calibration procedures according to equipment manufacturer's procedures and applicable standards. Operators shall maintain a log documenting the calibration history.
3. Ensure that the operators of the IPS have completed a profile training course, such as NHI Course 131100, have been trained specifically on the IPS they will be operating, and are proficient in the operation of the IPS.
4. Make provisions to automatically start and stop the IPS recording at the beginning and end of testing.
5 Ensure retroreflective traffic striping tape or other approved mechanism is placed at the beginning and end of each direction of travel for automatically triggering the start and stop of profile measurements.
6. Collect at least 0.05-mile of data before the area to be tested to allow the system to stabilize before profile measurements are obtained. Collect data in a continuous run through the length to be tested. If the run is interrupted, discard the results and re-run the length.
7 Test the full extent of each wheel path of each lane in the longitudinal direction of travel. The wheel path is defined as being located approximately 3 feet on each side of the centerline of the lane and extending for the full length of the lane. Lanes are defined by striping.
8 Run three tests each wheel path and report average of three runs each wheel path.
9. Exclude locations where the traffic striping includes turn lanes that cause the through traffic lane to cross over a longitudinally paved joint, ramps, and lanes such as acceleration and deceleration lanes of less than 1,000 feet of continuous through treatment.
10 Report single IRI value average of 3 runs unless otherwise directed. The single IRI value shall be each 0.01 mile length for each lane, ramp, and shoulder and 0.005 mile for each overlaid bridge structure.

FHWA ATTACHMENT NO. 1

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements forsupplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall notuse convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts

should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminateon the grounds of race, color, religion, sex, national origin, age or disabilityin the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The

employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing

work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d.If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a.Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment.A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transactionrequiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tierparticipant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous.A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check theExcluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from

participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

FHWA ATTACHMENT NO. 2

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these Specifications:
   a. Covered area means the geographical area in which the Project is located.
   b. Director means Director, Office of Federal Contract Compliance Programs, United States Department of Labor or any person to whom the Director delegates authority.
   c. Employer identification number means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, US Treasury Department Form 941.
   d. Minority includes:
      (1) Black (a person having origins in any of the black African racial groups not of Hispanic origin);
      (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race);
      (3) Asian and Pacific Islander (a person having originals in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
      (4) American Indian or Alaskan Native (a person having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participating or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. The Contractor shall implement the specific affirmative action standards provided in paragraphs 6a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
4. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these Specifications, Executive Order 111246, or the regulations promulgated pursuant thereto.
5. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the US Department of Labor.
6. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foreman, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment with specific attention to minority or female individual working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred back to the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the source compiles under 6b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and females and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contraction and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

7. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (6a through p). The efforts of a Contractor association, joint contractor union, Contractor-Community, or other similar group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 6A through p of these Specifications provided that the Contractor actively participates in the group, make every effort to assure that the group has a positive impact on the employment of minorities and females in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, make a good faith effort to meet its individual goals and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

8. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

9. The Contractor shall not use the goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

10. The Contractor shall not enter any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

11. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspensions, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246 as amended.

12. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 6 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the

Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

13. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (such as mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

14. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (such as those under the Public Works Employment Act of 1977 and the community Development Block Grant Program).

15. Noncompliance by the Contractor with the requirements of the Affirmative Action Program for Equal Employment Opportunity may be cause for delaying or withholding monthly and final payments pending corrective and appropriate measures by the Contractor to the satisfaction of the Department.

FHWA ATTACHMENT NO. 3

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The goals for minority and female participation, in the covered area, expressed in percentage terms for the Contractor's aggregate work force in each trade, on all construction work are as shown on Page 2.

   These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

   The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4. (3) a, and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.
2. The Contractor will provide the Department with written notification in triplicate within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification will list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
3. As used in this Notice and in the Contract resulting from this solicitation the covered area is the county or counties in which the Project is located.
4. If a project is located in more than one county, the minority work hours goal, only, will be determined by the county which serves as the primary source of hiring or, if workers are obtained almost equally from one or more counties, the single minority goal will be the average of the affected county goals.

WORK HOUR GOALS IN EACH TRADE FOR MINORITY AND FEMALE PARTICIPATION

COUNTY	MINORITY PARTICIPATION PERCENT	FEMALE PARTICIPATION PERCENT
Atlantic	18.2	6.9
Bergen	15	6.9
Burlington	17.3	6.9
Camden	17.3	6.9
Cape May	14.5	6.9
Cumberland	16	6.9
Essex	17.3	6.9
Gloucester	17.3	6.9
Hudson	12.8	6.9
Hunterdon	17	6.9
Mercer	16.4	6.9
Middlesex	15	6.9
Monmouth	9.5	6.9
Morris	17.3	6.9
Ocean	17	6.9
Passaic	12.9	6.9
Salem	12.3	6.9
Somerset	17.3	6.9
Sussex	17	6.9
Union	17.3	6.9
Warren	1.6	6.9

FHWA ATTACHMENT NO. 4

STATE OF NEW JERSEY EQUAL EMPLOYMENT OPPORTUNITY FOR CONTRACTS FUNDED BY FHWA

The parties to this Agreement do hereby agree that the provisions of NJSA 10:2-1 through 10:2-4 and NJSA 10:5-31 et seq (PL 1975, c 127, as amended and supplemented) dealing with discrimination in employment on public contracts, and the rules and regulations promulgated pursuant thereunto, are hereby made a part of this contract and are binding upon them.

