

# COUNTY OF UNION

DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT  
*Joseph A. Graziano Sr., Director*

**BOARD OF  
CHOSEN FREEHOLDERS**

**BETTE JANE KOWALSKI**  
*Chair*

**ALEXANDER MIRABELLA**  
*Vice Chairman*

**ANGEL G. ESTRADA**

**ANGELA R. GARRETSON**

**SERGIO GRANADOS**

**CHRISTOPHER HUDAK**

**KIMBERLY PALMIERI-MOUDED**

**ANDREA F. STATEN**

**REBECCA WILLIAMS**

**MEMO TO:** To All Potential Bidders

**FROM:** Thomas O. Mineo, P.E.  
County Engineer

**DATE:** August 13, 2019

**RE:** **ADDENDUM NUMBER 1**  
**BI-COUNTY BRIDGE REPLACEMENT**  
**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER**  
**SUPERSTRUCTURE REPLACEMENT**  
**BOROUGH OF NEW PROVIDENCE, COUNTY OF UNION**  
**TOWNSHIP OF CHATHAM, COUNTY OF MORRIS**  
**BA#32-2019; UNION COUNTY ENGINEERING PROJECT #2016-003**

**EDWARD T. OATMAN**  
*County Manager*

**AMY C. WAGNER**  
*Deputy County Manager*

**ROBERT E. BARRY, ESQ.**  
*County Counsel*

**JAMES E. PELLETIERE, RMC**  
*Clerk of the Board*

It has been brought to our attention that the construction plan set was missing Sheet 6.00, 6.01 and 6.02 as noted on the Title Sheet of the Construction Plans. These plan sheets are included as part of this addendum. Please note these plan sheets were utilized for permitting with the NJDEP and the bidders shall note the allowed disturbance limits as authorized by the permit. A copy of the NJDEP permit was previously included as an appendix to the bid specification.

**PLEASE NOTE THAT THE ATTACHED "ADDENDUM NUMBER 1" FORM MUST BE COMPLETED AND SUBMITTED WITH THE ORIGINAL BID SUBMISSION PACKET.**

**THOMAS O. MINEO, P.E.**  
*County Engineer,*  
*Director, Division of Engineering*

**ADDENDUM NUMBER 1**

**DATED: 8/13/19**

BIDDER'S NAME: \_\_\_\_\_

**ACKNOWLEDGMENT OF ADDENDUM**

**ADDENDUM NUMBER 1**

**DATED: August 13, 2019**

**COUNTY OF UNION**

**Bi-County Bridge Replacement**  
**Passaic Street Bridge Over the Passaic River**  
**Superstructure Replacement**  
**Borough of New Providence, County of Union**  
**Township of Chatham, County of Morris**

**BA#32-2019**  
**Union County Engineering Project #2016-003**

**(Name of Construction /Public Works Project)**

**(Project or Bid Number)**

Pursuant to N.J.S.A. 40A:11-23.1a., the undersigned bidder, hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the County of Union's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

<b>Local Unit Reference Number or Title of Addendum/Revision</b>	<b>How Received (mail, fax, pick-up, etc.)</b>	<b>Date Received</b>
<b><u>ADDENDUM NUMBER 1:</u></b> Plan Sheets: Add Plan Sheets 6.00, 6.01 and 6.02		

**ACKNOWLEDGMENT BY BIDDER:**

**NAME OF BIDDER:** \_\_\_\_\_

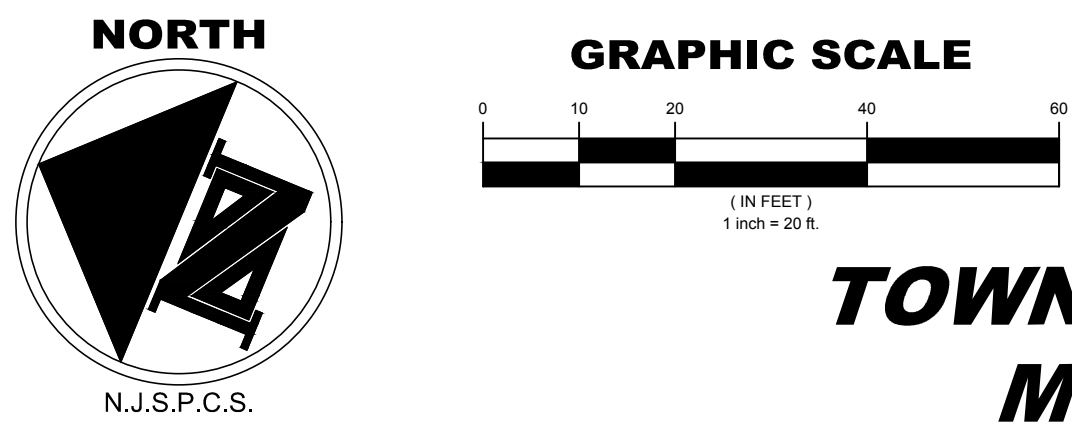
**ORIGINAL SIGNATURE:** \_\_\_\_\_

**PRINTED NAME AND TITLE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

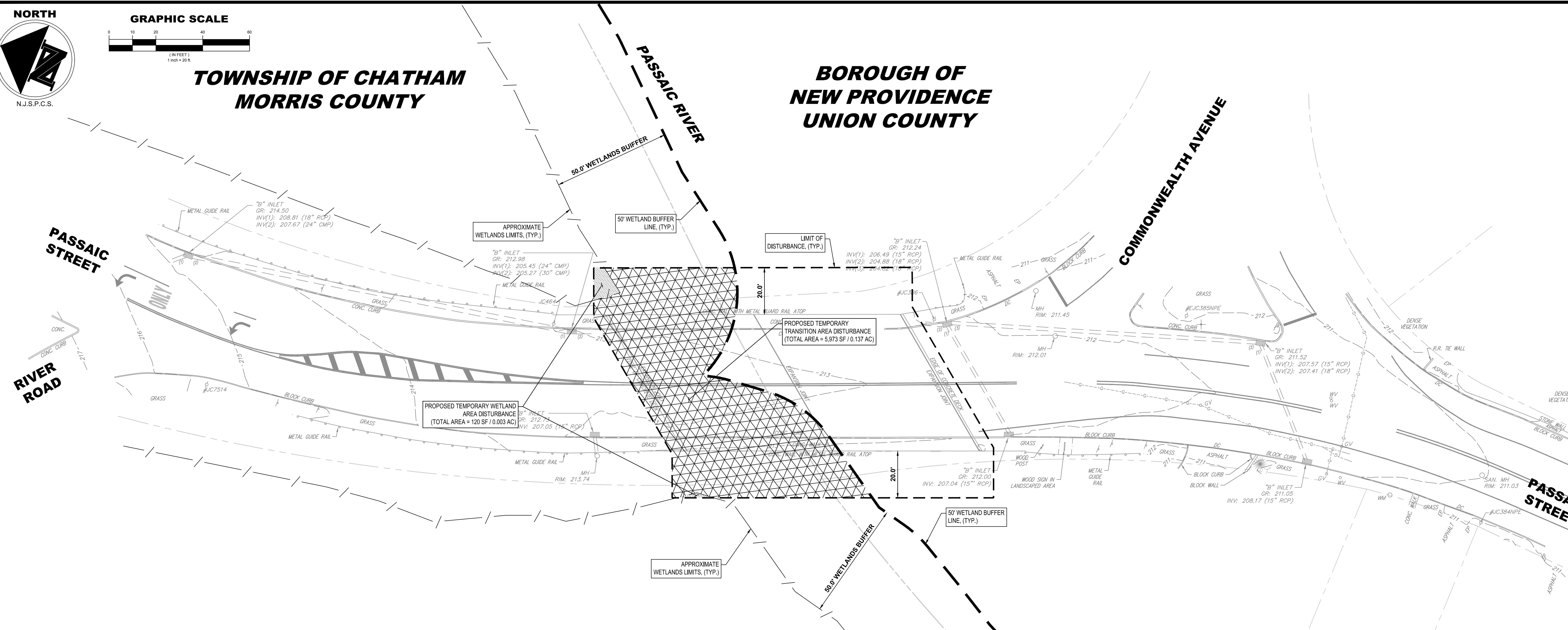
**ADDENDUM NO. 1**

**DATED: 8/13/19**



**TOWNSHIP OF CHATHAM  
MORRIS COUNTY**

**BOROUGH OF  
NEW PROVIDENCE  
UNION COUNTY**



**GENERAL NOTES:**

- EXISTING TOPOGRAPHIC SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY PASSIC STREET BRIDGE, BOROUGH OF NEW PROVIDENCE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
- CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL INCLUDING BUT NOT LIMITED TO CONSTRUCT PHASING, TRAFFIC CONTROL, SIGNAGE, DETOURING, ETC.
- ALL WORK SHALL BE IN ACCORDANCE WITH UNION COUNTY, MORRIS COUNTY, AND NJDOT DETAILS AND SPECIFICATIONS.
- THE MERIDIAN OF THIS SURVEY IS BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD83 (2011) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK.
- ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK. TO CONVERT TO NGVD29 ADD 0.95' TO ELEVATIONS.

**FRESHWATER WETLAND TRANSITION AREA DISTURBANCE NOTE:**

PER CONVERSATIONS WITH N.J.D.E.P. PERSONNEL, 50 FEET OF TRANSITION AREA BUFFER IS ALLOWED TO BE DISTURBED WITHOUT ADDITIONAL PERMITTING WHEN DISTURBING THE ASSOCIATED WETLAND UNDER A PERMITTED DISTURBANCE (PER NJAC 7:7A-4.2(c)).

**FRESHWATER WETLANDS AND WETLAND TRANSITION AREA DISTURBANCE CALCULATIONS:**

**NJDEP WETLAND GENERAL PERMIT 10A - VERY MINOR ROAD CROSSING**

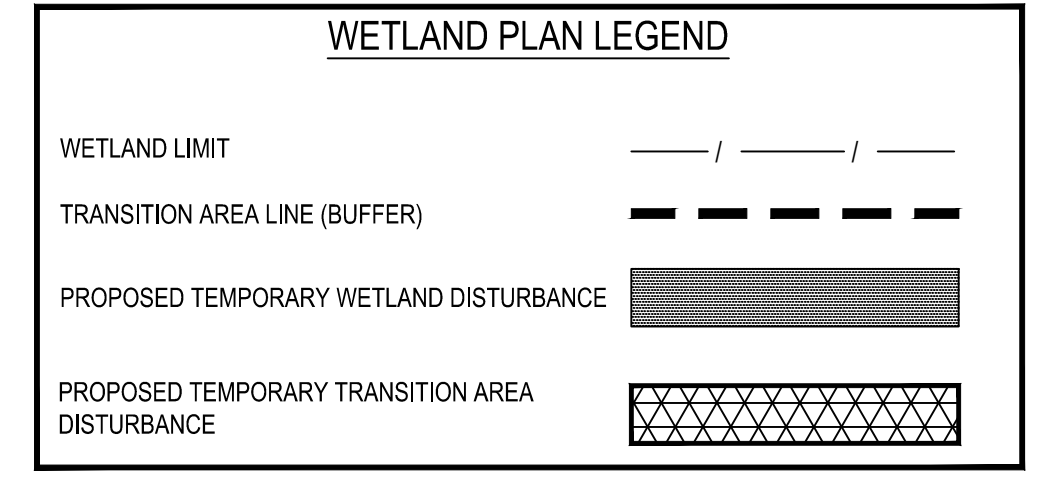
SHORT CROSSING SCENARIO:  
 MAXIMUM ALLOWABLE FRESHWATER WETLANDS CROSSING LENGTH = **100 FEET**  
 MAXIMUM PROPOSED FRESHWATER WETLANDS CROSSING LENGTH = **77.8 FEET**  
 MAXIMUM ALLOWABLE CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATER = **0.25 ACRES (10,890 SQUARE FEET)**  
 TOTAL PERMANENT WETLAND DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
 TOTAL TEMPORARY WETLAND DISTURBANCE = **0.003 ACRES (120 SQUARE FEET)**  
 TOTAL PERMANENT TRANSITION AREA DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
 TOTAL TEMPORARY TRANSITION AREA DISTURBANCE = **0.137 ACRES (5,973 SQUARE FEET)**  
 TOTAL PERMANENT STATE OPEN WATER DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
 TOTAL TEMPORARY STATE OPEN WATER DISTURBANCE = **0.073 ACRES (3,161 SQUARE FEET)**  
 TOTAL PROPOSED PERMANENT DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS, AND STATE OPEN WATER = **0 ACRES (0 SQUARE FEET)**  
 TOTAL PERMITTED DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS, AND STATE OPEN WATERS = **0.250 ACRES (10,890 SQUARE FEET) > 0 ACRES (0 SQUARE FEET)**

\*THIS AREA REPRESENTS TEMPORARY TRANSITION AREA DISTURBANCES BEYOND THAT WHICH ARE INCLUDED UNDER NJAC 7:7A-4.2(c)  
 \*\*REFER TO DRAWING 6.01 (NJDEP STATE OPEN WATER PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO STATE OPEN WATER PERMITTING.  
 REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR CALCULATIONS FOR RIPARIAN PERMITTING.

**FLOOD HAZARD AREA PERMITTING:**

THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT FALL UNDER THE REGULATIONS ASSOCIATED WITH PERMIT-BY-RULE 42 WHICH PERMITS THE RECONSTRUCTION OF ALL OR PART OF A LAWFULLY EXISTING BRIDGE SUPERSTRUCTURE OVER A REGULATED WATER, PROVIDED THE CONDITIONS AT N.J.A.C. 7:13-6.7 ARE MET AND:

- ANY PORTION OF THE SUPERSTRUCTURE TO BE RECONSTRUCTED THAT LIES BELOW THE FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS REPLACED IN KIND; AND
- NO RIPARIAN ZONE VEGETATION IS CLEARED, CUT, AND/OR REMOVED, EXCEPT FOR VEGETATION WITHIN 20 FEET OF THE STRUCTURE, WHERE SUCH DISTURBANCE IS NECESSARY TO FACILITATE ITS RECONSTRUCTION.

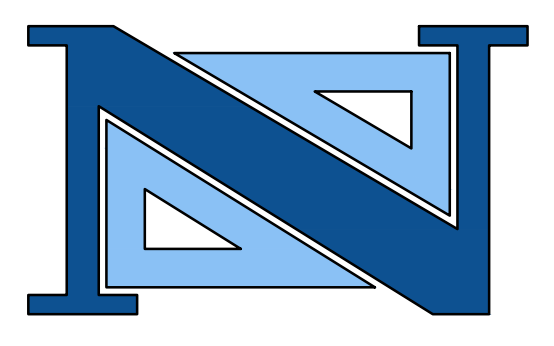


REFER TO DRAWING 6.01 (NJDEP STATE OPEN WATER PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO STATE OPEN WATER PERMITTING. REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO RIPARIAN AREA PERMITTING.

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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276890

REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION			



**DAVID R. ATKINSON, P.E., C.M.E.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4599

**THOMAS R. SOLFARO, P.E., C.M.E.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4192

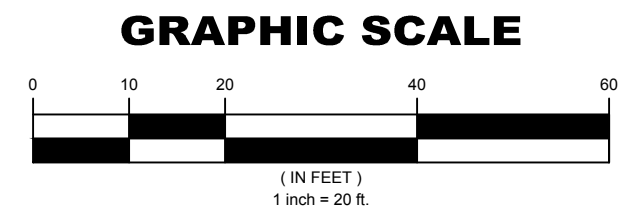
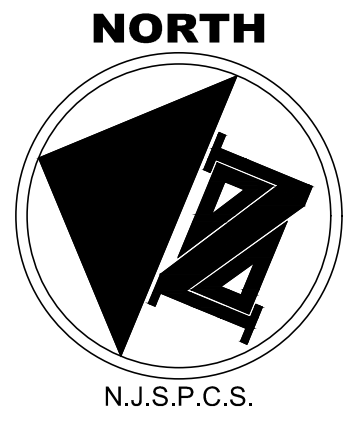
A PROJECT OF  
**NEGLIA ENGINEERING ASSOCIATES**  
 34 PARK AVENUE  
 TEL: 201-939-8805  
 LYNDHURST, NEW JERSEY  
 FAX: 201-939-0846  
 E-MAIL: NEA@NEGLIAENGINEERING.COM

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 38604  
 PROFESSIONAL LAND SURVEYOR  
 N.J. LICENSE NO. 38604  
 PROFESSIONAL PLANNER  
 N.J. LICENSE NO. 33L00569800

**NJDEP WETLAND PERMITTING PLAN  
PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE  
UNION COUNTY  
NEW JERSEY**

DESIGNED BY: D.R.A. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY17.013 SHEET NO: 6.00  
 SCALE: 1" = 20' DATE: JANUARY 5, 2018

m:\union county\uniocty17.013 (passaic street bridge)\load\_files\602 wetland permitting plan.dwg Plotter: Wednesday, January 24, 2018 12:50:11 PM



TOWNSHIP OF CHATHAM MORRIS COUNTY

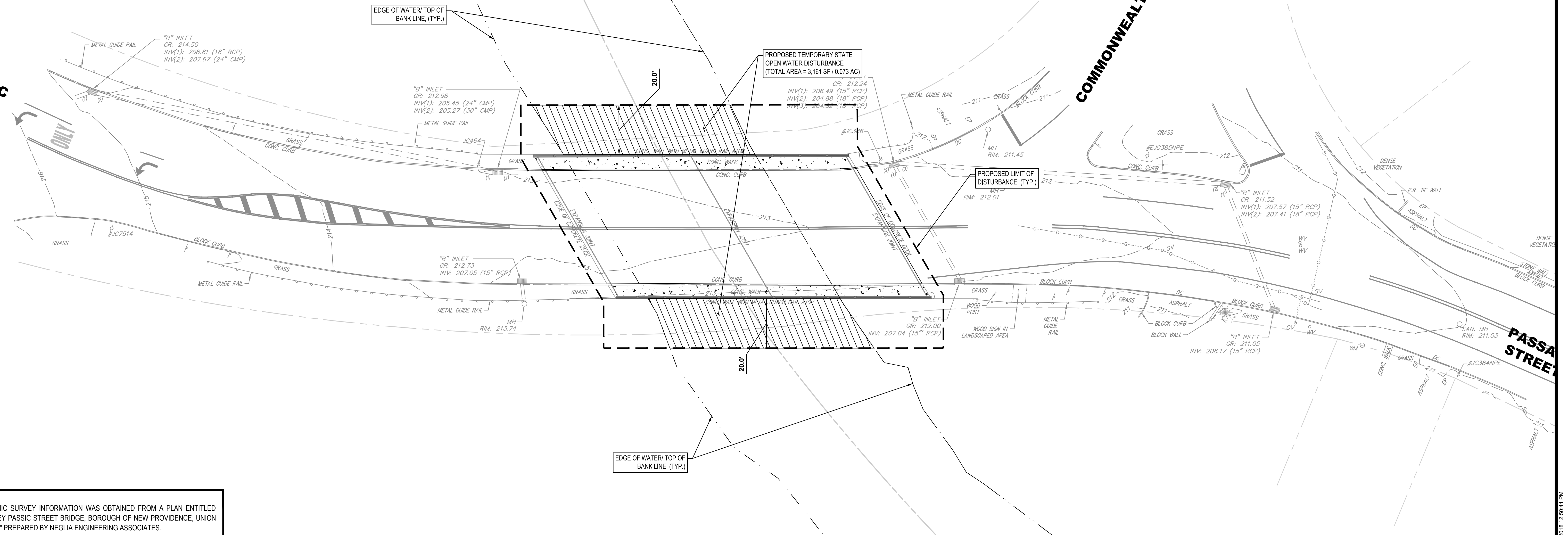
BOROUGH OF NEW PROVIDENCE UNION COUNTY

PASSAIC STREET, RIVER ROAD

PASSAIC RIVER

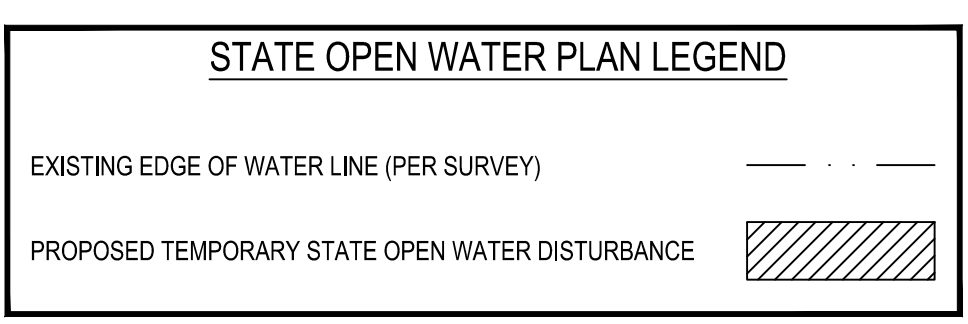
COMMONWEALTH AVENUE

PASSAIC STREET



- GENERAL NOTES: 1. EXISTING TOPOGRAPHIC SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED 'TOPOGRAPHIC SURVEY PASSIC STREET BRIDGE, BOROUGH OF NEW PROVIDENCE, UNION COUNTY, NEW JERSEY' PREPARED BY NEGLIA ENGINEERING ASSOCIATES. 2. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL INCLUDING BUT NOT LIMITED TO CONSTRUCT PHASING, TRAFFIC CONTROL, SIGNAGE, DETOURING, ETC. 3. ALL WORK SHALL BE IN ACCORDANCE WITH UNION COUNTY, MORRIS COUNTY, AND NJDOT DETAILS AND SPECIFICATIONS. 4. THE MERIDIAN OF THIS SURVEY IS BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD83 (2011) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK. 5. ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK. TO CONVERT TO NGVD29 ADD 0.95' TO ELEVATIONS.

STATE OPEN WATER DISTURBANCE CALCULATIONS: NJDEP WETLAND GENERAL PERMIT 10A - VERY MINOR ROAD CROSSING. SHORT CROSSING SCENARIO. MAXIMUM ALLOWABLE FRESHWATER WETLANDS AND/OR STATE OPEN WATER CROSSING LENGTH = 100 FEET. MAXIMUM PROPOSED FRESHWATER WETLANDS AND/OR STATE OPEN WATER CROSSING LENGTH = 77.8 FEET. MAXIMUM ALLOWABLE CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATER = 0.25 ACRES (10,890 SQUARE FEET). TOTAL PERMANENT STATE OPEN WATER DISTURBANCE = 0 ACRES (0 SQUARE FEET). TOTAL TEMPORARY STATE OPEN WATER DISTURBANCE = 0.073 ACRES (3,161 SQUARE FEET). TOTAL PROPOSED CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATERS = 0 ACRES (0 SQUARE FEET)\*\*

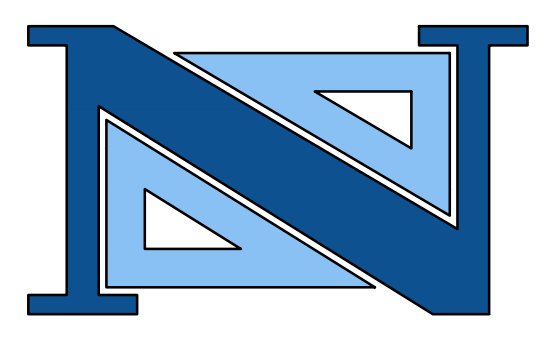


FLOOD HAZARD AREA PERMITTING: THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT FALL UNDER THE REGULATIONS ASSOCIATED WITH PERMIT-BY-RULE 42 WHICH PERMITS THE RECONSTRUCTION OF ALL OR PART OF A LAWFULLY EXISTING BRIDGE SUPERSTRUCTURE OVER A REGULATED WATER, PROVIDED THE CONDITIONS AT N.J.A.C. 7:15-6.7 ARE MET AND: - ANY PORTION OF THE SUPERSTRUCTURE TO BE RECONSTRUCTED THAT LIES BELOW THE FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS REPLACED IN KIND; AND - NO RIPARIAN ZONE VEGETATION IS CLEARED, CUT, AND/OR REMOVED, EXCEPT FOR VEGETATION WITHIN 20 FEET OF THE STRUCTURE, WHERE SUCH DISTURBANCE IS NECESSARY TO FACILITATE ITS RECONSTRUCTION.

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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276890

Table with columns: NO., DATE, REVISIONS (DESCRIPTION), DRAWN, DESIGNED, CHECKED.



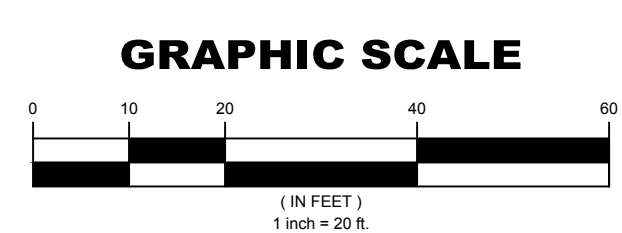
DAVID R. ATKINSON, P.E., C.M.E. PROFESSIONAL ENGINEER N.J. LICENSE NO. 4599

THOMAS R. SOLFARO, P.E., C.M.E. PROFESSIONAL ENGINEER N.J. LICENSE NO. 4199

NEGLIA ENGINEERING ASSOCIATES A PROJECT OF 34 PARK AVENUE LYNDHURST NEW JERSEY TEL: 201-939-8805 FAX: 201-939-0846 E-MAIL: NEA@NEGLIAENGINEERING.COM MICHAEL J. NEGLIA, P.E., P.L.S., P.P. PROFESSIONAL ENGINEER N.J. LICENSE NO. 38604 PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 38604 PROFESSIONAL PLANNER N.J. LICENSE NO. 33L00569800

NJDEP STATE OPEN WATER PERMITTING PLAN PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT BOROUGH OF NEW PROVIDENCE UNION COUNTY NEW JERSEY. DRAWN BY: E.N.S. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY17.013 SHEET NO: 6.01. DESIGNED BY: D.R.A. SCALE: 1" = 20' DATE: JANUARY 5, 2018. FIELD BOOK NO: PAGE

union county\uniocty17.013 (passaic street bridge)\load\_final (p03) file006.01 - njdep state open water permitting plan.dwg. Plotted: Wednesday, January 24, 2018 12:50:41 PM



**TOWNSHIP OF CHATHAM  
MORRIS COUNTY**

**BOROUGH OF  
NEW PROVIDENCE  
UNION COUNTY**

**PASSAIC STREET**  
**RIVER ROAD**

**PASSAIC RIVER**

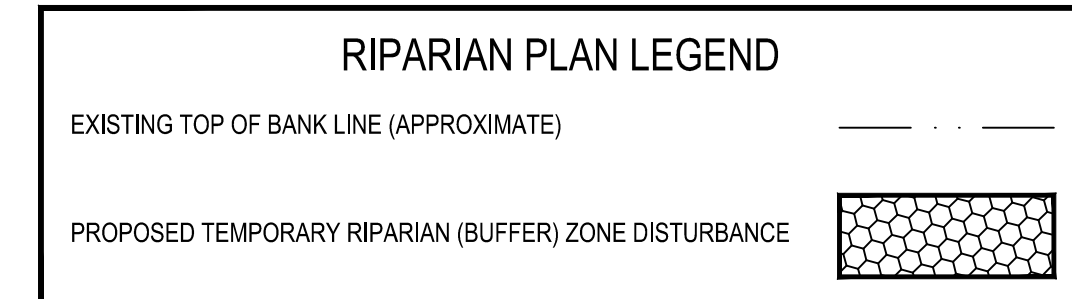
**COMMONWEALTH AVENUE**

**PASSAIC STREET**

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- EXISTING TOPOGRAPHIC SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY PASSIC STREET BRIDGE, BOROUGH OF NEW PROVIDENCE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
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  - ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTBALISHED USING GPS METHODS AND THE SMARTNET NETWORK. TO CONVERT TO NGVD29 ADD 0.95' TO ELEVATIONS.

**RIPARIAN ZONE CALCULATIONS**

TOTAL AREA OF PERMANENT RIPARIAN (BUFFER) ZONE DISTURBANCE = 0 (0 SQUARE FEET)
TOTAL AREA OF TEMPORARY RIPARIAN (BUFFER) ZONE DISTURBANCE = 0.053 ACRES (2,303 SQUARE FEET)
TOTAL ALLOWABLE AREA OF RIPARIAN ZONE DISTURBANCE FOR A PUBLIC RECONSTRUCTED ROADWAY CROSSING A WATER WITH A 50 FOOT RIPARIAN BUFFER = 0.069 ACRES (3,000 SQUARE FEET)
EXISTING IMPERVIOUS COVERAGE = 0.258 ACRES (11,247 SQUARE FEET)
PROPOSED IMPERVIOUS COVERAGE = 0.258 ACRES (11,247 SQUARE FEET)
DECREASE IN IMPERVIOUS COVERAGE = 0 ACRES (0 SQUARE FEET)
TOTAL SITE DISTURBANCE = 0.311 ACRES (13,550 SQUARE FEET)



**FLOOD HAZARD AREA PERMITTING:**

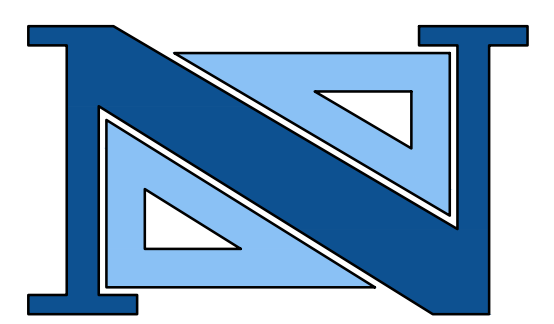
THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT FALL UNDER THE REGULATIONS ASSOCIATED WITH PERMIT-BY-RULE 42 WHICH PERMITS THE RECONSTRUCTION OF ALL OR PART OF A LAWFULLY EXISTING BRIDGE SUPERSTRUCTURE OVER A REGULATED WATER, PROVIDED THE CONDITIONS AT N.J.A.C. 7-13-6.7 ARE MET AND:

- ANY PORTION OF THE SUPERSTRUCTURE TO BE RECONSTRUCTED THAT LIES BELOW THE FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS REPLACED IN KIND; AND
- NO RIPARIAN ZONE VEGETATION IS CLEARED, CUT, AND/OR REMOVED, EXCEPT FOR VEGETATION WITHIN 20 FEET OF THE STRUCTURE, WHERE SUCH DISTURBANCE IS NECESSARY TO FACILITATE ITS RECONSTRUCTION.

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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276890

REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION			



**DAVID R. ATKINSON,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4599

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4199

**NEGLIA ENGINEERING ASSOCIATES**  
34 PARK AVENUE  
TEL: 201-939-8805  
NEW JERSEY  
LYNDHURST  
FAX: 201-939-0846  
E-MAIL: NEA@NEGLIAENGINEERING.COM

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604  
PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604  
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33L00569800

**NJDEP RIPARIAN PERMITTING PLAN  
PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE  
UNION COUNTY  
NEW JERSEY**

DRAWN BY: E.N.S.	CHECKED BY: D.R.A.	PROJECT NO:	SHEET NO:
DESIGNED BY: D.R.A.	SCALE: 1" = 20'	UNIOCTY17.013	6.02
FIELD BOOK NO:	DATE: JANUARY 5, 2018		

m:\union county\uniocty17.013 (passaic street bridge)\load\_dwg (plot) file06.02 - njdep riparian permitting plan.dwg Plotted: Wednesday, January 24, 2018 12:51:13 PM

**SPECIFICATIONS  
FOR  
BI-COUNTY BRIDGE REPLACEMENT  
PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER  
SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE, COUNTY OF UNION  
TOWNSHIP OF CHATHAM, COUNTY OF MORRIS**

**BA#32-2019; UNION COUNTY ENGINEERING PROJECT #2016-003**

**JULY 2019**

**UNION COUNTY OFFICIALS  
BOARD OF CHOSEN FREEHOLDERS**

Bette Jane Kowalski, Chair  
Alexander Mirabella, Vice Chairman  
Angel G. Estrada, Freeholder  
Angela R. Garretson, Freeholder  
Sergio Granados, Freeholder  
Christopher Hudak, Freeholder  
Kimberly Palmieri-Mouded, Freeholder  
Andrea F. Staten, Freeholder  
Rebecca Williams, Freeholder

**CLERK OF THE BOARD**

James E. Pellettiere, RMC

**COUNTY MANAGER**

Edward T. Oatman

**DEPARTMENT OF ENGINEERING, PUBLIC WORKS AND  
FACILITIES MANAGEMENT**

Joseph A. Graziano, Sr., CPWM  
Director, Department of Engineering, Public Works and  
Facilities Management

**COUNTY ENGINEER  
DIVISION OF ENGINEERING**

Thomas O. Mineo, P.E.  
2325 South Avenue  
Scotch Plains, New Jersey 07076  
Telephone: (908) 789-3675  
Fax: (908) 789-3674

**PREPARED BY:**

Neglia Engineering Associates  
1119 Raritan Road, Suite 2  
Clark, New Jersey 07066  
T: 201-939-8805  
F: 732-943-7249

**COUNTY OF UNION  
NOTICE TO BIDDERS**

Sealed bids will be received by the assistant director of the Division of Purchasing, or her designee, at the County of Union, New Jersey on August 28, 2019 at 10:30 a.m., prevailing time, in the 3<sup>rd</sup> Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**BI-COUNTY BRIDGE REPLACEMENT  
PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER  
SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE, COUNTY OF UNION  
TOWNSHIP OF CHATHAM, COUNTY OF MORRIS  
BA#32-2019; UNION COUNTY ENGINEERING PROJECT #2016-003**

Bid Packages may be obtained at no charge by registering and downloading at <http://ucnj.org/bid-specs>. Bid Packages may also be obtained in person from the Division of Engineering at 2325 South Avenue, Scotch Plains, New Jersey 07076 between 8:30 a.m. and 4:00 p.m. weekdays upon payment of a non-refundable money order or bank check in the amount of \$275.00 made payable to the County of Union. No Personal / Company checks will be accepted. Requests for mailing of specifications will not be honored. For further information please call 908-789-3675.

The County reserves the right to reject any and all bids and to waive any and all informalities in the bid in accordance with the New Jersey Local Public Contracts Law.

Bids shall be submitted in a sealed envelope and clearly marked with the subject of the bid, name and address of the bidder, phone & fax number, and date of the bid opening. Each bid must be delivered to reach the Division of Purchasing prior to the stated time of the opening of the bids. The County will not be responsible for late delivery by the U.S. Mail or any other carrier. If hand delivered, please note that parking and security access at the County Complex may cause delays and bidders should take them into consideration in order to submit a timely bid. **No** late bids will be accepted.