During the performance of this contract, the Contractor agrees as follows:

a. The Contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status or sex. The Contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status or sex. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Division of Civil Rights/Affirmative Action setting forth provisions of this nondiscrimination clause;

b. The Contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status or sex;

c. The Contractor or subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Division of Civil Rights/Affirmative Action, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no contractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex, discriminate against any person who is qualified and available to perform the work to which the employment relates;

e. No contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex;

f. There may be deducted from the amount payable to the contractor by the contracting public agency, under this contract, a penalty of $50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the contract; and

g. This contract may be canceled or terminated by the contracting public agency, and all money due or to become due hereunder may be forfeited, for any violation of this section of the contract occurring after notice to the contractor from the contracting public agency of any prior violation of this section of the contract.

The notices referred to in paragraphs a and c may be obtained at the preconstruction conference.

FHWA ATTACHMENT NO. 5

DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION ATTACHMENT
FHWA FUNDED CONTRACTS

I UTILIZATION OF DISADVANTAGED BUSINESSES AS CONTRACTORS, MATERIAL SUPPLIERS AND EQUIPMENT LESSORS.

The New Jersey Department of Transportation (NJDOT) advises each contractor or subcontractor that failure to carry out the requirements set forth in this attachment shall constitute a breach of contract and, after the notification of the applicable federal agency, may result in termination of the agreement or contract by the Department or such remedy as the Department deems appropriate. Requirements set forth in this section shall also be physically included in all subcontracts in accordance with USDOT requirements.

II POLICY

It is the policy of NJDOT that Disadvantaged Business Enterprises, as defined in 49 CFR, Part 26; Titles I & V of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA); the Transportation Equity Act for the 21st Century (TEA-21); and Section V, Part B below, shall have equal opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement. Consequently, the DBE requirements of 49 CFR, Part 26, Subsections A, C and F apply to this agreement.

III CONTRACTOR'S DBE OBLIGATION

The NJDOT and its Contractor agree that Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, Subpart A; and in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), and Section V, Part B below, have equal opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with federal funds provided under this agreement. In this regard, the NJDOT and all Contractors shall take all necessary and reasonable steps in accordance with 49 CFR, Part 26 to ensure that Disadvantaged Businesses are given equal opportunity to compete for and to perform on NJDOT federally funded contracts. The NJDOT and its Contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of USDOT assisted contracts.

IV COMPLIANCE

To signify and affirm compliance with the provisions of this attachment, the bidder shall complete the Schedule of DBE Participation (Form CR-266F) included in the bid package and all forms and documents required in Sections VII and VIII of these provisions which will be made a part of the resulting contract.

V GOALS FOR THIS PROJECT

A. This Project includes a goal of awarding 15 percent of the total contract value to subcontractors, equipment lessors and/or material suppliers that qualify as Disadvantaged Business Enterprises (DBEs).

   1. Failure to meet the minimum goal placed on this project, or to provide a "good faith effort" to meet the minimum goal, may be grounds for rejection of the bid as being non-responsive.

   2. As a source of information only, a Disadvantaged Business Enterprise Directory is available from the Division of Civil Rights and Affirmative Action. Use of this listing does not relieve the Contractor of their responsibility to seek out other DBE's not listed, prior to bid. If a contractor proposes to use a DBE contractor not listed in the DBE Directory, the proposed DBE firm must submit a completed certification application to the Division of Civil Rights and Affirmative Action, fifteen (15) days prior to bid date.

B. DEFINITIONS

1. Disadvantaged Business Enterprise is a firm, "Owned and controlled" by socially and economically disadvantaged individuals that is also a small business concern, as defined pursuant to Section 3 of the Small Business Act and Small Business Administration Regulations (13 CFR, Part 121) which also does not exceed the revenue cap on averaged annual gross receipts applicable to the firm's particular Standard Industrial Classification (SIC Code).

2. Owned and Controlled is defined as a firm which is at least fifty-one (51%) percent owned by one or more disadvantaged individuals, or in the case of a publicly owned business, at least fifty-one (51%) percent of the stock is owned by one or more disadvantaged individuals, and whose management and daily business operations are controlled by one or more such individuals.