Bidders are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27.

**MICHELE HAGOPIAN, ASSISTANT DIRECTOR OF PURCHASING**

**UNION COUNTY BOARD  
OF CHOSEN FREEHOLDERS**  

---

*We're Connected to You!*

**BI-COUNTY BRIDGE REPLACEMENT  
PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER  
SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE, COUNTY OF UNION  
TOWNSHIP OF CHATHAM, MORRIS COUNTY**

**BA#32-2019; Union County Engineering Project #2016-003**

**TABLE OF CONTENTS**

Cover Sheet: County Officials  
NB-1: Notice to Bidders

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- Contractor Registration Advisement
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- Statement of Bidder's Qualifications
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## **STANDARD SPECIFICATION FORM - SS-1**

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## **PROJECT TECHNICAL SPECIFICATIONS**

**UNION COUNTY BOARD OF CHOSEN FREEHOLDERS  
INSTRUCTIONS TO BIDDERS AND FORMS**

**DEFINITIONS**

Wherever reference is made to the County, Title of Project, Bidder, or Vendor/Contractor they shall be as follows:

**OWNER/COUNTY:**

Union County Board of Chosen Freeholders  
UC Administration Building, 6<sup>th</sup> Floor  
10 Elizabethtown Plaza  
Elizabeth, New Jersey 07207

**ADDRESS BIDS AND SUBMIT TO:**

Union County Division of Purchasing  
UC Administration Building, 3<sup>rd</sup> Floor  
10 Elizabethtown Plaza  
Elizabeth, NJ 07207  
Attn: Michele Hagopian, Assistant Director, Division of Purchasing  
Telephone: 908-527-4130  
Facsimile: 908-558-2548

**TITLE OF PROJECT:**

**Bi-County Bridge Replacement  
Passaic Street Bridge over the Passaic River  
Superstructure Replacement  
Borough of New Providence, County of Union  
Township of Chatham, County of Morris  
BA#32-2019; UC Engineering Project #2016-003**

**BIDDER:** Bidder shall be a single overall contract bidder

**ENGINEER:**

**COUNTY ENGINEER AND/OR CONSTRUCTION MANAGER (as applicable):**

**COUNTY ENGINEER:**

Thomas O. Mineo, P.E.  
Union County  
Division of Engineering  
2325 South Avenue  
Scotch Plains, NJ 07076  
Office: (908) 789-3675  
Facsimile: (908) 789-3674  
Email: [tmineo@ucnj.org](mailto:tmineo@ucnj.org)

**CONSTRUCTION MANAGER:**

## GENERAL SPECIFICATIONS

### 1. BID FORM

Bids for this Work will be enclosed in a sealed envelope addressed to the Purchasing Division, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207, with the full name of the Project clearly marked on the outside. Refer to the sheet marked "Notice of Bid (Advertisement)" for the correct name of the Project. Bidders must submit their bids on the attached pricing sheet (Bid Form), in a sealed envelope addressed to the County and bearing on the outside: the name of the Bidder, Bidder's business address, and the title of the Project.

The Division of Purchasing will receive the bids for this Work at the Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey on the date and time noted on the sheet marked "**Notice of Bid (Advertisement)**".

The County will not assume responsibility for bids forwarded by mail. It is the individual's responsibility to see that the bids are presented to the Purchasing Division at the time and at the place designated.

Bids will be accepted only on the Bid Form supplied. Bids on forms other than the original supplied herein will be rejected. The "complete" Bid Documents includes the Bid Bond, Bid Form, Bidder's Checklist, Consent of Surety, Ownership Disclosure Certification, Non-Collusion Affidavit, and any other documents noted in these Instructions to Bidders or Contract Document to be submitted with this Bid.

The bidder will state in the bidding sheet the price per unit of measure for each scheduled Item of Work for which he will agree to carry out the Work, and the Total Bid Price for the construction of the Project.

The prices in the Bid Form shall be typed or written in pen and ink. Erasures or alterations must be initialed by the bidder in ink.

The bidding sheet for this Project may include a fixed amount as a Bid Allowance. If applicable, all bidders are required to add this fixed amount to their base bid and to include this additional amount in their Bid Bond. This sum will be included in the Contract as well as the performance, labor and materials bond. Payment by the County will be made to the Contractor from these funds only upon the completion of extra Work pursuant to a written Change Order(s) signed by the County's Engineer or his designee and the Contractor, prior to the commencement of such Work. Work commenced prior to written approval by the County shall be done at Contactor's risk. Such payment will only be in the amount agreed to by the parties, in writing in the Change Order(s). See Section 37, Change Orders, of these general specifications for further details.

Refer to Bid Document Submission Checklist for all required documents.

In the event there is a discrepancy between the unit price given and the extended total, the unit price will govern. Any discrepancies will be mathematically adjusted.

Insert applicable alternates, if any have been specified, applicable to the Bidder's Work. All alternates MUST be bid upon. Any Bidder's failure to do so will be deemed a material, non-waivable defect and shall render the bid nonresponsive. The Bidder shall clearly designate whether the change in price is an addition or subtraction, by using either a "+" sign or the word "addition", or in the alternative, a "-" sign or the word "minus". If there is no other change in price, the Bidder shall insert "NC" or "No Charge".

When two or more low bids are equal in all respects, awards will be made according to the provisions of N.J.S.A. 40A:11-6.1(d).

Where unit prices have already been established by the Contract Documents, the Bidder agrees that such unit prices shall prevail. All unit prices, whether filled in by the Bidder or established by the Contract Documents, shall become part of the Contract. No bid will be considered or award made, unless applicable unit prices, as required, are filled in.

The County reserves the right to reject any or all bids and also reserves the right to waive any informality in the bids received so long as said waiver is not of a response which is considered to be material and non-waivable pursuant to law.

The County of Union has the right to reject any and all bids from any bidder that is in, or contemplates bankruptcy of any chapter of nature. Said bidder shall notify the County, in writing, of any condition or knowledge of the same.

Conditional bids will not be accepted. Bids may be withdrawn prior to the advertised time for the opening of bids or authorized postponement thereof or in accordance with the provisions of N.J.S.A. 40A:11-23.3 discussed below. Bids received after the advertised time shall not be considered. Bidders shall be solely responsible for premature opening or late delivery of bids not properly marked, addressed, or directed.

## 2. WITHDRAWAL OF BID DUE TO MISTAKE

N.J.S.A. 40A:11-23.3 authorizes a bidder to request withdrawal of a public works bid due to a mistake on the part of the bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an **unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.**

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing**, by certified or registered mail to Michele Hagopian, Assistant

Director, Division of Purchasing, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207. The bidder must request withdrawal of a bid due to a mistake, as defined by the law, within five business days after the receipt and opening of the bids. Since the bid withdrawal request shall be effective as of the postmark of the certified or registered mailing, Michele Hagopian, Assistant Director of the Division of Purchasing or his designee may contact all bidders, after bids are opened, to ascertain if any bidders wish to, or already have exercised a request to withdraw their bid pursuant to N.J.S.A. 40A:11-23.3.

A bidder's request to withdraw the bid **shall** contain evidence, including any pertinent documents, demonstrating that a mistake was made. Such documents and relevant written information shall be reviewed and evaluated by the County's designated staff pursuant to the statutory criteria of N.J.S.A. 40A:11-23.3.

The County will not consider any written request for a bid withdrawal for a mistake, as defined by N.J.S.A. 40A:11-2(42), by a bidder in the preparation of a bid proposal unless the postmark of the certified or registered mailing is within the five business days following the opening of bids.

### **3. QUALIFICATIONS OF BIDDERS AND REQUIRED SUBMISSIONS**

The County may make such investigation as it deems necessary to determine the ability of the Bidders to perform the Work, which includes investigation of any and all subcontractors listed with the bid. The Bidder shall furnish any information and data for this purpose as the County may request.

### **4. INTERPRETATIONS AND ADDENDA**

Any explanation desired by a bidder regarding the meaning or interpretation of the Contract Documents must be requested in writing to the County Engineer or Design Professional as the case may be and with reasonable time allowed for a reply to reach bidders before submission of their bids. Any interpretation or instruction made by the County Engineer will be in the form of an addendum to the Contract Documents or clarification and will be furnished to all prospective bidders. Oral explanations or instructions given before the award of the Contract will not be binding. Bidders are required to bring to the attention of the County Engineer, the discovery of any apparent ambiguity, inconsistency, error, discrepancy, omission in the Contract Documents for interpretation and correction at least ten (10) working days before opening of bids with the exception of Saturdays, Sundays and holidays.

All Addenda issued through the Offices of the County Engineer are amendments to the Contract Documents and shall be considered in preparing bids. Same shall become part of the Contract Documents.

Addenda take precedence over all earlier documents and over each other according to the latest date. Addenda unless themselves interpretive remain subject to interpretation the same as any other document incorporated in the Contract.

Addenda may be issued by the County Engineer up to seven (7) working days prior to the opening of bids. Failure of any bidder to receive an addendum shall not relieve such bidder from the obligation imposed by such addendum. Bidders are to keep themselves currently acquainted with the Contract Documents during the entire bidding period and make inquiry on their own initiative as to issuance of any Addenda. Receipts of all Addenda shall be acknowledged on the “*Acknowledgement of Receipt of Changes*” included in the bid package and must be submitted with the bid.

## **5. OBLIGATION OF BIDDER TO INSPECT SITE AND CONTRACT DOCUMENTS**

At the time of the opening of bids, each Bidder will be presumed to have inspected the site(s) and to have read, and be thoroughly familiar with the Contract Documents. The failure or neglect of any Bidder to receive or examine any form, instrument, or document shall in no way relieve any Bidder from any obligation in respect to its bid.

The Bidder shall examine the contents of the Project Manual and the set of Drawings and assure itself that all pages of the Specifications, Drawings, and other Contract Documents are included in the documents obtained for bidding purposes. Should the Specifications, Drawings, and other Contract Documents be incomplete, the Bidder shall notify the County Engineer in writing, who will supply the Bidder with any missing pages of Specifications, Drawings, or other Contract Documents. The lack of such written notification by the Bidder will be construed as evidence that the Specifications, Drawings, or other Contract Documents supplied it for bidding purposes are full and complete and as a waiver of any subsequent claim to the contrary.

## **6. BID AND PERFORMANCE GUARANTEE**

Each bidder must furnish a Bid Bond, Certified Check or Bank Cashier’s Check in the amount of ten percent (10%) of the Bid. Checks shall be drawn to the order of the County of Union, New Jersey, not to exceed \$20,000.

Each bidder must furnish with the bid a certificate from a Surety Company, i.e. Consent of Surety, stating that in the event of the contract being awarded to said bidder, such Surety Company will provide the Contractor with Bonds guaranteeing the faithful performance of the Work in accordance with the plans and specifications, and the payment for labor, materials, and all other indebtedness which may accrue on the account of this Work. A Performance, Labor and Materials bond will be furnished by the Contractor upon an award of Contract, and will be in the amount of 100% of the contract price.

A one-year Maintenance Bond will be required upon acceptance of the Project by the County in the amount as stated in Section 15 of the General Specifications. Bonds will be written by a firm authorized to issue the bonds under the laws of the State of New Jersey and be in a form acceptable to the County Counsel.

N.J.S.A. 40A:11-1.1 et seq. allows the prime Contractor to furnish the Performance Security for his Subcontractors. The County of Union requires Performance Security to be furnished by the prime contractor for the entire job in the total amount of the contract.

The County of Union shall award the contract or reject all bids within sixty (60) days; except that the bids of any bidders who consent thereto may, at the request of the County be held for consideration for such longer periods as may be agreed.

The County will return all certified checks or cashier's checks after the proposals have been opened, read, tabulated and checked except those of the three (3) bidders who have bid the lowest total price for carrying out the Project. The County will return the checks of these bidders when a contract is awarded to the successful bidder within ten (10) days after the award of the contract.

If the successful bidder refuses or neglects to sign the said Agreement and furnish the required bonds, the Bid Bond will be held and used by the County to offset any damages for such refusal or neglect.

## **7. COMMENCEMENT AND COMPLETION**

Work will not commence until a Notice to Proceed is received from the County Engineer.

Upon substantial completion of the Project, the Contractor must request a joint inspection with the County Engineer. Upon completion of this inspection, the County Engineer will prepare a list of incomplete or incorrect items (punch list) and have Contractor initial and date same. The Contractor shall rectify all deficiencies noted on the punch list within 30 calendar days of receipt of the list. The County Engineer may approve extensions for extenuating circumstances.

## **8. BIDDER AFFIDAVIT**

All Bidders are required to complete, sign, and submit with their Bid, the attached "Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders". (See form enclosed)

## **9. BID SECURITY**

All Bidders are required to submit a form of Bid Security with their bids.  
(Bid Bond or Certified Funds)

The Bid Security shall be in the amount of ten percent (10%) of the Bid, but not in excess of Twenty Thousand Dollars (\$20,000.00), and payable to the order of the "County of Union."

## **10. LABOR AND MATERIALS**

The prices will cover all costs of any nature incident to and growing out of the Work, including all labor, material, equipment, transportation, loss by damage or destruction of the Project, settlement of damages, and for replacement of defective work or materials. N.J.S.A. 54:32B-1 et seq. exempts all materials sold to the County of Union from sales or use taxes and should not be included in the prices provided on the Bidding Sheet.

## **11. INSURANCE REQUIREMENTS**

The County of Union requires all contractors to be able to comply with the following insurance requirements. In the event a bid is accepted by the County, the contractor must accept the applicable insurance requirements, as set forth below, as part of any contract awarded to it by the County.

Contractor shall carry and maintain at all times while the contract is in full force and effect, the following insurance coverage with an insurance company or companies acceptable to the County, with limits not less than those shown below. A Certificate of Insurance shall be filed with the County prior to commencement of any Work indicating the following:

- a) Commercial General Liability (CGL): Coverage for all operations including, but not limited to, contractual, products and completed operations, and personal injury with limits no less than \$5,000,000 per occurrence/\$10,000,000 aggregate. The County of Union, its Board of Chosen Freeholders, officers, employees, agents and servants shall be included as an additional insured. Coverage is provided on a primary and non-contributory basis to the County of Union, et al.
- b) Automobile Liability: Coverage for all owned, non-owned and hired vehicles with limits not less than \$5,000,000 per occurrence, combined single limits (CSL) or its equivalent.
- c) Workers Compensation: As required by the State of New Jersey and Employers Liability with limits not less than \$1,000,000 per accident for bodily injury or disease.



- d) Professional Liability (if design/build): Coverage with limits not less than \$1,000,000 per occurrence or claim, \$2,000,000 aggregate
- e) Contractor's Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors & Omissions (if project involves environmental hazards): Coverage with limits no less than \$1,000,000 per occurrence or claim/\$2,000,000 aggregate.
- f) Builders Risk (for major renovations): During the course of construction utilizing an "All Risk" coverage form with limits equal to the completed value of the project and no coinsurance penalty provisions.

Where applicable, a waiver of subrogation in favor of the County of Union, its Board of Chosen Freeholders, officers, employees, agents, servants and the State of New Jersey is to be included in those policies of insurance where permitted by law.

Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the Entity.

Special Risks or Circumstances: The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

## **12. INDEMNIFICATION REQUIREMENTS**

The County of Union requires all bidders to accept the following indemnification requirements in the event the County accepts their bid. The Contract awarded by the County to the successful bidder will contain the following provision:

"To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the owner and the owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses arising out of or resulting from the performance of the Contractor's work under this contract, provided that such claim, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Contractor, anyone directly or indirectly employed or retained by the Contractor, or anyone for whose acts the Contractor may be liable regardless of whether caused in part by the negligent act or omission of a party indemnified hereunder provided it is not caused by the sole negligence of a party indemnified hereunder. Contractor shall further indemnify and hold harmless the County and the County's consultants, agents, representative, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses, arising out of or resulting from performance of the work, provided that such claim, damage, loss,

cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the County or the County's consultants, agents, representatives, or employees and arises out of this project and provided such claim, damage, loss, cost, or expense is not caused by the sole negligence of a party indemnified hereunder."

### **13. ROYALTIES AND PATENTS**

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall hold the County harmless from loss on account thereof.

### **14. PLANS AND SPECIFICATIONS**

In carrying out the Work, the plan(s) and the specifications will be followed by the Contractor. Minor alterations in the plan may be made or permitted by the County Engineer from time to time and, if no additional Work is necessary, there will be no additional charge for carrying out such minor alterations.

The Contractor shall provide the County Engineer a set of reproducible as-built drawings upon completion of the Project. The Contractor shall maintain an updated construction progress plan in the Project field office at all times.

When applicable, The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, as amended, and Supplemental Specifications for State Aid Projects, herein after referred to as the "Standard Specifications", are made a part of these specifications and contract for the improvements, and will govern the construction of this Project, the material used and the execution of this Project, except as revised and modified herein. The references to these specifications are given herein for the purpose of aiding in the rapid location of the description of the various items herein specified. The entire Work must be carried on and completed to the satisfaction of the County. The Standard Specifications are amended as follows:

"Any reference to the Commissioner, Department, Department Laboratory, Engineer or Inspector should be redefined to be the County of Union".