3. Any individual in one of the following groups who is also a U.S. Citizen or lawfully admitted permanent resident presumed to be socially and economically disadvantaged under the DBE Program.
   (a) Black Americans – includes any persons having origins in any of the black racial groups of Africa;
   (b) Hispanic Americans - includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture; or origin, regardless of race;
   (c) Native American - includes persons who are American Indians, Eskimos, Aleuts or Native Hawaiians;
   (d) Asian-Pacific Americans - includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau) the Commonwealth of the Northern Mariana Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia or Hong Kong;
   (e) Subcontinent Asian Americans - includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
   (f) Women - regardless of race;
   (g) Other - Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration, at such time as the SBA designation becomes effective; or a determination made by the NJDOT's Division of Civil Rights and Affirmative Action, on a case-by-case basis;

VI COUNTING DBE PARTICIPATION

A. Each DBE is subject to a certification procedure to ensure its DBE eligibility status prior to award of contract. In order to facilitate this process it is advisable for the bidder to furnish the names of proposed DBE's to the Department fifteen (15) days before bid opening. Once a firm is determined to be a bona fide DBE by the Division of Civil Rights and Affirmative Action, the total dollar value of the contract awarded to the DBE is counted toward the applicable DBE goal.

B. The Contractor may count toward its DBE goal only expenditures to DBE's that perform a commercially useful function in the work of a contract. A DBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibility by actually performing, managing and supervising the work involved. To determine whether a DBE is performing a commercially useful function, the Contractor shall evaluate the amount of work subcontracted, industry practice and other relevant factors.

C. If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own workforce, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, you must presume that it is not performing a commercially useful function.

D. If the prime Contractor is a certified DBE, payments made to the Contractor for work performed by the Contractor will be applied toward the DBE goal. Payments made to the Contractor for work performed by non-DBE's will not be applied toward the goal.

E. The prime Contractor may count 60 percent of its expenditures to DBE suppliers who are not Manufacturers, provided that the DBE supplier performs a commercially useful function in the supply process. The contractor may count 100% of its expenditure to DBE suppliers who are also manufacturers. Manufacturers receive 100% credit toward the DBE goal.

F. When a DBE subcontractor sublets part of the work of its contract to another firm, the value of the subcontract work may be counted towards the DBE goals only if the subcontractor itself is a DBE. Work that a DBE subcontractor subcontracts to a non-DBE firm, does not count toward DBE goals.

VII GOOD FAITH EFFORT

To demonstrate sufficient reasonable efforts to meet the DBE contract goals, a bidder shall document the steps it has taken to obtain DBE participation, including but not limited to the following:

A. Attendance at a pre-bid meeting, if any, scheduled by the Department to inform DBE's of subcontracting opportunities under a given solicitation.

B. Advertisement in general circulation media, trade association publications, as well as minority-focus media for at least 20 days before bids are due. If 20 days are not available, publication for a shorter reasonable time is acceptable.

C. Written notification to DBE's that their interest in the contract is solicited;

D. Efforts made to select portions of the work proposed to be performed by DBEs in order to increase the likelihood of achieving the stated goal;

E. Efforts made to negotiate with DBE's for specific sub-bids including at a minimum:
   1. The names, addresses and telephone numbers of DBE's that were contacted;
   2. A description of the information provided to DBE's regarding the plans and Specifications for portions of the work to be performed; and
   3. A statement of why additional agreements with DBE's were not reached;

F Information regarding each DBE the bidder contacted and rejected as unqualified and the reasons for the bidder's conclusion;

G. Efforts made to assist the DBE in obtaining bonding or insurance required by the Bidder or the Department.

NOTE: If the Division of Civil Rights and Affirmative Action determines that the apparent successful low bidder has failed to meet the requirements of this section, the bidder will be afforded the opportunity for administrative consideration prior to the award or rejection of the contract. As part of the administrative reconsideration process, the bidder will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. NJDOT will send the bidder a written decision on reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the USDOT.

VIII AFFIRMATIVE ACTION PLANS

A. General contractors are required to submit their firm's Affirmative Action Program annually to the Division of Civil Rights and Affirmative Action. Until such time as these programs are submitted and approved, Contractors must have their programs in the Division of Civil Rights and Affirmative Action no later than seven (7) State business days after the date of receipt of bids.

B. This program will include, but is not limited to the following:
   1. The name of the Contractor's D/ESBE Liaison Officer to administer the firm's Disadvantaged Business Program.

2. An explanation of the affirmative action methods used in seeking out and considering Disadvantaged Business Enterprises as subcontractors, material suppliers or equipment lessors.
3. An explanation of affirmative action methods intended to be used in seeking out and considering Disadvantaged Business Enterprises as subcontractors, material suppliers or equipment lessors. This refers to the Contractor's ongoing responsibility, i.e., Disadvantaged Business Enterprise/Affirmative Action activities after the award of the contract and for the duration of said project.

C. The following shall be submitted either with the bid or to the Division of Civil Rights and Affirmative Action no later than seven (7) State business days after the date of receipt of bids.
1. DBE Form CR-266F- Schedule of DBE Participation. List all DBE's participating in the contract listing the scope of work, dollar value and percent of total contract to be performed.
2. Supplement to DBE Form CR-266F - A list of all subcontractors who submitted bids or quotes on this project.
3. Request for Exemption - In the event that the bidder fails to meet the specified goal, they must submit within seven State business days of the bid, a written request for exemption to the goal. This request must include a written statement addressing Items A through G in Article VII of this attachment in addition to an accounting of the reason(s) why each items in the bid proposal was not subcontracted. Submittal of such request does not imply Departmental approval. An assessment of the material will be conducted by the Department's Division of Civil Rights and Affirmative Action.

IX AFFIRMATIVE ACTION AFTER AWARD OF THE CONTRACT

If at any time following the award of contract, the Contractor intends to sublet any portion(s) of the work under said contract, or intends to purchase material or lease equipment not contemplated during preparation of bids, said Contractor shall take affirmative action:

1. To notify the RE, in writing, of the type and approximate value of the work which the Contractor intends to accomplish by such subcontract, purchase order or lease.
2. To signify and affirm compliance with the provisions of this Section, the Contractor shall submit the Post-Award DBE Certification Form to the Regional Supervising Engineer with his application to sublet or prior to purchasing material or leasing equipment. Post Award DBE forms may be obtained from the RE.
3. To give disadvantaged firms equal consideration with non-minority firms in negotiation for any subcontracts, purchase orders or leases.
4. If a prime contractor fails to meet its original DBE obligation, they must request an exemption to the goal following criteria in Section VIII (C)(4) and provide a good faith effort thereof. This request must include a written statement addressing each of the Good Faith Efforts outlined in Section VII, A-G.

X CONSENT BY DEPARTMENT TO SUBLETTING

The Department will not approve any subcontract proposed by the Contractor unless and until said Contractor has complied with the terms of this attachment.

XI SELECTION AND RETENTION OF SUBCONTRACTORS

A. The Contractor is further obligated to provide the RE with a listing of firms, organizations or enterprises solicited and those utilized as subcontractors on the proposed project. Such listing shall clearly delineate which firms are classified as disadvantaged.

B. Efforts made to identify and retain a Disadvantaged Business Enterprise as a substitution subcontractor when the arrangements with the original DBE proved unsuccessful, shall be submitted in writing to the Department's D/ESBE Liaison Officer for approval. Work in the category concerned shall not begin until such approval is granted in writing.

C. Notification of a subcontractor's termination will be sent to the Department by the Contractor through the RE. Said termination notice will include the subcontractor's ethnic classification and reason for termination.

XII CONCILIATION

In cases of alleged discrimination regarding these DBE provisions and guidelines, an investigation will be undertaken by the Federal Office of Contract Compliance in conjunction with the Division of Civil Rights and Affirmative Action of the New Jersey Department of Transportation and the Federal Highway Administration.

XIII DOCUMENTATION

A. The Department or the federal funding agencies may at any time require such information as is deemed necessary in the judgment of the Department to ascertain the compliance of any bidder or contractor with the terms of these provisions.

B. Record and Reports.

The Contractor shall keep such records as are necessary to determine compliance with its Disadvantaged Business Enterprise Utilization obligations. The records kept by the Contractor will be designed to indicate:

1. The names of disadvantaged subcontractors, equipment lessors and material suppliers contacted for work on this project.
2. The type of work to be done, materials to be utilized or services to be performed other than the work of the prime contractor on the project.
3. The actual dollar value of work subcontracted and awarded to DBE's.
4. The progress being made and efforts taken in seeking out and utilizing Disadvantaged Business Enterprises. This would include solicitations, quotes and bids regarding project work items, supplies, leases, etc.
5. Documentation of all correspondence, contacts, telephone calls, etc., to obtain the services of Disadvantaged Business Enterprises on this project.
6. Records of all DBE's and non-DBEs who have submitted quotes/bids to the Contractor on the project.

C. Submit reports, as required by the Department, on those contracts and other business transactions executed with Disadvantaged Business Enterprises in such form and manner as may be prescribed by the Department.

D. All such records must be maintained for a period of three (3) years following acceptance of final payment and will be available for inspection by the Department.

XIV PAYMENT TO SUBCONTRACTORS

The Contractor agrees to pay its subcontractors in accordance with the Specifications.

XV NON-COMPLIANCE

Failure by the bidder to comply with the Specifications may result in rejection of the bid. The Contractor may further be declared ineligible for future Department contracts.

FHWA ATTACHMENT NO. 5 (A)

INCENTIVE PROGRAM DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION ATTACHMENT FOR FHWA FUNDED CONTRACTS

I PURPOSE.

To ensure that certified Disadvantaged Business Enterprises (DBE's), as defined in 49 CFR Part 26, have the maximum opportunity to compete for and perform on Department construction projects.