### **15. GUARANTEE AGAINST DEFECTIVE WORK**

Prior to final payment being made or before the release of the performance security required by Section 3 above, the Contractor and Surety shall execute and deliver to the County an original Maintenance Bond with an original signature and seal having a penal sum equal to:

- A) One hundred percent (100%) of the final adjusted Contract amount, if such amount is \$50,000.00 or less;
- B) Fifty percent (50%) of the final adjusted Contract amount, if such amount be greater than \$50,000.00 but less than \$250,000.00; and,
- C) Twenty-five percent (25%) of the final adjusted contract amount, if such amount is \$250,000.00 or more.

The Bond and Surety shall be satisfactory to the Union County Counsel. The Surety shall hold a Certificate of Authorization to do business in the State of New Jersey and shall conform to P.L. 1995 c.384, codified as N.J.S.A. 2A:44-143, 144. The Surety Disclosure Statement and Certification required by N.J.S.A. 2A: 44-143, 144, shall be attached to the Bond. Such Maintenance Bond shall remain in full force and effect for a period of one (1) year from the date of Final Completion. Such Maintenance Bond shall also provide that the Contractor and the Surety guarantee to replace for the said period of one (1) year from the date of Final Completion, all Work performed and/or all materials furnished that were not performed or were not furnished in accordance to the terms and performance requirements of the Contract Documents, and will make good any defects thereof which become apparent before the expiration of one (1) year. If, during that period, any part of the Project, in the judgment of the Engineer, is found defective, the Contractor will repair or replace same within five (5) days of receipt of notice from the County Engineer. If the Contractor refuses or neglects to do such Work in the time specified, the County Engineer may have the Work done by others and the Contractor or his Surety thereof will pay the cost.

The Contractor will furnish the County a Maintenance Bond for a percentage of the final adjusted contract price, as stated above. The one (1) year period will start the day of Final Completion of Project by the County. Final payment is conditional on the receipt of a maintenance bond in a form acceptable to County Counsel.

## **16. TRAFFIC AND STREET MAINTENANCE**

The Work must be started and performed by the Contractor in such a manner as to minimize delays to the traveling public. It must be completed in a timely fashion, with little or no inconvenience to traffic and pedestrians, where such inconvenience may be avoided.

All municipal, county, and state roadways shall remain open to traffic unless otherwise provided for in the technical specifications.

If modified traffic patterns are authorized in order to provide a safe working or traveling environment, the Contractor is responsible for providing all equipment, barrels, cones, signs, and barricades to implement the work zone and detours, unless otherwise specified in the technical specifications. All work zones and detours shall be

established in accordance with the technical plans and specifications if provided or in strict compliance with the current version of the Manual for Uniform Traffic Control Devices (MUTCD). The Contractor shall obtain approval for these work zones and detour plans from the Municipal Police or applicable police agency and the Union County Bureau of Traffic Maintenance prior to implementation.

All traffic control plans shall provide for safe movement of vehicular, bicycle, and pedestrian traffic. Particular attention shall be given to requirements of the Americans with Disabilities Act.

No portion of any street or alleyway may be used for the storage of any materials or equipment without the approval of the Municipal Police or other applicable police agency. Sidewalks, gutters, drains, fire hydrants and private drives shall be maintained for their intended use unless specifically approved by the County Engineer.

Upon suspension of Work, at the end of the day or for protracted periods, the Contractor shall remove all rubbish and materials from the Work site to the approved storage/staging location. All road cuts, saw cuts, and trenches that may pose hazard to vehicular, pedestrian, or bicycle traffic, to include handicapped users, shall be filled to the surface of the roadway or sidewalk. At no time will steel plates or settled trenches be allowed at the daily suspension of Work, unless specifically approved by the County Engineer.

Use of Traffic Control Officers shall be determined by the County in accordance with the provisions of N.J.S.A. 40A:11-23.1(c). If applicable to the Project, the County shall have provided an allowance for same as set forth in the Bid Form.

With respect to pedestrian traffic, the Contractor shall install signs restricting access of the general public and, as necessary, Union County employees to the area of construction. The Contractor shall provide safe access to required areas and place physical barriers to restricted areas. These barriers may range from caution tape to actual barriers, at the direction of the County Engineer.

## **17. CONTRACTOR'S EMPLOYEES**

The Contractor must employ only suitable and competent labor in the Work, and must remove from the Work any incompetent, unsuitable, or disorderly person upon complaint from the County Engineer.

The parties to any contract resulting from this proposal do hereby agree that the provisions of N.J.S.A. 10:2-1 through 10:2-4 (discrimination in employment on public works contracts): 34:11-56.25 et seq. (payment of prevailing rate of wages determined pursuant to N.J.S.A. 34:11-56.30 by the Commissioner), and the Rules and Regulations

promulgated pursuant thereto, are hereby made a part of any contract and are binding upon them.

There will be no discrimination against any employee who is employed in the Work to be covered by any contract resulting from this bid because of age, race, creed, color, national origin, ancestry, marital status or sex.

Any person, firm, or corporation violating the provisions of this Section will be deemed and judged a disorderly person.

### **18. OWNERSHIP DISCLOSURES REQUIRED**

Pursuant to P.L. 1977, N.J.S.A. 52:25-24.2, the Bidder shall submit with its Bid, or prior to receipt of bids, a statement setting forth the names and addresses of all stockholders in the corporation or partnership bidding who own ten percent (10%) or greater interest therein. (See forms attached)

### **19. NON-COLLUSION AFFIDAVIT**

The Bidder shall submit with its bid either the attached completed "Non-Collusion Affidavit" or a statement of non-collusion with verbiage similar to same.

### **20. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCES**

The successful bidder shall be required to complete and submit an Initial Project Workforce Report, New Jersey Department of Treasury Form AA-201, upon notification of award. Failure to submit this completed form may result in the Contract being terminated.

The successful bidder shall also be required to submit a copy of its Monthly Project Workforce Report, New Jersey Department of Treasury Form AA-202, to the New Jersey Department of Treasury's Division of Public Contracts Equal Employment Opportunity Compliance and to the Board.

### **21. COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT**

The County of Union, in order to fulfill the requirements of N.J.S.A. 34:11-56.25 et seq, requires that the following additional conditions be strictly followed. The bidders represent that he is not listed or is not on record in the Office of the Commissioner or the Department of Labor and Industry as one who failed to pay prevailing wages in accordance with the provisions of this Act. The bidder agrees to the inclusion of a contract provision upon award which specifically requires said Contractor to fully comply with each and all of the requirements of the aforesaid Act as it relates to prevailing rates

of wages on public contracts as set forth in the New Jersey Prevailing Wage Act, P.L. 1963, Chapter 150 and P.L. 1974, Chapter 64.

A Copy of the Prevailing Wage Rates is attached for your reference. Applicable rates are those wages and fringe benefit rates in effect on the date the contract is awarded. All predetermined rate increases listed at the time the contract award must also be paid, beginning on the dates specified. Rates may change between the time of issuance of this determination and the award of the public works contract. Therefore, prior to the award of the contract, verification must be made with the Public Contracts section, to insure that the rates contained in this determination are still prevailing.

The Contractor agrees to abide and be bound by each and all of the said statutory provisions with respect to the payment of prevailing rates of wages, and acknowledges that the County reserves the right to terminate the Contractor's (or his subcontractors') right to proceed with the scope of Work, or such portion thereof that relates to the failure to pay prevailing rates of wages. In such event or under the terms of N.J.S.A. 34:11-56.27, the Contractor and his surety will be liable to the County of Union for any excess costs occasioned by such a violation.

The Contractor or subcontractors for this Project will post the Prevailing Wage Rates for each craft and classification involved as determined by the Commissioner of Labor and Industry, including the effective date of any changes thereof, in prominent and easily accessible places at the site of the Work or at such place or places as are used by them to pay workmen their wages.

The County of Union requires a copy of payroll records from the Contractor and subcontractors. Payroll records shall be submitted with each voucher request for payment. Prevailing wage rates may be obtained from the New Jersey Labor, Division of Workplace Standards, Public Contracts Section, (609-292-2259).

In addition to compliance with the New Jersey Prevailing Wage Act, the County requires compliance with procedures established by Resolution No. 2014-0408 adopted by the Union County Board of Chosen Freeholders on May 8, 2014. The resolution is furnished in Section 51 of these General Specifications.

#### UNION LABOR IS PREFERRED ON ALL COUNTY WORK

The foregoing reference to specific laws will not be deemed to be a limitation of obligation of the Contractor to perform his obligations in full compliance with the provisions and requirements of all federal and state statues and local ordinances applicable to the Work to be done under the contract.

It is agreed and understood that any contracts and/or orders placed as a result of this proposal will be governed and construed and the rights and obligations of the

parties hereto will be determined in accordance with the laws of the State of New Jersey.

Upon completion of the Work, the Contractor will furnish a Certification of Compliance with the New Jersey Prevailing Wage Act. The certificate in a form acceptable to County Counsel is a condition of the final payment. (See form attached)

## **22. BRAND NAME OR EQUAL**

When the Specifications, Forms, and other Contract Documents use “brand name or equivalent” or similar language, the listed brand name shall serve as a reference or point of comparison for the functional or operational characteristic desired for the goods or services being requested. Where a bidder attempts to submit an equivalent product for a brand name, it shall be the responsibility of the bidder to fully describe and document the product to be provided with the bid in order to establish the equivalence claim.

- A. If the Bidder proposes to offer substitute goods as an equal to those specified herein, the bidder shall so indicate with the Bid Proposal. For the purposes of this paragraph, a proposed item shall be considered equal to goods specified herein if:
  - 1. The County, in its sole discretion, determines that: (i) the goods conform substantially, even with deviations, to the brand name goods specified herein; (ii) the goods are equal to or greater than the brand name goods specified herein in terms of quality, durability, functionality, appearance, strength and design; (iii) the goods are capable, at least as well as the brand name goods specified herein, or performing with existing equipment; and (iv) the goods do not cost the County more than the brand name goods specified herein costs the County.
  
- B. To offer substitute goods as an equal to those specified herein, it is necessary that:
  - 1. The Bidder submits sufficient information with its bid to permit the County to determine that the goods are equivalent to the brand name goods specified herein, including, but not necessarily limited to the brand, catalog number and specifications/data sheets;
  - 2. The Bidder fully identifies and describes the variations of the goods from the brand name goods specified herein

on a separate sheet that is to be submitted with the bid proposal. Bidder's literature WILL NOT suffice in explaining exceptions to these specifications.

3. The Bidder certifies that the goods (i) are similar in substance to the brand name goods specified, and (ii) are suited to the same use as the item specified;
- C. The County shall be allowed a reasonable time within which to evaluate the Bidder's proposal to offer substitute goods as an equal to those specified herein. The County shall be the sole judge of acceptability. No "or-equal" goods shall be ordered, delivered, assembled, set-up or utilized until the County's evaluation is complete. The County's determination as to equivalency shall be deemed final and absolute.

In the event the Bidder does not provide sufficient supporting documentation with the bid, it will be presumed and required that the brand name goods and services as described in the specifications will be provided.

### **23. LINES AND GRADES**

Normally, horizontal and vertical control points will be provided in the technical specifications. All other surveying will be the responsibility of the Contractor unless otherwise noted.

### **24. NUMBER OF WORKING DAYS**

In accordance with N.J.S.A. 40A:11-17, the Work for the within Project shall be completed as specified on the Time of Completion Form. See form attached

There shall be taken a deduction from the contract price, or any wages paid by the County, to any inspector(s) necessarily employed by it on the Work, for any number of days in excess of the number allowed in the specifications.

### **25. PROMPT PAYMENT OF CONSTRUCTION CONTRACTS (NJ Prompt Payment Act)**

Pursuant to N.J.S.A. 2A:30A-1 et seq., payment to the Contractor, other than for Work done pursuant to a contact allowance, where applicable, shall be processed and paid as follows:

1. All contractor bills shall be either approved for payment, or notice provided as to why the bill or any portion of it will not be approved by the representative(s) of the governing body no later than the



public meeting following 20 calendar days of the billing date as defined in the statute.

2. If the billing is approved, said bill shall be paid in the payment cycle following the meeting.

## **26. STOPPING WORK ON ACCOUNT OF BAD WEATHER**

Work must only be performed in weather suitable for the type of construction planned or underway. Extremes in temperature, humidity, precipitation, evaporation, etc. can detrimentally affect the constructed product. Refer to the Standard and Technical Specifications for specific items.

## **27. ACCESS FOR OTHER CONTRACTORS**

The Contractor for this Work will give proper access to other contractors who may be employed upon the Project and must not hinder or delay unnecessarily any Work that may be progressing under other contracts.

## **28. CONDEMNED MATERIALS AND WORK**

Any materials and or part of the Work that may be condemned by the County Engineer will be removed and replaced by the Contractor or otherwise rectified, as may be directed by the County Engineer. No payment will be made upon the Work until such faulty work has been made good as may be directed. In the event the Contractor refuses or neglects to make good such faulty work, he will be deemed to have abandoned the contract and proceedings may be taken against him as provided herein.

## **29. STORAGE**

In the event that it is necessary for the Contractor to stockpile or store materials or equipment on the job site, the Contractor shall inform the County of such necessity and the County may offer available space, if any, for storage of such materials or equipment. The Contractor shall use said space only for such purpose. Any and all materials which may be stored in such space or which may be brought onto the job site at any time by the Contractor will be at the Contractor's sole risk. The County will not be responsible for loss of or damage to said materials or equipment for any cause whatsoever. The Contractor shall take necessary measures to protect any such storage area and shall be responsible for any and all damages.

## **30. FINAL CLEAN UP**

Upon completion of the Work, the Contractor will remove all equipment, unused materials, rubbish, etc., and will repair, or replace in an a manner acceptable to the

County Engineer, all areas that may have been damaged in the prosecution of the Work. Same shall be a condition precedent to final payment. Should said Contractor fail to comply with this requirement, the County shall undertake the clean-up with its own forces and charge the cost of same against the Contractor's contract balance.

### 31. SUB-LETTING OF WORK

Except for the List of Subcontractors, pursuant to N.J.S.A. 40A:11-16 (See form attached), no portion of the Work will be sublet by the Contractor to any other entities, except with the consent of the County Engineer. A complete list of subcontractors must be submitted to the County Engineer at the preconstruction meeting. If the job does not warrant a preconstruction meeting, the Contractor must submit such list prior to the start of Work.

All Subcontractors will be subject to N.J.S.A. 34:11-56 et al.

N.J.S.A. 40A:11-16 requires the bidder to list in the bid sheets the name or names of all subcontractors involved in the following types of Work: plumbing and gas fitting and all kindred work, steam and hot water heating, ventilating apparatus, steam power plants and kindred work, electrical work, ornamental iron work, and structural steel. In addition, the County may require the identification of specific additional subcontractors. If these trades are expected to be part of the contract, such subcontractors should be listed on the "Subcontractor Identification Statement List of Subcontractors" and Bidder shall certify same on the accompanying sheet titled "Subcontractor Identification Certification". (See forms attached) **Bidder's failure to submit these two forms shall be considered a material defect and result in rejection of Bidder's bid.** Substitutions of any listed subcontractors pursuant to N.J.S.A. 40A:11-16 will not be permitted except with the consent of the County Engineer.

### 32. SAFETY

The Contractor shall observe all rules and regulations of the Federal, State, and local health officials. Attention is directed to Federal, State, and local laws, rules, and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to the worker's health or safety.

The Contractor shall admit to the site, without delay and without the presentation of an inspection warrant, any inspector of OSHA or other legally responsible agency involved in safety and health administration upon presentation of proper credentials.

The Contractor shall make available to the Contractor's employees, subcontractors, the County Engineer, and the public, all information pursuant to OSHA 29 CFR Part 1926.59 of The Hazard Communication Standard 29 CFR 1910.1200, and shall also maintain a file on each job site containing all Material Safety Data Sheets (MSDS) for

products in use at the Project. These Material Safety Data Sheets shall be made available to the Engineer upon request.

The Contractor shall at all times conduct the Work to provide for the safety and convenience of the general public and protection of persons and property. The safety provisions of applicable laws, OSHA regulations, building and construction codes, and the rules and regulations of the New Jersey Department of Labor and Workforce Development and Commerce shall be observed.

### **33. QUALITY, SAFETY AND PERFORMANCE STANDARDS**

All goods and services must be constructed and provided with the highest quality materials and workmanship. It is the intent of these specifications that only equipment equal to, or exceeding, the standard specified will be acceptable in order to protect the safety of the occupants of the Building.

### **34. MATTERS NOT MENTIONED IN CONTRACT DOCUMENTS**

Any Work, material, or method, not specifically described in these specifications, but shown upon the plans of the Work, will be carried out as shown on said plan.

### **35. PERMITS**

The Contractor will obtain all necessary permits required by law and provide the County with necessary approvals prior to commencement of permitted Work.

### **36. CONTRACTOR TO PROVIDE PROOF OF PAYMENT**

Upon the completion of the Work, the Contractor will furnish a General Release as proof that all claims for labor, materials, etc., have been settled by the Contractor. The General Release, in a form acceptable to County Counsel, is a condition of final payment.

### **37. CHANGE ORDERS**

Change Order Procedures shall comply with N.J.A.C. 5:30-11.1 et seq., "Change Orders and Open End Contracts" and subsequent provisions of the New Jersey Administrative Code.