II INTENT.

To encourage prime contractors to utilize the services of DBE's who have not previously been prime contractors or subcontractors on Department projects, and afford DBE's the opportunity to again experience in Department construction contract work.

III ELIGIBILITY.

Only prime contractors and DBE's certified prior to the date of bid, or prospective DBE's that have submitted to the Division of Civil Rights/Affirmative Action on or before the day of bid a completed "New Jersey Department of Transportation Disadvantaged Business Enterprise Disclosure Affidavit" (PR-131) and all required documentation and have never been either prime contractor or subcontractor on Department construction projects will be eligible for participation in this program. A list of those eligible DBE's will be available from the Division of Civil Rights/Affirmative Action. Any bidder who submits the name of a certified first-time DBE as part of its goal commitment is also eligible. Any DBE participating in the program must submit to the prime contractor a certification that they have never been either a prime contractor or subcontractor on a Department construction project under their present name or any other name. The prime contractor shall submit this certification with their required DBE submission.

IV INCENTIVE.

Prime contractors utilizing first-time DBE's will be given a credit toward their goal percentage identified in companion document "*Disadvantaged Business Enterprise Utilization Attachment For FHWA Funded Contracts*", dated September 1987, revised January 1989, September 1992 and May 1995, equal to the actual dollar amount subcontracted to a first time DBE with the total project credit limited to two percent (2%) of the total bid price but not to exceed $200,000. This extra credit will reduce the goal percentage award as well as be applicable to the reduced goal percentage.

V PROGRAM REQUIREMENTS.

A. A prime contractor may present any number of first time DBE's for each project. Credit will be given only for the actual amount subcontracted up to the limits established in IV above.

B. The prime contractor shall be responsible for the entire DBE goal percentage established for the project.

C. Failure to use a first time DBE shall cause the original goal award percentage prior to applying first time DBE credits to remain in effect.

D. Failure to meet the goal award percentage, coupled with a lack of good faith effort as determined by the Division of Civil Rights/Affirmative Action, will be considered to be non-compliance on the part of the prime contractor who may be placed in show cause and subsequently be grounds for rejection of the bid as nonresponsive.

FHWA ATTACHMENT NO.6

EQUAL EMPLOYMENT OPPORTUNITY SPECIAL PROVISIONS

1. General

   a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (Form FHWA-1273) and these Special Provisions which are imposed pursuant to Section 140 of Title 23 USC, as established by Section 22 of the Federal Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the Equal Employment Opportunity requirements set forth in the Required Contract Provisions.

   b. The Contractor will work with the State agencies and the Federal Government in carrying out Equal Employment Opportunity obligations and in their review of activities under the contract.

   c. The Contractor and all subcontractors holding subcontracts, not including material suppliers, of $10,000 or more, will comply with the following minimum specific requirement activities of Equal Employment Opportunity. The Contractor will include these requirements in every subcontract of $10,000 or more with such modification of language as is necessary to make them binding on the subcontractor. (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors).

   d. Noncompliance by the Contractor with the requirements of the Affirmative Action Program for Equal Employment Opportunity may be cause for delaying or withholding monthly and final payments pending corrective and appropriate measures by the Contractor to the satisfaction of the Department.

2. Equal Employment Opportunity Policy

   The Contractor will accept as its operating policy the following statement which is designed to further the provisions of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

   It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and on-the-job training.

3. Equal Employment Opportunity Officer

   The Contractor will designate and make known to the Department contracting officers an equal opportunity officer (hereinafter referred to as the EEO Officer) who will have the capability, authority and responsibility to effectively implement and promote an active contractor program of equal employment opportunity.

4. Dissemination of Policy

   a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommended such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure compliance, the following minimum actions will be taken:

(1) An initial project site meeting with key supervisory and office personnel will be conducted before or at the start of work, and then not less than once every 6 months, at which time the Contractor's equal employment opportunity program will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.
(2) All new supervisory and office personnel will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the Contractor's equal employment opportunity obligations within 30 days following their reporting for duty with the Contractor.
(3) All personnel engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official concerning the Contractor's procedures for locating and hiring minority and female employees.

b. In order to make the Contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor will take the following actions:
(1) Notices and posters setting forth the Contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
(2) The Contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, and/or other appropriate means.

5. Recruitment

a. When advertising for employees, the Contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer". All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants, including, but not limited to, State employment agencies, schools, colleges and minority-oriented organizations. To meet this requirement, the Contractor will, through his EEO Officer, identify sources of potential minority and female employees, and establish procedures with such sources whereby applicants may be referred to the Contractor for employment consideration.

In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with the equal employment opportunity contract provisions. (The US Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or females, or obligates the Contractor to do the same, such implementation violates Executive Order 11246, as amended).

c. The Contractor will encourage his present employees to refer minority and female applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures pertaining to the referral of applicants will be discussed with employees.