### **38. SUPPLEMENTAL WORK**

In case any supplemental work is necessary, it will be performed by the Contractor at a price fixed by agreement between the Contractor and the County Engineer and approved by the County as specified in Section 36. The Contractor will do no supplemental work on any character, for which the Contractor will demand pay, except upon the written order of the County.

### **39. FORM OF CONTRACT**

The Contract will be subject to all statutory provisions on the matter of Public Works, Public Contracts, The Law Against Discrimination, the Laws Governing Affirmative Action and Prevailing Rates of Wages under the laws of New Jersey.

The Agreements shall be executed by both parties not later than twenty-one (21) days from the date of the award by the County (Sundays and holidays excluded); however, such time frame may be extended by agreement of the parties.

### **40. PROGRESS PAYMENTS**

Monthly progress payments will be made based on the value of labor and materials incorporated in the Work and of materials suitably stored at the site. An itemized schedule of values shall be submitted with each Application for Payment.

(Refer to the Owner/Contractor Agreement for Retainage and other conditions pertaining to payment and the application of N.J.S.A. 2A:30A-1 et seq.)

All Applications for Payment shall be accompanied by paid invoices for materials incorporated in the Work and for materials suitably stored at the site, and affidavit(s) by Subcontractors whose Work was included in the next to the last application to the effect such Work and such materials have been paid for.

No payment shall be made without Contractor having provided all submittals set forth in this Section, and the approval of same by the County.

For contracts exceeding \$100,000.00, monthly payments will be made on the Work to the extent of 98% of the value of the Work done which is considered to be retainage.

For contracts less than \$100,000.00, monthly payments will be on the Work to the extent of 90% of the value of the Work done. In lieu of the retainage, the Contractor will, at his option, deposit with the County Counsel negotiable bearer bonds of the State of New Jersey or any political subdivision thereof, equal to the amount otherwise withheld as retainage.

When the Project is completed, the final cost of the Project will be based on actual quantities of authorized Work done under each item scheduled in the bidding sheet and approved Change Orders, if any. The money due to the Contractor as determined by said final certificate after deduction of previous monthly payments on account, will be paid to the Contractor in accordance with the terms of the contract dealing with Prompt Payment, providing, however that before such final payment is

made, all outstanding claims against the Contractor must be satisfied. Before final payment is released, the Contractor must furnish: **a)** Maintenance Bond (see Section 6 of these general specifications); **b)** Certification of Compliance, New Jersey Prevailing Wage Act (see Sections 21 and 51); and **c)** General Release (see Section 36) in a form satisfactory to County Counsel; **d)** complete set of as-built plans in the latest AutoCad on compact disc; and **e)** a complete set of in-progress photos in jpg, jpeg, or bmp digital format on a compact disc.

#### **41. INSPECTION**

The Work must be done in accordance with the plans and specifications, and will be inspected by the County Engineer. An inspector may be placed upon the Work at any time by the County Engineer to see that the plans, specifications, and instructions of the County Engineer are carried out. In connection herewith, bidders are referred to N.J.S.A. 40A:11-17.

#### **42. DAMAGES**

The Contractor will be held responsible for all damages that may occur to Work, or to persons or property by reason of the nature of the Work or from the elements, or by reason of inadequate protection of the Work, or from any carelessness or negligence on his part or on the part of his employees. The County will withhold payments on the Work until all suits or claims for damages sustained on, or by reason of, this Work will have been settled by the Contractor.

The construction and final completion of this Work will be guaranteed by the Contractor. Any damages that may be done to the Work or any part thereof, by the elements or otherwise, during its construction, will be made good by the Contractor.

#### **43. LIQUIDATED DAMAGES**

If the Project is not completed within the time specified herein or within such further time as may have been granted by the County Engineer, then the Contractor hereby agrees to pay to the County as liquidated damages, but not as a penalty, \$1,000.00 per day for each and every calendar day that he is in default on time to complete the Work. The said sum will be deducted from moneys due the Contractor and if the damages exceed this amount, then the Contractor or his Surety Company will pay the excess. These damages may be waived at the option of the County.

## **44. AFFIRMATIVE ACTION REQUIREMENTS**

### **EXHIBIT B (Revised 4/10)**

#### **MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127) N.J.A.C. 17:27**

#### **CONSTRUCTION CONTRACTS**

During the performance of this contract, the contractor agrees as follows:

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, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, 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 Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

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, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, 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.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Division may, in its discretion, exempt a contractor or subcontractor from

compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Division is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Division, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:

(1) To notify the public agency compliance officer, the Division, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;

(2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;

(3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;

(4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;

(6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:

(i) The contractor or subcontractor shall interview the referred minority or women worker.

(ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Division. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Division, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Division.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Division and submitted promptly to the Division upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall



not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Division an initial project workforce report (Form AA 201) electronically provided to the public agency by the Division, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The contractor and its subcontractors shall furnish such reports or other documents to the Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the Division from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code (NJAC 17:27)**.

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#### **45. INVESTMENT ACTIVITIES IN IRAN**

Pursuant to P.L. 2012, c.25, codified as N.J.S.A. 2:32-55 et seq., prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran.

#### **46. COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT - (N.J.S.A. 34:11-56.48 et. seq.)**

Pursuant to the above-referenced law, Bidders are required to be registered with the New Jersey Department of Labor and Workforce Development and to possess a current certificate by said Department indicating compliance with the Act prior to the time and date that bids are received. Bidders are notified of this requirement of their compliance. Such certificates or applications shall also be provided for each Subcontractor furnishing plumbing and gas fitting, steam and hot water heating and ventilating apparatus, and all kindred work, steam power plants and kindred work, electrical work, structural steel and ornamental iron work, and such other subcontractors as the specifications require relative to prior identification.

#### **47. UTILITIES**

Attention of the bidder is directed to the fact that the approximate locations of known utility structures and facilities that may be encountered within and adjacent to the limits of the Work are shown on the plans and described herein. The accuracy and completeness of this information is not guaranteed by the County Engineer and the bidder is advised to ascertain for himself all the facts concerning the location of these and other utilities.

The Contractor will not proceed with his Work until he has made diligent inquiries of all public utility and municipal officials to determine the exact location of all underground structures and pipes within the site of the Project. The Contractor will notify utility owners not less than ten (10) days in advance of the time he proposes to perform any Work that will endanger or affect their facilities in compliance with **New Jersey One-Call**. In excavating in any part of the Work, care must be taken not to remove or damage any gas, water, sewer, or other pipe, conduit, or structure, - public or private - without the concurrence of the owner and the County Engineer. The Contractor will, at his own expense, shore up, secure and maintain a continuous flow in such structures, and will keep them in repair until final acceptance of the Work.

When pipes or other structures are encountered or when the removal, relocation or protection of these utilities are necessary in carrying out the Project as planned, the Contractor will cooperate with the owner of said utilities and will permit the owners or their agents access to the site of the Work in order to relocate or protect their facilities

and not hinder or delay unnecessarily the Work of the owners in moving same. No extra allowance of payment will be made to the Contractor for the use of any materials, equipment, etc., or for the performance of any Work in connection with the moving of said structures unless the Contractor is specifically ordered by the County Engineer to furnish such materials, equipment, or services. If directed by the County Engineer to do any Work or furnish any materials or equipment, payment will be allowed the Contractor in accordance with the unit prices bid for such Work, or, if such items are not scheduled in the proposal, such Work shall be allowed "Supplemental Work" as provided in Section 39 of these general specifications. The corporations, companies, agencies or municipalities owning or controlling the utilities, and the name, and telephone numbers are listed in the beginning of the Technical Specifications.

#### **48. MATERIAL COMPLIANCE AND SHOP DRAWINGS**

The Contractor will require the manufacturer or supplier to furnish three (3) copies of Certification of Compliance with each delivery of materials, components and manufactured items for the Project. Two (2) copies will be furnished to the County Engineer; one copy will be retained by the Contractor. Certificates of Compliance will contain the following information:

1. Project to which material is consigned;
2. Name of the Contractor to which the material is supplied;
3. Kind of material supplied;
4. Quantity of material represented by the Certificate;
5. Means of identifying the consignment, such as label marking, seal number, etc.;
6. Date and method of shipment;
7. That the material is in conformity with the pertinent specifications stated in the certificate; and
8. Signature of a person having legal authority to bind the supplier.

The Contractor will submit to the County Engineer for his approval five (5) copies of complete and fully detailed shop or working drawings for those items listed in the beginning of the technical specifications.

Each drawing will identify the name of the job, location and Contractor.

All drawings will be approved in accordance with the standard specifications. Refer to the Technical Specifications for specific items.

All materials or articles used in the Work will be of American manufacture, insofar as same are available, in conformance with N.J.S.A. 40A:11-18.

## **49. PRECONSTRUCTION**

In order to provide full coordination of this Project among the parties concerned, the County Engineer will arrange for a preconstruction meeting between the Contractor, County Engineer and other interested parties as soon as possible after the contract is executed. At this meeting the Contractor will present his proposed schedule of Work which shall be subject to review and approval of the County through its designated representatives.

## **50. DISPUTES UNDER THE CONTRACT**

A dispute arising under the Contract shall be submitted in writing to the County Engineer with all facts and supporting data. The County Engineer will review the dispute and issue his decision or request additional facts or documentation after which he will render his decision.

In the event the dispute is not then resolved, the matter shall, pursuant to law, be submitted to mediation before being submitted to a court of competent jurisdiction venued in Union County.

The County Engineer will notify the County Counsel when a matter is to be submitted to mediation. The County Counsel will communicate with the parties and inform them of the procedures to be followed in making such a submission.

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## 51. CONTRACTOR BUSINESS REGISTRATION CERTIFICATE New Mandatory Requirement -Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each subcontractor must be provided prior to the award of bid. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at <http://www.state.nj.us/treasury/revenue/busregcert.htm>. Click the "online" link and then select "Register for Tax and Employer Purposes or call the Division at 609-292-1730.

**Note: A NJ Certificate of Authority is not acceptable.**

**FAILURE** to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of contract shall be cause to reject the bid.

**FAILURE** of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction Work as well as non-construction bids.

### **IN ADDITION:**

*N.J.S.A. 52:32-44* imposes the following requirements on Contractors and all subcontractors that knowingly provide goods or perform services for a Contractor fulfilling this contract:

- 1) the Contractor shall provide written notice to its subcontractors and suppliers to submit proof of business registration to the Contractor;
- 2) subcontractors through all tiers of a project must provide written notice to their subcontractors and suppliers to submit proof of business registration and subcontractors shall collect such proofs of business registration and maintain them on file;

- 3) prior to receipt of final payment from a contracting agency, the Contractor must submit to the contacting agency an accurate list of all subcontractors and suppliers or attest that none was used; and,
- 4) during the term of this contract, the Contractor and its affiliates shall collect and remit, and shall notify all subcontractors and their affiliates that they must collect and remit, to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act, (*N.J.S.A. 54:32B-1 et seq.*) on all sales of tangible personal property delivered into this State.

A Contractor, subcontractor or supplier who fails to provide proof of business registration or provides false business registration information shall be liable to a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided or maintained under a contract with a contracting agency. Information on the law and its requirements are available by calling (609) 292-9292.

**[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]**

## **52. BID PROTEST – LEGAL FEES AND COSTS**

In the event a Bidder unsuccessfully challenges a Bid Submission by filing an action in a court of law concerning same, said Bidder shall be responsible for payment of reasonable legal costs and fees incurred by the County relating to said protest.

## **53. AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE**

Bidder shall comply with the requirements of N.J.S.A. 40A:11-18 and use only manufactured and farm products of the United States, wherever available, for the Project.

## **54. NEW JERSEY PAY-TO-PLAY REQUIREMENTS**

This Contract is required by law to be publicly advertised for bids. As such, lists of political contributions pursuant to N.J.S.A. 19:44A-1 et seq. are NOT REQUIRED to be provided with the bids.

## **55. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION**

Pursuant to N.J.S.A. 40A:11-20 entitled Certificate of Bidder Showing Ability to Perform Contract, the County requires a Certification from all bidders submitting a bid showing that the Bidder owns, leases, or controls all necessary equipment required by the Project Plans and Specifications. All bidders shall provide this information at the time of the bid opening using the attached form entitled, "CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT".

If the Bidder is not the actual owner of the equipment, it shall state the source from which the equipment will be obtained and shall attach a certificate from the owner or person in control of the equipment demonstrating that the equipment owner has granted the Bidder control of the requisite equipment during such time as may be necessary for completion of the portion of the contract for which the equipment is necessary.

## **56. NEW JERSEY SALES AND USE TAX REQUIREMENTS,**

Contractors are required to comply with the following:

New Jersey Sales and Use Tax Requirements: All contractors with subcontractors, or any of their affiliates, who enter into contracts for the provision of goods or services with or for New Jersey local government entities, are required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax due on all of their sales of tangible personal property delivered into the State of New Jersey pursuant to the "Sales and Use Tax Act," (N.J.S.A. 54:32B-1 et seq.),

regardless of whether the tangible personal property is intended for a contract with the contracting agency. This tax shall be remitted for the term of the Contract.

For purposes herein "affiliate" shall mean any entity that: (a) directly, indirectly, or constructively controls another entity, (b) is directly, indirectly, or constructively controlled by another entity, or (c) is subject to the control of a common entity. For purposes of the immediately preceding sentence, an entity controls another entity if it owns, directly or indirectly, more than fifty percent (50%) of the ownership interest in that entity. NJSA 52:32-44(g)(3).



Bidder's Name \_\_\_\_\_

EDWARD T. OATMAN  
COUNTY MANAGER

MICHELE HAGOPIAN, ASSISTANT DIRECTOR  
DIRECTOR / DIVISION OF PURCHASING

**BID DOCUMENT SUBMISSION CHECKLIST**

**ALL SIGNATURES AND SEALS SHALL BE ORIGINALS UNLESS OTHERWISE SPECIFIED  
BID SHEETS SHOULD NOT BE SUBMITTED DOUBLE SIDED PAGES, (SINGLE SIDE ONLY)**

**EACH BIDDER SHOULD COMPLETE THIS FORM AND INITIAL EACH ENTRY.**

DATE COMPLETED: \_\_\_\_\_

**PLEASE SUBMIT BID DOCUMENTS ON SINGLE SIDED PAPER ONLY, WITH THE EXCEPTION OF  
THE SURETY AND BID BOND DOCUMENTS.**

**IN ACCORDANCE WITH THE BID SPECIFICATIONS I HAVE REVIEWED, COMPLETED / EXECUTED  
AND INCLUDED THE FOLLOWING FORMS:**

\_\_\_\_\_ Bid Form Page (**Signed, Dated and Bid on all alternatives applicable to the Work**).

\_\_\_\_\_ Security in the form of:

- \_\_\_\_\_ Bid bond in an amount equal to 10% of the total amount of this bid not to exceed \$20,000.00; or
- \_\_\_\_\_ Certified check or cashier's check in the amount of 10% of this bid not to exceed \$20,000.00

\_\_\_\_\_ Consent of Surety form signed by a Surety Company if the total amount of your Bid is over \$36,000.00. If your bid is accepted, the Surety Company that provided the Consent shall be required to furnish a Performance, Labor and Materials Bond in the amount of 100% of the award of the contract. The County of Union has provided its Consent of Surety form for your use. The use of this form by your Surety Company will expedite the bid review process and eliminate the possibility of having your bid rejected. If, however, you should need to use another form, please use language similar to that used on the Union County form and avoid making any additions or deletions to the Union County form language. In lieu of the Consent of Surety you may submit a Certified Check in the full amount of the bid.

\_\_\_\_\_ STATEMENT OF BIDDER OWNERSHIP. Pursuant to N.J.S.A. 52:25-24.2, which includes **BOTH** of the following documents:

- Bidder Signature Page
- Bidder Disclosure Statement (**Fill out 2 pages completely**)

\_\_\_\_\_ SUBCONTRACTOR IDENTIFICATION. Pursuant to N.J.S.A. 40A:11-16, which includes **BOTH** of the following documents:

- Subcontractor Identification Statement: List of Subcontractors (**only for certain types of work**)
- Subcontractor Identification Certification

\_\_\_\_\_ Acknowledgement of Addendum form: (**This form is to be used only when an addendum has been added to the specifications**).

\_\_\_\_\_ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** should be included with the bids as it must be received by the County prior to the award of the contract. The BRC provided must show that the Bidder was registered at the time of receipt of bids or the bid will be rejected.

\_\_\_\_\_ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** of all named or listed subcontractors (List of Subcontractors) in a Construction bid should be included with the bid as the BRC(s) must be received by the County prior to the award of the contract. Each subcontractor's certificate provided must show that the subcontractor was registered at the time of the receipt of bids or the bid will be rejected.