6. Personnel Actions

Wages, working conditions and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed:

a. The Contractor will conduct a project site inspection at the start of work, and periodically thereafter, to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The Contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The Contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The Contractor will promptly investigate all complaints of alleged discrimination made to the Contractor in connection with its obligations under this contract, and will resolve or attempt to resolve such complaints, within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, corrective action shall include such other persons. Upon completion of each investigation, the Contractor will inform complainants of available avenues of appeal.

7. Training Special Provisions

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journey people in the type of craft or job classification involved.

The number of training positions will be 3, where feasible, consisting of at least 0 APPRENTICES and 3 TRAINEES. TRAINEE HOURS=1490.

Apprentices are defined as registered members of an approved apprenticeship program recognized by the United States Department of Labor (USDOL) Bureau of Apprenticeship and Training (BAT) or a New Jersey State apprenticeship agency recognized by USDOL BAT (e.g., New Jersey Department of Education). Graduates of the Pre-Apprenticeship Training Cooperative Program shall be classified as apprentices. Trainees are defined as skilled, semi-skilled or lower level management individuals receiving training per one of the approved NJDOT "Revised Standard Training Guidelines" (available from the Division of Civil Rights).

Where feasible, at least 50% of the training positions will be assigned to Skilled Crafts which include but are not limited to Carpenters, Dockbuilders, Electricians, Ironworkers and Operating Engineers.

a. Contractor Submission and NJDOT Approval of the Initial Training Program.

At or after the preconstruction conference and prior to the start of work, the Contractor shall submit a training program to the RE for his or her review and comments prior to Division of Civil Rights review and approval. The Contractor's training program shall include:
(1) the number of trainees or apprentices to be trained in all selected Training Positions,
(2) the Standard Program Hours for all positions,
(3) an estimate of the Minimum Available Hours actually feasible on the project toward completion of the Standard Program Hours per position,
(4) a training schedule of Estimated Start Dates for the apprentices or trainees, developed and coordinated with the project's work progress schedule,
(5) Training Guidelines for all positions, and
(6) which training will be provided by the Contractor and which by Subcontractors.

The number of apprentices and trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeypeople in the various crafts within a reasonable area of recruitment. The Contractor shall submit timely, revised training programs as required throughout the project to ensure that feasible and Maximum Available Training is provided. Maximum Available Training is defined as bringing each apprentice or trainee onto the project when work first becomes available in his/her craft and providing all available training until hours are no longer available.

b. Assignment of Training to Subcontractors

In the event that portions of the contract work are subcontracted, the Contractor shall determine how many, if any, of the apprentices or trainees are to be trained by subcontractors, provided,

however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by these Training Special Provisions. The Contractor shall also ensure that these Training Special Provisions are made applicable to such subcontracts.

c. Requirements for Recruitment, Selection and Approval of Apprentices and Trainees
   (1) Apprentices or trainees should be in their first year of apprenticeship or training. The Contractor shall interview and screen trainee candidates to determine if their actual work experience is equivalent to or exceeds that offered by the training program prior to submitting candidates, via the RE, to the Division for review and approval or disapproval.
   (2) Training and upgrading of minorities (e.g., Blacks, Asians or Pacific Islanders, Native Americans or Alaskan Natives, Hispanics) and females toward journeyperson status is a primary objective of these Training Special Provisions. Accordingly, the Contractor shall make every effort to enroll minorities and females, by conducting systematic and direct recruitment through public and private sources likely to yield minority and female apprentices or trainees, to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.
   (3) No employee shall be employed as an apprentice or trainee in any position in which he or she has successfully completed a training course leading to journeyperson status or in which he or she has been employed as a journeyperson. The Contractor shall satisfy this requirement by including appropriate questions in the employment application or by other suitable means and by submitting an accurate and complete “Apprentice/Trainee Approval Memorandum.” (Form CR-1) Regardless of the methods used, the Contractor’s records should document the findings in each case.
   (4) Skilled craft trainees may complete up to 3,000 total training hours on NJDOT projects, with an extension of an additional 1,000 hours permitted on a case-by-case basis. Semi-skilled and lower-level management trainees attain journeyperson status upon completion of a training guideline and may complete up to three (3) different positions.

d. Apprenticeship and Training Programs
   (1) The minimum length and type of training for each position will be established in the training program selected by the Contractor and approved by NJDOT and the Federal Highway Administration. NJDOT will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average apprentice or trainee for journeyperson status in the craft concerned by the end of the training period.
   (2) Apprenticeship programs registered with the US Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by USDOL BAT and training programs approved but not necessarily sponsored by the US Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided such programs are being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the NJDOT Division of Civil Rights prior to commencing work on the positions covered by the Contractor’s training program. The Division will review guidelines developed by the Contractor for approval or disapproval in accordance with the Training Guideline Approval Process described in the “Revised Standard Training Guidelines”. The Division will also review existing guidelines for revision based on the same process.
   (3) It is the intention of these provisions that training be provided in construction crafts rather than clerk-typist or secretarial-type positions. Training is permitted in lower level management positions (e.g., timekeepers), where the training is oriented toward project site applications. Training in semi-skilled laborer positions is permitted provided that significant and meaningful training is available on the project site. Some offsite, classroom training (e.g., safety, first aid instruction) may be permitted as long as such training is an integral part of an approved training program and does not comprise a significant part of the overall training.