Bidder's Name \_\_\_\_\_

- \_\_\_\_\_ Affirmative Action Requirement
- \_\_\_\_\_ Experience Statement
- \_\_\_\_\_ Certificate of Bidder showing ability to perform Contract
- \_\_\_\_\_ Non-Collusion Affidavit – Fill out completely and notarize
- \_\_\_\_\_ Certificates from New Jersey Department of Labor and Workforce Development – Public Works Contractor Registration Act. **(Only for certain types of work)**
- \_\_\_\_\_ Federal Attachments **(If applicable)**
- \_\_\_\_\_ NJDPMC Certificate / Notice of Classification **(If applicable)**
- \_\_\_\_\_ Americans with Disabilities Act
- \_\_\_\_\_ Statement of Bidder's Qualifications
- \_\_\_\_\_ Contractor Performance Record
- \_\_\_\_\_ Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders
- \_\_\_\_\_ Prior Negative Experience Questionnaire
- \_\_\_\_\_ Contractor's Certification of Compliance – New Jersey Prevailing Wage Act
- \_\_\_\_\_ Uncompleted Contracts Affidavit **(For Bidder, if applicable) MUST ALSO PROVIDE DPMC FORM 701**
- \_\_\_\_\_ Certificate of Insurance Statement
- \_\_\_\_\_ Collection of Use Tax on Sales to Local Government Statement
- \_\_\_\_\_ Time of Completion
- \_\_\_\_\_ Disclosure of Investment Activities in Iran Certification Form

**I HAVE TAKEN THE FOLLOWING ACTIONS:**

- \_\_\_\_\_ Visited the site and attended the Pre-Bid Meeting **(Where applicable)**
- \_\_\_\_\_ Reviewed the Contract Documents (including any permits the County or its professionals may have obtained), Work, Site, Locality, and Local Conditions and Laws and Regulations that in any manner may affect Cost, Progress, Performance or Furnishing of Work.
- \_\_\_\_\_ Reviewed Bond Requirements
- \_\_\_\_\_ Provided Proof of Compliance with New Jersey Prevailing Wage Act
- \_\_\_\_\_ Reviewed Form of Owner/Contractor Agreement and General Conditions to the Contract

**NOTE: QUESTIONS PERTAINING TO THIS BID ARE TO BE DIRECTED TO DIVISION OF ENGINEERING  
AT 908-789-3675**

Bidder's Name \_\_\_\_\_

**BIDDING DOCUMENTS**

The Bidding Documents consist of the following items:

- **ADDENDA, if issued**
- **CLARIFICATIONS, if issued**
- **INSTRUCTION TO BIDDERS**
- **BID FORM**
- **SPECIFICATIONS:**     **As outlined in the Table of Contents and included in the Project Manual.**
- **DRAWINGS:**           **As per List of Drawings, indicated on the Project Title Sheet.**

Bidder's Name \_\_\_\_\_

**BID FORM**

I/We have carefully examined the plans, specifications, and advertisement for bid for the

**BI-COUNTY BRIDGE REPLACEMENT PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER  
SUPERSTRUCTURE REPLACEMENT  
BA#32-2019; Union County Engineering Project #2016-003**

that is on file in the Union County Division of Engineering. I/We have inspected the site of the work and will contract to do all the work and furnish all materials mentioned in said plans and specifications. Work will be accomplished in the manner prescribed therein.

**BASE BID ITEMS:**

<b>ITEM NO</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>CONTRACT QUANTITY</b>	<b>UNIT PRICE</b>	<b>AMOUNT</b>
1.	Bar Chart Progress Schedule and Updates	L.S.	1		
2.	Mobilization	L.S.	1		
3.	Construction Layout	L.S.	1		
4.	Caution Fence	L.F.	350		
5.	Silt Fence	L.F.	150		
6.	Inlet Filter Type 2, 2'x4'	Unit	4		
7.	Floating Turbidity Barrier, Type 2	L.F.	460		
8.	Construction Driveway	Tons	155		
9.	Concrete Washout System	L.S.	1		
10.	Construction Signs	S.F.	5,400		
11.	Construction Barrier Curb	L.F.	90		
12.	Construction Barrier Curb Removal	L.F.	90		
13.	Police Traffic Directors	Allow.	1	<b>\$20,000.00</b>	<b>\$20,000.00</b>
14.	Portable Variable Message Sign	Unit	6		
15.	Final Cleanup	L.S.	1		
16.	Clearing Site	L.S.	1		
17.	Clearing Site, Bridge, (Bridge No. NE-60)	L.S.	1		
18.	Temporary Shielding	L.S.	1		

Bidder's Name \_\_\_\_\_

19.	Excavation, Test Pits	C.Y.	12		
20.	Excavation, Unclassified	C.Y.	75		
21.	Removal of Pavement	S.Y.	21		
22.	Dense Graded Aggregate Base Course, 6" Thick	S.Y.	270		
23.	HMA Milling, 3" or Less	S.Y.	1,420		
24.	Intelligent Compaction	L.S.	1		
25.	Hot Mix Asphalt 9.5M64, Surface Course, 2" Thick	Tons	195		
26.	Hot Mix Asphalt 19M64, Base Course, 4" Thick	Tons	65		
27.	Core Samples, Concrete	Unit	20		
28.	Reinforcement Steel, Epoxy Coated	LB	48,000		
29.	Stone Veneer	S.Y.	220		
30.	Prestressed Concrete Box Beam, (Type BII-36), 36"x33"	L.F.	2,356		
31.	Strip Seal Expansion Joint Assembly	L.F.	216		
32.	Concrete Bridge Deck, HPC	C.Y.	167		
33.	Date Panel	Unit	2		
34.	Concrete Bridge Sidewalk, HPC	C.Y.	92		
35.	Concrete Bridge Parapet, HPC	L.F.	320		
36.	Steel 1 Bar Bridge Railing	L.F.	320		
37.	Pressure Injection, Concrete Cracks	L.F.	20		
38.	Substructure Concrete Repair	S.F.	88		
39.	Pressure Washing of Substructure	L.S.	1		
40.	Reset Existing Casting	Unit	4		
41.	9"x20" Concrete Vertical Curb	L.F.	150		
42.	Beam Guide Rail (If & Where Directed)	L.F.	40		
43.	Traffic Stripes, 4"	L.F.	1,250		

Bidder's Name \_\_\_\_\_

44.	Traffic Stripes, 8"	L.F.	70		
45.	Traffic Markings Lines, 24"	L.F.	20		
46.	Removal and Replacement of RPM Lens	Unit	8		
47.	Traffic Markings Symbols	S.F.	20		
48.	Reset Manhole, Sanitary Sewer, Using Existing Casting	Unit	2		
49.	Tree Removal, Over 12" to 18" Diameter	Unit	1		
50.	Topsoiling, 4" Thick	S.Y.	500		
51.	Fertilizing and Seeding, Type A	S.Y.	500		
52.	Straw Mulching	S.Y.	500		
53.	Replace Pipe	L.F.	125		

\_\_\_\_\_  
Written

\_\_\_\_\_  
Figures

**BID CONTINGENCY: (To be used if and when directed by the County)**

**TWO HUNDRED THOUSAND DOLLARS AND NO CENTS**

Written

**\$200,000.00**

Figures

**TOTAL BASE BID ITEMS PLUS BID CONTINGENCY AMOUNT:**

\_\_\_\_\_  
Written

\_\_\_\_\_  
Figures

**NOTE: Bid Contingency may include one-half of one percent of contract amount set aside for local training if and when directed by the County.**

Bidder's Name \_\_\_\_\_

**CONSENT OF SURETY**  
TO ACCOMPANY PROPOSAL (BID)

\_\_\_\_\_ (hereinafter called Surety), organized and existing under the laws of the State of \_\_\_\_\_ duly authorized and qualified to transact business in the State of New Jersey, in consideration of the sum of One Dollar (\$1.00), lawful money of the United States of America, to it in hand paid, receipt whereof is hereby acknowledged, and in consideration, hereby certifies and agrees that if the contract for which the attached proposal is made be awarded to \_\_\_\_\_ (hereinafter called Contractor) for the performance of certain work and labor or the supplying of certain materials, or both, as more particularly set forth in said proposal and described for purposes of this instrument as a proposal for \_\_\_\_\_ to the COUNTY OF UNION and if Contractor shall enter into the contract, Surety will become bound as surety for its faithful performance, labor and material payment and will provide the Contractor with a performance, labor and material payment bond in the full amount of the contract price.

**NOTE:**  
Expiration date  
Needed if Annual  
Surety

\_\_\_\_\_  
**NAME OF INSURANCE COMPANY**

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
**ORIGINAL SIGNATURE**  
**ATTORNEY-IN-FACT FOR INSURANCE CO.**

**NOTE: PROOF OF AUTHORITY OF OFFICERS OF SURETY COMPANY TO EXECUTE THIS DOCUMENT MUST BE SUBMITTED.**

Bidder's Name \_\_\_\_\_

**BIDDER SIGNATURE PAGE**

THE BIDDER MUST READ THE FOLLOWING INSTRUCTIONS TO COMPLETE THIS PAGE:

1. If doing business under a **trade name, partnership or a sole proprietorship**, you must submit the bid under exact title of the trade name, partnership, or proprietorship, and the bid must be signed by either the **owner**, or a **partner** and **witnessed** by a **notary public**.
2. If a **Corporation**, the bid must be signed by the **President** or **Vice President** and **witnessed** by a **Corporate Secretary** (corporate title must be exact) and **affix corporate seal**. If a Corporate Secretary does not exist, President or Vice President's signature shall be witnessed by a Notary Public.
3. Other persons **authorized** by **corporate resolution** to execute agreements in its behalf may also sign the bid documents (pages). **Copy of a resolution must accompany the bid**.
4. The person who signs this bid form **must also** sign the **Non-Collusion Affidavit**.
5. You **cannot** witness your own signature.

\_\_\_\_\_  
**NAME OF BIDDER**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
**ADDRESS OF BIDDER**

\_\_\_\_\_  
**ORIGINAL SIGNATURE  
CORPORATE SECRETARY**

\_\_\_\_\_  
**PRINT NAME AND TITLE  
CORPORATE SECRETARY**

**TEL:** \_\_\_\_\_  
**FAX:** \_\_\_\_\_  
**E-Mail:** \_\_\_\_\_

**BY:** \_\_\_\_\_  
**ORIGINAL SIGNATURE**

**Corporate Seal**

\_\_\_\_\_  
\_\_\_\_\_  
**PRINT OR TYPE NAME AND TITLE**

**WARNING: IF YOU FAIL TO FULLY, ACCURATELY, AND COMPLETELY SUPPLY THE INFORMATION REQUESTED ON THIS PAGE, YOUR BID MAY BE REJECTED.**



**STATEMENT OF OWNERSHIP DISCLOSURE**

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

**This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.**

**Name of Organization:** \_\_\_\_\_

**Organization Address:** \_\_\_\_\_

**Part I Check the box that represents the type of business organization:**

- Sole Proprietorship (skip Parts II and III, execute certification in Part IV)
- Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)
- For-Profit Corporation (any type)     Limited Liability Company (LLC)
- Partnership         Limited Partnership         Limited Liability Partnership (LLP)
- Other (be specific): \_\_\_\_\_

**Part II**

- The list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be. **(COMPLETE THE LIST BELOW IN THIS SECTION)**

**OR**

- No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be. **(SKIP TO PART IV)**

(Please attach additional sheets if more space is needed):

Bidder's Name \_\_\_\_\_

Name of Individual or Business Entity	Home Address (for Individuals) or Business Address

**Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II**

If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing, ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed.**

Website (URL) containing the last annual SEC (or foreign equivalent) filing	Page #'s

**Please list** the names and addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II **other than for any publicly traded parent entities referenced above.** The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

Bidder's Name \_\_\_\_\_

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Home Address (for Individuals) or Business Address

**Part IV Certification**

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that the **County of Union** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with **County of Union** to notify the **County of Union** in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the, permitting the **County of Union** to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

**SUBCONTRACTOR IDENTIFICATION STATEMENT**

**LIST OF SUBCONTRACTORS**

This form is ONLY required for plumbing and gas fitting, steam and hot water heating and ventilating apparatus, steam power plants, electrical work, structural steel, ornamental iron work, and any other trades required to be identified by the specifications (including, but not limited, to satisfying any DPMC Classification requirements).

**CHECK THIS BOX IF NONE OF THE ABOVE LISTED TRADES OR THOSE REQUIRED TO BE IDENTIFIED IN THE SPECIFICATIONS ARE TO BE USED TO PERFORM THE WORK**

In compliance with N.J.S.A. 40A:11-16 and the bid specifications, the undersigned hereby lists the name or names of the following subcontractors:

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Subcontract Amount: \$ \_\_\_\_\_

Specific Scope of Work Subcontracted: \_\_\_\_\_

License No. \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Subcontract Amount: \$ \_\_\_\_\_

Specific Scope of Work Subcontracted: \_\_\_\_\_

License No. \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Subcontract Amount: \$ \_\_\_\_\_

Specific Scope of Work Subcontracted: \_\_\_\_\_

License No. \_\_\_\_\_

**IF MORE THAN THREE SUBCONTRACTORS, PLEASE COPY THIS SHEET AS NECESSARY AND ATTACH TO THE BID PACKAGE.**

(Continued on following page)

Bidder's Name \_\_\_\_\_

**SUBCONTRACTOR IDENTIFICATION CERTIFICATION**

Note the law does not permit the listing of alternate subcontractors. However, multiple subcontractors for the same trade are permitted to be named provided the bidder meets the following requirements:

- Bidder identifies each subcontractor named for that category;
- Bidder states the scope of work, goods and services (the portion of the work) to be performed by each subcontractor; and
- Bidder provides the price quote provided by each subcontractor.

The bidder is advised that any change of subcontractor(s) from ones listed herein is subject to the County's approval. Change of subcontractor(s) will be approved only if made for good cause and not as a result of an arbitrary purpose.

The undersigned Bidder certifies and declares that the subcontractors listed above shall be used as subcontractors to complete certain portions of the work in this project as set forth in N.J.S.A. 40A: 11-16.

\_\_\_\_\_  
**Witness**

**Date** \_\_\_\_\_

\_\_\_\_\_  
**NAME OF BIDDER**

\_\_\_\_\_  
**ADDRESS**

**By:** \_\_\_\_\_  
**ORIGINAL SIGNATURE ONLY**

\_\_\_\_\_  
**PRINT NAME AND TITLE**

Bidder's Name \_\_\_\_\_

**ACKNOWLEDGMENT OF ADDENDUM**

**COUNTY OF UNION**

\_\_\_\_\_  
**(Name of Construction /Public Works Project)**

\_\_\_\_\_  
**(Project or Bid Number)**

Pursuant to N.J.S.A. 40A:11-23.1a., the undersigned bidder, hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the County of Union's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

<b>Local Unit Reference Number or Title of Addendum/Revision</b>	<b>How Received (mail, fax, pick- up, etc.)</b>	<b>Date Received</b>

**ACKNOWLEDGMENT BY BIDDER:**

**NAME OF BIDDER:** \_\_\_\_\_

**ORIGINAL SIGNATURE:** \_\_\_\_\_

**PRINTED NAME AND TITLE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**CONTRACTOR BUSINESS REGISTRATION CERTIFICATE**

New Mandatory Requirement - Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each subcontractor must be provided prior to the award of bid. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at [www.nj.gov/treasury/revenue/taxreg.htm](http://www.nj.gov/treasury/revenue/taxreg.htm). Click the "online" link and then select "Register for Tax and Employer Purposes or call the Division at 609-292-1730.

**Note: A NJ Certificate of Authority is not acceptable.**

**FAILURE** to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of a contract shall be cause to reject the bids.

**FAILURE** of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction work as well as non-construction bids.

**IN ADDITION:**

The contractor shall provide written notice to all **subcontractors and suppliers** not specifically named on the bid of the responsibility to register and submit proof of business registration to the contractor. The requirement of proof of business registration extends down through all levels (tiers) of the project.

Before final payment on the contract is made by the contracting agency, the contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the contract, or shall attest that no subcontractors were used.

For the term of the contract, the contractor and each of its affiliates and a subcontractor and each of its affiliates [N.J.S.A. 52:32-44(g)(3)] shall collect and remit to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act on all sales of tangible personal property delivered into this State, regardless of whether the tangible personal property is intended for a contract with a contracting agency.

A business organization that fails to provide a copy of a business registration as required pursuant to section 1 of P.L.2001,c.134 (C.52:32-44 et al.) or subsection e. or f. of section 92 of P.L.1977,c.110 (C.5:12-92), or that provides false business registration information under the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with a contracting agency.

Bidder's Name \_\_\_\_\_

**BUSINESS REGISTRATION**  
Mandatory Requirement

**P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each must be provided prior to the award of a contract. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be:

- A copy of a Business Registration Certificate issued by the Department of Treasury, Division of Revenue; or
- A copy of the web printed version provided by the NJ Division of Revenue

**STATE OF NEW JERSEY**  
**BUSINESS REGISTRATION CERTIFICATE**  
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS

DEPARTMENT OF TREASURY  
DIVISION OF REVENUE  
10000202  
TRENTON, NJ 08646

TAXPAYER NAME: TAX REG TEST ACCOUNT  
TRADE NAME: TAX REG TEST ACCOUNT  
TAX REGISTRATION TEST ACCOUNT  
TAXPAYER IDENTIFICATION: 090-007-002000  
ADDRESS: 847 ROEBLING AVE  
TRENTON NJ 08611  
EFFECTIVE DATE: 09/01/09  
FORM BR(C)06(01)

TRACE NAME: CLIENT REGISTRATION  
SEQUENCE NUMBER: 0107200  
ISSUANCE DATE: 07/14/04

*John S. Eudy*  
Assistant Director

**STATE OF NEW JERSEY**  
**BUSINESS REGISTRATION CERTIFICATE**

**Taxpayer Name:** TAX REG TEST ACCOUNT  
**Trade Name:**  
**Address:** 847 ROEBLING AVE  
TRENTON, NJ 08611  
**Certificate Number:** 1093907  
**Date of Issuance:** October 14, 2004

**For Office Use Only:**  
20041014112823533

ATTACH BRC HERE



Bidder's Name \_\_\_\_\_

**AFFIRMATIVE ACTION REQUIREMENT**

**REQUIRED AFFIRMATIVE ACTION EVIDENCE**

General Requirements of P.L. 1975, c. 127: You are hereby put on notice that:

CONSTRUCTION CONTRACTS: The successful contractor must submit within three (3) days of the notice of intent to award or the signing of the contract the initial project manning report (A.A.201). This report should be submitted at the time the signed contract is returned to the County of Union. Attention: *Affirmative Action Officer*.

**If the successful contract does not submit the initial project manning report (A.A.201) within the three (3) days from the time the signed contract is returned to the County of Union, the County of Union WILL declare the contractor non-responsive and award the contract to the next lowest responsible bidder.**

\_\_\_\_\_  
NAME OF BIDDER

\_\_\_\_\_  
ORIGINAL SIGNATURE

\_\_\_\_\_  
PRINT OR TYPE NAME AND TITLE

\_\_\_\_\_  
DATE THIS FORM IS COMPLETED

Bidder's Name \_\_\_\_\_

**EXPERIENCE STATEMENT**

I hereby certify that my company has performed the following private or public work, which is relevant to this bid. I further certify that my company has never defaulted under any contract. Should you not sign this form due to prior defaults, please provide details on an attached sheet.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
NAME OF BIDDER

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
ADDRESS

By: \_\_\_\_\_  
ORIGINAL SIGNATURE ONLY

\_\_\_\_\_  
\_\_\_\_\_  
PRINT NAME AND TITLE

**YOU MAY ATTACH ADDITIONAL SHEETS, BUT YOU MUST SIGN AND WITNESS THIS SHEET.**





Bidder's Name \_\_\_\_\_

**Contractor Registration Advisement**  
For Public Works Projects

A new law, known as "The Public Works Contractor Registration Act" (P.L. 1999, c.238), became effective April 11, 2000. Under the Act, no contractor/subcontractor will be permitted to bid on or engage in any contract for public work, as defined in Section 2 of P.L. 1963, c.150 (C:34:11-56.26), unless that contractor/subcontractor is registered with the New Jersey Department of Labor and Workforce Development. The Act provides that upon registration with the Department, a public works contractor/subcontractor will be issued a certificate by the Department indicating compliance with the Act's requirements. The registration fee has been set at \$300.00 per year. Upon the effective date of the Act, public bodies will be expected to request production of such a certificate from those bidding on or engaging in public works projects.

It is important to note that the term "contractor," is defined in the, Act as, "a person, partnership, association, joint stock company, trust, corporation or other legal business entity or successor thereof who enters into a contract which is subject to the provision of the "New Jersey Prevailing Wage Act," P.L. 1963, c.150 (C.34:11-56.25, et seq.) for the construction, reconstruction, demolition, alteration, repair or maintenance of a public building regularly open to and used by the general public or a public institution, and includes any subcontractor or lower tier subcontractor as defined herein: except that, for the purposes of the act, no pumping station, treatment plant or other facility associated with utility and environmental construction, reconstruction, demolition, alteration, repair or maintenance shall be regarded as a public building regularly open to and used by the general public or a public institution."

Registration forms, copies of the Act, and other relevant information can be obtained by contacting:

Contractor Registration Unit  
New Jersey Department of Labor and Workforce Development  
Division of Wage & Hour Compliance  
PO Box 389  
Trenton, New Jersey 08625-0389  
Telephone: 609-292-9464  
Fax: 609-633-8591  
E-mail: [contreg@dol.state.nj.us](mailto:contreg@dol.state.nj.us)

**AMERICANS WITH DISABILITIES ACT**  
EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

The contractor and the County of Union (hereafter "Owner") do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C. S12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the Owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the Owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the Owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the Owner's grievance procedure, the contractor agrees to abide by any decision of the Owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the Owner, or if the Owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

The Owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the Owner or any of its agents, servants, and employees, the Owner shall expeditiously forward or have forwarded to the contractor every demand, complaint, notice, summons, pleading, or process received by the Owner or its representatives.

It is expressly agreed and understood that any approval by the Owner of the services provided by the contractor pursuant to this contract will not relieve the contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the Owner pursuant to this paragraph.

It is further agreed and understood that the Owner assumes no obligation to indemnify or save harmless the contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the contractor from any liability, nor preclude the Owner from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

Name \_\_\_\_\_ (Please print or type)  
Signature \_\_\_\_\_ Date \_\_\_\_\_

**STATEMENT OF BIDDER'S QUALIFICATIONS**

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

1. \_\_\_\_\_  
(Name of Bidder)

2. \_\_\_\_\_  
(Permanent Main Office Address)

3. \_\_\_\_\_  
(When Organized)

4. \_\_\_\_\_  
(If a Corporation, where incorporated)

5. Number of years your organization has been engaged in construction or contracting business under present firm or trade name? \_\_\_\_\_

6. How many years of experience in construction work has your organization had (a) as a general contractor? And/or (b) As a subcontractor? \_\_\_\_\_

7. Contracts on hand: (Attach a list or table showing gross amounts of each Contract and the appropriate dates of completion) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. General character of work performed by you. \_\_\_\_\_

\_\_\_\_\_

9. Have you ever failed to complete any work awarded to you? \_\_\_\_\_

\_\_\_\_\_

10. Have you ever defaulted on a Contract? \_\_\_\_\_ If so, complete details, including where and why?

\_\_\_\_\_  
\_\_\_\_\_

**STATEMENT OF BIDDER'S QUALIFICATIONS - (continued)**

11. Has any officer or partner of your organization ever failed to complete a construction contract handled in its own name? If so, state name of individual, name of owner, location and type of project, and reason for the failure to complete. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

12. List your major equipment available for this Contract.  
 \_\_\_\_\_  
 \_\_\_\_\_

13. Experience in the construction work similar in importance to this Project.  
 \_\_\_\_\_  
 \_\_\_\_\_

14. Have you had any material adverse changes from the trades as listed in NJ Notice of Classification within last five (5) years? \_\_\_\_\_. If so, list prior classification.

15. Background and experience of the principal members of your organization, including the officers.

Individual's Name	Present Position or Office	Yrs. of Construction Experience	Magnitude & Type of Work	In What Capacity



Bidder's Name \_\_\_\_\_

16. Bank Reference. (Name, Address, Phone, Representative) \_\_\_\_\_
17. Will you, upon request, fill out a detailed financial statement? \_\_\_\_\_
18. The undersigned, hereby authorizes and requests any person, firm or corporation to furnish any information requested by the proper agency in verification of the responses comprising this Statement of Bidder's Qualifications.
19. Bidder's telephone number, fax number and e-mail address (if applicable).
- Phone \_\_\_\_\_
- Fax \_\_\_\_\_
- E-mail \_\_\_\_\_
- Mobile \_\_\_\_\_

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
BIDDER (Signature)

\_\_\_\_\_  
BIDDER (Print Name)

Subscribed and sworn to before me  
this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Seal) Notary Public of New Jersey/  
Specify Other State  
My Commission Expires \_\_\_\_\_, 20\_\_.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH  
YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name \_\_\_\_\_

**CONTRACTOR PERFORMANCE RECORD**

List all contracts completed by you below or provide separate form.

Name of Owner	Name & Location of Project: Type Of Work	Prime or Sub-Cont.	Engineer or Architect in Charge for Owner	Contract Price (Omit Cost)	Date Completed	Was Time* Extension Necessary	Were Any Penalties Imposed	Were Liens* Claims or Stop Notice Filed

\* If answer is YES, provide explanation of details in connection with non-completion of contracts, time extensions, penalties imposed, labor troubles, liens, claims and notices filed against contracts listed in preceding item "Performance Record" on an attached sheet.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name \_\_\_\_\_

**CONTRACTOR PERFORMANCE RECORD**  
**CERTIFICATION**

The information above is true and complete to the best of my knowledge and belief.

\_\_\_\_\_  
(Name of Organization)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

Subscribed and sworn to before me

this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Seal) Notary Public of New Jersey/  
Specify Other State

My Commission Expires \_\_\_\_\_, 20\_\_.



**PRIOR NEGATIVE EXPERIENCE QUESTIONNAIRE**

(N.J.S.A. 40A:11-4)

1. Within the past ten (10) years, have you been found, through either court adjudication, arbitration, mediation, or other contractually stipulated alternate dispute resolution mechanism, to have: failed to provide or perform goods or services; or failed to complete a contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract with a public entity?

\_\_\_\_\_ yes                      \_\_\_\_\_ no    If yes, please provide full, detailed explanation.

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2. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to utilize the services of another contractor to provide the goods or perform the services or to correct or complete the contract?

\_\_\_\_\_ yes                      \_\_\_\_\_ no    If yes, please provide full, detailed explanation.

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3. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to look to your surety for completion of the contract or tender of the costs of completion?

\_\_\_\_\_ yes                      \_\_\_\_\_ no    If yes, please provide full, detailed explanation.

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4. Within the past ten (10) years, have you been debarred or suspended from contracting with any of the agencies or department of the executive branch of the State of New Jersey at the time of the contract award, where the action was based on failure to perform a contact for goods or services with a public entity?

\_\_\_\_\_ yes                      \_\_\_\_\_ no    If yes, please provide full, detailed explanation.

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Bidder's Name \_\_\_\_\_

**PRIOR NEGATIVE EXPERIENCE CERTIFICATION**

I hereby certify that the above statements are true and accurate as of this \_\_\_\_\_  
day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Name of Contractor

By \_\_\_\_\_  
(Signature of Authorized Representative)

Subscribed and sworn to before me

this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Seal) Notary Public of New Jersey/  
Specify Other State

My Commission Expires \_\_\_\_\_, 20\_\_.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

**TO BE COMPLETED ONLY WHEN FINAL PAYMENT IS REQUESTED**

**CONTRACTOR'S CERTIFICATION OF COMPLIANCE - NEW JERSEY PREVAILING WAGE ACT**

**TO:** County of Union  
Division of Engineering  
2325 South Avenue  
Scotch Plains, New Jersey 07076

**CONTRACT:**

**PROJECT:**

In accordance with the requirements of the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56 et al \*, the undersigned contractor on the public work being performed for:

**COUNTY OF UNION**

hereby certifies that he/she has complied with the contract requirements regarding the payment of the minimum prevailing wages established under "The New Jersey Prevailing Wage Act" N.J.S.A. 34:11-56 et al.

**CONTRACTOR:** \_\_\_\_\_  
**ADDRESS:** \_\_\_\_\_

**BY:** \_\_\_\_\_

**ORIGINAL SIGNATURE ONLY**

**STATE OF NEW JERSEY**  
**COUNTY OF \_\_\_\_\_**

Being by me duly sworn according to law, on his oath deposes and says that \_\_\_\_\_ is \_\_\_\_\_ of \_\_\_\_\_ the above named contractor, and that the facts set forth in the above statement are true.

Subscribed and sworn before me  
this \_\_\_\_ day of \_\_\_\_\_, 200\_\_.

\_\_\_\_\_  
Notary Public: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

\* N.J.S.A. 34:11-56.33 requires the contractor and subcontractor to file written statements with the public body in form satisfactory to the Commissioner certifying to the amounts then due and owing from such contractor and subcontractor filing such statement to any and all workmen for wages due on account of the public work, setting forth therein the names of the persons whose wages are unpaid and the amount due to each respectively. Union County will withhold the amount so deducted for the benefit of the workmen whose wages are unpaid as shown by the verified statement filed, and will pay directly to any workman the amount shown by such statement to be due to him for such wages. Such payment shall thereby discharge the obligation of the contractor to the person receiving such payment to the extent of the amount thereof.

Bidder's Name \_\_\_\_\_

**UNCOMPLETED CONTRACTS AFFIDAVIT**  
(To be Submitted with DPMC Form 701)

**PURSUANT TO N.J.A.C. 17:19-2.13, BIDDER DECLARES THE FOLLOWING WITH RESPECT TO ITS UNCOMPLETED CONTRACTS, ON ALL WORK, FROM WHATEVER SOURCE (PUBLIC AND PRIVATE), BOTH IN NEW JERSEY AND FROM OTHER GOVERNMENTAL JURISDICTIONS**

<b>ENTITY</b>	<b>PROJECT TITLE</b>	<b>ORIGINAL CONTRACT AMOUNT</b>	<b>UNCOMPLETED AMOUNT AS OF BID OPENING DATE</b>	<b>NAME AND TELEPHONE NUMBER OF PARTY TO BE CONTACTED FROM ENTITY FOR VERIFICATION</b>

**TOTAL AMOUNT OF UNCOMPLETED CONTRACTS \$** \_\_\_\_\_

Sworn and Subscribed to Before me

This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

**BIDDER:**

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**



Bidder's Name \_\_\_\_\_

**CERTIFICATE OF INSURANCE STATEMENT**

The Bidder fully understands the County of Union insurance requirements as stated in the Instructions to Bidders as well as the Owner/Contractor Agreement and agrees to provide all insurance required by these documents prior to the issuance of the Notice to Proceed.

\_\_\_\_\_  
BIDDER (Signature)

\_\_\_\_\_  
BIDDER (Print Name)

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name \_\_\_\_\_

**COLLECTION OF USE TAX ON SALES TO LOCAL GOVERNMENTS STATEMENT**

The Bidder fully understands the requirements of the use tax on sales to local governments as stated in the General Conditions to the Contract for Construction and the Instructions to Bidders, and agrees at all times to comply with the "Contractor Use Tax Collection Legislation", as defined therein, and the terms relating thereto contained in the Contract Documents.

\_\_\_\_\_  
BIDDER (Signature)

\_\_\_\_\_  
BIDDER (Print Name)

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name \_\_\_\_\_

**TIME OF COMPLETION**

The undersigned proposed that if awarded the Contract, the scope of work will be started within ten (10) calendar days and will be substantially completed within **365 calendar days** from the date of the notice to proceed.

I, \_\_\_\_\_ of \_\_\_\_\_  
NAME (Print or type) COMPANY

Agree to complete work in the time frame specified \_\_\_\_\_  
SIGNATURE

**SITE VISIT – GENERAL CONTRACTOR**

I, \_\_\_\_\_ of \_\_\_\_\_  
NAME (Print or type) COMPANY

Visited the site of the work on \_\_\_\_\_  
SIGNATURE

Bidder's Name \_\_\_\_\_

**COUNTY OF UNION NEW JERSEY  
Division of Purchasing  
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN FORM**

Solicitation Number: \_\_\_\_\_

Vendor/Bidder: \_\_\_\_\_

**PART 1**

**CERTIFICATION**

VENDOR/BIDDER MUST COMPLETE PART 1 BY CHECKING ONE OF THE BOXES

**FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE**

Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person nor entity, nor any of its parents, subsidiaries, or affiliates, is identified on the State of New Jersey, Department of the Treasury's Chapter 25 list as a person or entity engaged in investment activities in Iran. The Chapter 25 list is found on the Department's website at <http://www.state.nj.us/treasury/pdf/Chapter25List.pdf>. Vendors/Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification will render a Vendor's/Bidder's proposal non-responsive.** If the Director of the Division of Purchase and Property finds a person or entity to be in violation of the law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

**CHECK THE APPROPRIATE BOX**

A. I certify, pursuant to Public Law 2012, c.25, that neither the Vendor/Bidder listed above nor any of its parents, subsidiaries, or affiliates is listed on the N.J. Department of Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). Disregard Part 2 and complete and sign the Certification below.

**OR**

B. I am unable to certify as above because the Vendor/Bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. Failure to provide such information will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

**PART 2**

PLEASE PROVIDE ADDITIONAL INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

If you checked Box "B" above, provide a detailed, accurate and precise description of the activities of the Vendor/Bidder, or one of its parents, subsidiaries or affiliates, engaged in investment activities in Iran by completing the information below.

ENTITY NAME: \_\_\_\_\_  
RELATIONSHIP TO VENDOR/BIDDER: \_\_\_\_\_  
DESCRIPTION OF ACTIVITIES: \_\_\_\_\_  
DURATION OF ENGAGEMENT: \_\_\_\_\_  
ANTICIPATED CESSATION DATE: \_\_\_\_\_  
VENDOR/BIDDER CONTACT NAME: \_\_\_\_\_  
VENDOR/BIDDER CONTACT PHONE#: \_\_\_\_\_

*Attach Additional Sheets If Necessary*

**CERTIFICATION**

I, the undersigned, certify that I am authorized to execute this certification on behalf of the Vendor/Bidder, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the County of Union, New Jersey is relying on the information contained herein, and that the Vendor/Bidder is under a continuing obligation from the date of this certification through the completion of any contract(s) with the County of Union to notify the County of Union in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to criminal prosecution under the law, and it will constitute a material breach of my agreement(s) with the County of Union, permitting the County of Union to declare any contract(s) resulting from this certification void and unenforceable.

Signature \_\_\_\_\_

\_\_\_\_\_ Date

Print Name and Title \_\_\_\_\_

*Revised 10/19/17*

## STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of New Jersey Department of Transportation, 2007 Edition; is added to and/or amended elsewhere herein by the Notice to Contractors (Advertisement), Proposal, Information for Bidders, General Conditions, Special Provisions, Project Plans, and Supplementary Specifications; shall, insofar as technical requirements are involved, govern in the execution of this project.