e. Reimbursement of the Contractor for Providing Training

(1) The Contractor will be credited for each apprentice or trainee employed on the construction site who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such apprentices or trainees as provided hereinafter. Payment will be made under the pay item Trainees at the bid price in the Proposal per person-hour of training given an employee on this contract in accordance with an approved training program. If approved, payment will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other sources do not specifically prohibit the Contractor from receiving other reimbursement. Offsite, classroom training reimbursement may only be made to the Contractor when the company does one or more of the following and the apprentices or trainees are concurrently employed on a Federal-aid project: contributes to the cost of the training and/or provides instruction to apprentices or trainees or pays their wages during the offsite, classroom training (e.g., safety, first aid instruction) period.
(2) The Contractor shall pay apprentices and trainees according to the project-specific New Jersey Department of Labor Prevailing Wage Rate Determination for the project.

f. Documentation Required to be Signed by Apprentices or Trainees and provided to NJDOT
(1) At the start of training, the Contractor shall provide the RE and each apprentice or trainee with an applicable "Training Guideline" and, at the conclusion of training, an accurate and complete "Training Certificate for Reporting Hours to NJDOT" (Form CR-3), showing hours of training satisfactorily completed.
(2) The Contractor shall maintain and submit an accurate and complete "NJDOT Contractor's 1409 Quarterly Training Report" (Form-CR-1409) to the RE within ten (10) days of the end of each training quarter (e.g., January 10, April 10, July 10, October 10); a copy shall also be given to each apprentice or trainee.
(3) The Contractor shall maintain and submit accurate and complete "Biweekly Training Reports" (Form CR-2) to the RE, and each apprentice or trainee, as periodic reports documenting performance under these Training Special Provisions.

g. Training and Promotion
(1) The Contractor shall assist in locating, qualifying, and increasing the skills of minority and female employees, and applicants for employment.
(2) The Contractor shall advise employees and applicants for employment of available training programs and entrance requirements.
(3) The Contractor shall periodically review the training and promotion potential of minority and female employees and encourage eligible employees to apply for such training and promotion.

h. Determining Good Faith Compliance
(1) Per the approved program or guideline, the Contractor shall provide Maximum Available Training to apprentices and trainees by beginning their training as soon as feasible with the start of craft work utilizing the skill involved on the project construction site and by retaining them as long as training opportunities exist in their crafts or until their training program positions are completed.
(2) The Contractor shall recall apprentices or trainees released due to reductions in force when the work scope permits and they are available to return. When they are unavailable to resume training on the project site, the Contractor shall submit written proof of recall efforts and replacement candidates and/or positions in a timely manner. The Contractor shall not terminate apprentices or trainees prior to completion of their training program positions without NJDOT consultation and authorization. Apprentices or trainees are not required to be on board for the entire length of the contract.
(3) The Contractor shall have fulfilled the contractual responsibilities under these Training Special Provisions if the company has provided Acceptable Training to the number of apprentices or trainees specified in this contract and/or by providing the remaining hours required to complete training positions begun by apprentices or trainees on other projects. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.
(4) The Contractor shall be responsible for demonstrating all steps that have been taken in pursuance of enrolling minorities and females in the training program positions, prior to a

determination as to whether the Contractor is in compliance with these Training Special Provisions.

(5) The Contractor shall submit to the RE written training program summaries at the 50% time and/or cost stage of the contract and also prior to project completion, describing all good faith actions and particularly addressing Maximum Available Training for incomplete training positions, per the procedure found in the revised "Instructions for Implementing the Training Special Provisions".

i. Enforcement Measures and Contractor's Rating

(1) Payment will not be made if either the failure to provide the required training or the failure to hire the apprentice or trainee as a journeyperson is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of these Training Special Provisions.

(2) Per established procedures and scheduled Contract Compliance Reviews, the Contractor's performance will be rated and reviewed periodically by the Department.

(3) Noncompliance with these Training Special Provisions may be cause for delaying or withholding monthly and final payments, pending corrective and appropriate measures by the Contractor to the satisfaction of the Department, per Item 1d of these EEO Special Provisions.

8. Unions

If the Contractor relies in whole or in part upon unions as a source of employees, the Contractor will make maximum effort to obtain the cooperation of such unions to increase opportunities for minorities and females within the unions, and to effect such union referrals to the construction project. Actions by the Contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The Contractor will use maximum effort to develop, in cooperation with the unions, joint training programs aimed at qualifying more minorities and females for union membership and increasing their skills in order to qualify for higher paying employment.

b. The Contractor will use maximum effort to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.

c. The Contractor will obtain information concerning the referral practices and policies of the labor unions except that to the extent such information is within the exclusive possession of the labor unions and they refuse to furnish this information to the Contractor, the Contractor shall so certify to the Department and shall set forth what efforts have been made to obtain this information.

d. In the event the unions are unable to provide the Contractor with a reasonable flow of minority and female referrals within the time limit set forth in the collective bargaining agreement, the Contractor will through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified and/or qualifiable minorities and females. (The US Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees). In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such Contractor shall immediately notify the Department.

9. Subcontracting

a. The Contractor will use maximum effort to solicit bids from and to utilize minority subcontractors or subcontractors with meaningful minority and female representation among their employees. Contractors may use lists of minority-owned construction firms as issued by the Department.

b. The Contractor will use maximum effort to ensure subcontractor compliance with the equal employment opportunity obligations.

10. Documents and Reports

a. The Contractor will maintain such documents as are necessary to determine compliance with the contract's equal employment opportunity requirements. Documents will include the following:
   (1) the number of minorities, non-minorities, and females employed in each work classification on the Project.
   (2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and females (applicable only to Contractors who rely in whole or in part on unions as a source of their work force).
   (3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and
   (4) the progress and efforts being made in securing the services of minority and female subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. All such documents must be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Department and the Federal Highway Administration.

c. The contractor and each subcontractor must submit monthly employment and wage data to the Department via a web based application using electronic Form CC-257R. Instructions for registering and receiving the authentication code to access the web based application can be found at:
   http://www.state.nj.us/transportation/business/civilrights/pdf/cc257.pdf

   Instructions on how to complete Form CC257 are provided in the web application. Submit Form CC-257R through the web based application within 10 days following the end of the reporting month. Submission of this form also satisfies the requirement of the form FHWA 1391.

   All employment and wage data must be accurate and consistent with the certified payroll records. The contractor is responsible for ensuring that their subcontractors comply with these reporting requirements. Failure by the contractor to submit Monthly Employment Utilization Report may impact the contractor's prequalification rating with the Department.

FHWA ATTACHMENT NO.7

SPECIAL CONTRACT PROVISIONS FOR INVESTIGATING, REPORTING AND RESOLVING EMPLOYMENT DISCRIMINATION AND SEXUAL HARASSMENT COMPLAINTS

The contractor hereby agrees to the following requirements in order to implement fully the nondiscrimination provisions of the Supplemental Specifications.

The Contractor agrees that in instances when it receives from any person working on the project site a verbal or written complaint of employment discrimination, prohibited under N.J.S.A. 10:5-1 et seq., 10:2-1 et seq., 42 U.S.C. 2000(d) et seq., 42 U.S.C. 2000 (e) et seq. and Executive Order 11246, it shall take the following actions:

1. Within one (1) working day commence an investigation of the complaint which shall include but not be limited to interviewing the complainant, the respondent, and all possible witnesses to the alleged act or acts of discrimination or sexual harassment.
2. Prepare and keep for its use and file a detailed written investigative report which includes the following information:
   a) Investigatory activities and findings.
   b) Dates and parties involved and activities involved in resolving the complaint.
   c) Resolution and corrective action taken if discrimination or sexual harassment is found to have taken place.
   d) A signed copy of resolution of complaint by complainant and contractor.

   In addition to keeping in its files the above-noted detailed written investigative report, the contractor shall keep for possible future review by the Department all other records, including but not limited to, interview memos and statements.
3. Upon the request of the Department, provides to the Department within ten (10) calendar days a copy of its detailed written investigative report and all other records on the complaint investigation and resolution.
4. Take appropriate disciplinary action against any contractor employee, official or agent who has committed acts of discrimination or sexual harassment against any contractor employee or person working on the project. If the person committing the discrimination is a subcontractor employee, then the contractor is required to attempt to effectuate corrective and/or disciplinary action by the subcontractor in order to establish compliance with project's contract requirements.
5. Take appropriate disciplinary action against any contractor employee, official or agent who retaliates, coerces or intimidates any complaint and/or person who provides information or assistance to any investigation of complaints of discrimination or sexual harassment. If the person retaliating, coercing or intimidating a complainant or other person assisting an investigation is a subcontractor's employee, then the contractor is required to attempt to effectuate corrective and/or disciplinary action by the subcontractor in order to establish compliance with the project's contract requirements.
6. Ensure to the maximum extent possible that the privacy interests of all persons who give confidential information in aid of the contractor's employment discrimination investigation are protected.

In conjunction with the above requirements, the contractor shall develop and post a written sexual harassment policy for its work force.

Failure by the contractor to comply with the above requirements may be cause for the New Jersey Department of Transportation to institute against the contractor any and all enforcement proceedings and/or sanctions authorized by the contract or by state and/or federal law.