Such Standard Specifications are made a part of these Specifications by this reference and will not be repeated herein. It is the responsibility of prospective bidders to familiarize themselves with these Standard Specifications, copies of which may be examined at the office of the Engineer and may be obtained, upon payment of the cost thereof, from:

Department of Transportation  
State of New Jersey  
1035 Parkway Avenue  
Trenton, New Jersey 08625

The Notice to Bidders (Advertisement), Proposal, General Conditions, Instructions to Bidders, Special Provisions, Project Plans and/or Technical Specifications shall govern and prevail in the case of conflict between them and the Standard Specifications.

In these Standard Specifications the words "COMMISSIONER" or "DEPARTMENT" shall refer to and mean the person, persons, body, board or agent legally empowered to enter into contracts and otherwise legally act for the Owner. The words "RESIDENT ENGINEER (RE)", "ENGINEER" or "STATE" shall refer to and mean the professional engineering representative of the Owner as hereinbefore defined and the word "INSPECTOR" shall mean the authorized project representative of the Engineer with the authority as hereinbefore defined. The word "LABORATORY" shall mean and refer to the Engineer who may, at his discretion, and with the consent of the Owner, employ qualified technical personnel or testing laboratories to assist him in fulfilling the duties normally assigned to the "LABORATORY" in these Standard Specifications.

When reference is made herein to the bulletins, standards, specifications, publications or requirements of the Manual on Uniform Traffic Control Devices (MUTCD), Institute of Traffic Engineers (ITE), Federal Highway Administration (FHWA), American Association of State Highway Officials (AASHTO), the American Concrete Institute (ACI), the American Society of Civil Engineers (ASCE) or similar national or regional societies, associations, institutes or organizations; the requirements of the bulletins, specifications, publications or requirements referred to shall be considered a part of these Specifications by such reference and shall not be repeated herein but shall have the same import and be as binding as if herein set forth in full.



STATE OF NEW JERSEY  
Department of Labor and Workforce Development  
Division of Wage and Hour Compliance - Public Contracts Section  
PO Box 389  
Trenton, NJ 08625-0389

**PREVAILING WAGE RATE DETERMINATION**

The New Jersey Prevailing Wage Act (N.J.S.A. 34:11-56.25 et seq.) requires that the Department of Labor and Workforce Development establish and enforce a prevailing wage level for workers engaged in public works in order to safeguard their efficiency and general well being and to protect them as well as their employers from the effects of serious and unfair competition.

Prevailing wage rates are wage and fringe benefit rates based on the collective bargaining agreements established for a particular craft or trade in the locality in which the public work is performed. In New Jersey, these rates vary by county and by the type of work performed.

Applicable prevailing wage rates are those wages and fringe benefits in effect on the date the contract is awarded. All pre-determined rate increases listed at the time the contract is awarded must also be paid, beginning on the dates specified. Rates that have expired will remain in effect until new rates are posted.

**Prevailing Wage Rate**

The prevailing wage rate for each craft will list the effective date of the rate and the following information:

**W** = Wage Rate per Hour                      **B** = Fringe Benefit Rate per Hour\*                      **T** = Total Rate per Hour

\* Fringe benefits are an integral part of the prevailing wage rate. Employers not providing such benefits must pay the fringe benefit amount directly to the employee each payday. Employers providing benefits worth less than the fringe benefit amount must pay the balance directly to the employee each payday.

Unless otherwise stated in the Prevailing Wage Rate Determination, the fringe benefit rate for overtime hours remains at the straight time rate.

When the Overtime Notes in the Prevailing Wage Rate Determination state that the overtime rates are "inclusive of benefits," the benefit rate is increased by the same factor as the wage rate (i.e. multiplied by 1.5 for time and one-half, multiplied by 2 for double time, etc.).

**Apprentice Rate Schedule**

An "apprentice" is an individual who is registered with the United States Department of Labor - Office of Apprenticeship and enrolled in a certified apprenticeship program during the period in which they are working on the public works project.

The apprentice wage rate is a percentage of the journeyman wage rate, unless otherwise indicated. The apprentice benefit rate is the full journeyman benefit rate, unless otherwise indicated.

If there is no apprentice rate schedule listed, the individual must be paid at least the journeyman rate even if that individual is in a certified apprentice program for that trade.

If there is no ratio of apprentices to journeymen listed for a particular craft, then the ratio shall be one (1) apprentice to every four (4) journeymen.

## Comments/Notes

For each craft listed there will be comments/notes that cover the definition of the regular workday, shift differentials, overtime, recognized holidays, and any other relevant information.

## Public Works Contractor Registration

The Public Works Contractor Registration Act (N.J.S.A. 34:11-56.48, et seq.) requires that **all** contractors, subcontractors, or lower tier subcontractors who are working on or who bid on public works projects register with the Department of Labor and Workforce Development. Applications are available at [www.nj.gov/labor](http://www.nj.gov/labor) (click on Wage & Hour and then go to Registration & Permits).

Pursuant to N.J.S.A. 34:11-56.51:

*No contractor shall bid on any contract for public work as defined in section 2 of P.L.1963, c. 150 (C.34:11-56.26) unless the contractor is registered pursuant to this act. No contractor shall list a subcontractor in a bid proposal for the contract unless the subcontractor is registered pursuant to P.L.1999, c.238 (C.34:11-56.48 et seq.) at the time the bid is made. No contractor or subcontractor, including a subcontractor not listed in the bid proposal, shall engage in the performance of any public work subject to the contract, unless the contractor or subcontractor is registered pursuant to that act.*

## Snow Plowing

Snow plowing contracts are not subject to the New Jersey Prevailing Wage Act or the Public Works Contractor Registration Act.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Air Conditioning & Refrigeration - Service and Repair**

**PREVAILING WAGE RATE**

	05/10/19
Journeyman (Mechanic)	W39.08 B24.87 T63.95

**Craft: Air Conditioning & Refrigeration - Service and Repair**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	Mo. 1-3	Mo. 4-12	2nd Year	3rd Year	4th Year	5th Year		Wage = %	of Jnymn	Wage
As Shown										
Wage and Bene	50%	55%	60%	65%	75%	85%		Bene = %	of Jnymn	Bene

**Ratio of Apprentices to Journeymen - 1:4**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 3-1-13:

INTERVAL	PERIOD AND RATES							
As Shown	1st Year	2nd Year	3rd Year	4th Year	5th Year		Wage =% of Jnymn Wage	
Wage and Benefit	40%	50%	60%	70%	80%		Bene. =% of Jnymn Bene	

**Craft: Air Conditioning & Refrigeration - Service and Repair**

**COMMENTS/NOTES**

THESE RATES MAY BE USED FOR THE FOLLOWING:

- Service/Repair/Maintenance Work to EXISTING facilities.
- Replacement or Installation of air conditioning and refrigeration equipment when the combined tonnage does not exceed 15 tons for refrigeration, or 25 tons for air conditioning.
- Replacement or Installation of "packaged" or "unitary" rooftop-type units when the combined tonnage of the units does not exceed 75 tons.

NOTE: These rates may NOT be used for any work in new construction (including work on new additions).

The regular workday shall consist of 8 hours, starting between 6:00 AM and 10:00 AM, Monday through Friday.

SHIFT DIFFERENTIALS:

- The second and third shifts shall be paid an additional 15% of the hourly rate.
- All shifts must run for a minimum of 5 consecutive days.

OVERTIME:

Hours worked in excess of 8 per day or before or after the regular workday, that are not shift work, and all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Boilermaker                      PREVAILING WAGE RATE**

	01/01/19
Foreman	W49.72 B44.34 T94.06
General Foreman	W51.72 B45.34 T97.06
Journeyman	W44.72 B42.70 T87.42

**Craft: Boilermaker                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	65%	70%	75%	80%	85%	90%	95%			
Benefit =	36.36	37.26	38.18	39.07	39.39	40.89	41.79			

**Ratio of Apprentices to Journeymen - \***

\* 1 apprentice will be allowed for the first 5 journeymen, 1 apprentice for the next 10 journeymen and 1 apprentice for each succeeding 20 journeymen up to a maximum of 5 apprentices per contractor on any one job.

**Craft: Boilermaker                      COMMENTS/NOTES**

HIGH WORK: All apprentices working on the erection, repair, or dismantling of smoke stacks, standpipes, or water towers shall be paid the Journeyman rate.

The regular workday shall consist of 8 hours, between 8:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall work 7½ hours and receive 8 hours pay, at a rate equal to the regular hourly rate plus 10%.
- The third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the regular hourly rate plus 20%.
- For "Municipal Water Works" projects only, the following shall apply: Two, four day, 10 hour shifts may be worked at straight time Monday through Thursday. The day shift shall work four days, at 10 hours, for 10 hours pay. The second shift shall work four days, at nine and a half hours, for 10 hours pay, plus 10% the hourly rate for new work and .25 cents on repair work. Friday may be used as a make-up day at straight time, due to weather conditions, holiday or any other circumstances beyond the employer's control.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays (except Labor Day) shall be paid at double the hourly rate. All hours on Labor Day shall be paid at four times the hourly rate.
- If any other craft employed by the same contractor, or a subcontractor thereof, receives double time in lieu of time and one-half, then the Boilermaker shall receive double time in lieu of time and one-half.
- For "Municipal Water Works" projects only, the following shall apply: Four 10 hour days may be worked Monday through Thursday at straight time. Friday may be used as a make-up day for a day lost to inclement weather, holiday or other conditions beyond the control of the employer. Overtime shall be paid for any hours that exceed 10 hours per day or 40 hours per week.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Boilermaker - Minor Repairs**

**PREVAILING WAGE RATE**

	01/01/19
Foreman	W32.80 B16.37 T49.17
General Foreman	W33.30 B16.37 T49.67
Mechanic	W31.30 B16.37 T47.67

**Craft: Boilermaker - Minor Repairs**

**COMMENTS/NOTES**

NOTE: These rates apply to MINOR REPAIR WORK ONLY (repair work in the field for which the contract amount does not exceed \$125,000.00).

**OVERTIME:**

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays (except Labor Day) shall be paid at double the hourly rate. All hours on Labor Day shall be paid at four times the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Thanksgiving Day, day after Thanksgiving, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Bricklayer, Stone Mason**

**PREVAILING WAGE RATE**

	05/01/19
Deputy Foreman	W46.20 B33.03 T79.23
Foreman	W49.20 B33.03 T82.23
Journeyman	W43.20 B33.03 T76.23

**Craft: Bricklayer, Stone Mason**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	50%	55%	60%	65%	70%	75%	80%		
6 Months										
Benefits	3.86	4.83	5.31	5.80	21.83	23.27	24.72	26.15		

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Bricklayer, Stone Mason**

**COMMENTS/NOTES**

The regular workday shall consist of 8 hours, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- When a 2 shift schedule (including a day shift) is established, the first, or day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 10%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 10%, inclusive of benefits, and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 10%, inclusive of benefits, and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 10%, inclusive of benefits.

**OVERTIME:**

- The first 2 hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime shall be paid at double the regular rate, inclusive of benefits. The first 10 hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime shall be paid at double the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Saturday may be used as a make-up day for hours lost to inclement weather.
- When Bricklayers/Stone Masons work on Saturday with Laborers, and no other crafts are working on the project for the day, benefits may be paid at straight time. If other crafts are present, the applicable overtime rate for benefits shall be paid.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Carpenter**

**PREVAILING WAGE RATE**

	05/10/19
Foreman	W58.00 B33.64 T91.64
Journeyman	W50.43 B29.33 T79.76

**Craft: Carpenter**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES										
Yearly	40%	55%	65%	80%	90%						
Benefit	57% of	Appren	tice	Wage	for all	intervals	+ \$0.59				

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Carpenter**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

- When there are 2 or more Carpenters on a job, 1 shall be designated as a Foreman.
- When there are 21 or more Carpenters on a job, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours, starting between 7:00 AM and 9:00 AM.

**SHIFT DIFFERENTIALS:**

- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15% and the third shift shall receive the regular rate plus 20%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 15% and the third shift shall receive the regular rate plus 20%, inclusive of benefits.

**OVERTIME:**

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Carpenter - Resilient Flooring**

**PREVAILING WAGE RATE**

	05/10/19
Foreman	W58.00 B33.55 T91.55
Journeyman	W50.43 B29.24 T79.67

**Craft: Carpenter - Resilient Flooring**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	40%	55%	65%	80%	90%					
Benefit	57%	of	Appren	tice	Wage	for all	intervals	+ \$0.49		
					Rate					

**Ratio of Apprentices to Journeymen - \***

\* 1 apprentice shall be allowed to every 2 journeymen or major fraction thereof. No more than 3 apprentices on any one job or project.

**Craft: Carpenter - Resilient Flooring**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

- On any job where there are 4 or more Carpenters of Resilient Flooring, 1 must be designated a Foreman.

**FOR SYNTHETIC TURF INSTALLATION ONLY:**

- The rate shall be 90% of the wage and benefit rate.

The regular workday consists of 8 hours, starting between 6:00 AM and 9:00 AM.

**SHIFT DIFFERENTIALS:**

- When a 2 shift schedule (including a day shift) is established, the day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular wage rate plus 15%.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular wage rate, the second shift shall receive the regular wage rate plus 15% and the third shift shall receive the regular wage rate plus 20%.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular wage rate plus 15% and the third shift shall receive the regular wage rate plus 20%.

**OVERTIME:**

- Hours in excess of 8 per day or 40 per week, or before or after the regular workday, Monday through Friday, shall be paid at time and one-half the wage rate. Saturday may be used as a make-up day, at straight time, up to 8 hours, for hours lost to reasons beyond the control of the employer, up to a total of 40 hours per week; hours in excess of 8 on Saturday shall then be paid at time and one-half the wage rate. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the wage rate. All hours on Sundays and holidays shall be paid at double the wage rate.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for hours lost to reasons beyond the control of the employer. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the wage rate.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Cement Mason**

**PREVAILING WAGE RATE**

See "Bricklayer, Stone Mason" Rates

**Craft: Cement Mason**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Cement Mason**

**COMMENTS/NOTES**

\*\*\*See "Bricklayer, Stone Mason" Rates\*\*\*

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Diver                      PREVAILING WAGE RATE**

	06/18/19
Diver	W59.74 B47.47 T107.21
Tender	W48.00 B47.47 T95.47

**Craft: Diver                      COMMENTS/NOTES**

NOTE: All dive crews must consist of a Tender, a Diver, and a standby Diver (standby Diver is the same rate as a Diver).

DEPTH & PENETRATION RATES: Divers shall be paid the following depth and penetration rates, in addition to the regular hourly rate, when applicable:

**AIR DIVES:**

0-59 feet: No additional wage  
60-74 feet: + \$0.25 per foot  
75-125 feet: + \$0.78 per foot

**MIXED GAS DIVES:**

0-74 feet: No additional wage  
75-125 feet: + \$1.00 per foot  
126-200 feet: + \$2.00 per foot

**PENETRATION DIVES:**

126-200 feet: + \$1.50 per foot  
201-275 feet: + \$1.75 per foot  
276-350 feet: + \$2.00 per foot  
351-425 feet: + \$2.50 per foot

**OVERTIME:**

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day, Christmas Day. Veterans' Day may be switched with the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Dockbuilder                      PREVAILING WAGE RATE**

	06/18/19
Foreman	W55.20 B47.47 T102.67
Foreman (Concrete Form Work)	W54.40 B34.36 T88.76
Journeyman	W48.00 B47.47 T95.47
Journeyman (Concrete Form Work)	W47.30 B34.36 T81.66

**Craft: Dockbuilder                      APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	19.20	24.00	31.20	38.40						
Benefit	31.56	for all	intervals							

**Ratio of Apprentices to Journeymen - \***

\* When there are 4 or fewer Dockbuilders on a job, no more than 1 may be an apprentice. When there are 5 or more Dockbuilders, there may be 1 apprentice for every 5 Dockbuilders.

**Craft: Dockbuilder                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR CONCRETE FORM WORK ONLY:

INTERVAL	PERIOD AND RATES			
Yearly	18.92	23.65	30.75	37.84
Benefits	23.60 for all intervals			

**CREOSOTE HANDLING:**

When handling creosote products on land piledriving, floating marine construction, and construction of wharves, the worker shall receive an additional \$0.25 per hour.

**HAZARDOUS WASTE WORK:**

- Hazardous waste removal work on a state or federally designated hazardous waste site where Level A, B, or C personal protection is required: an additional 20% of the hourly rate, per hour.
- Hazardous waste removal work in Level D, or where personal protection is not required: an additional \$1.00 per hour.

**CERTIFIED WELDER:** When required on the job by the project owner, a Certified Welder shall receive an additional \$1.00 per hour.

**FOREMAN REQUIREMENTS:**

The first Dockbuilder on the job shall be designated a Foreman.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**OVERTIME:**

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day, Christmas Day. Veterans' Day may be switched with the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Drywall Finisher**

**PREVAILING WAGE RATE**

	11/01/18
Foreman	W43.95 B24.40 T68.35
General Foreman	W45.94 B24.40 T70.34
Journeyman	W39.95 B24.40 T64.35

**Craft: Drywall Finisher**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	50%		60%	70%		80%	90%		
6 Months										
Benefits	Intervals	1 to 2 =	10.65	Intervals	3 to 4 =	13.17	Intervals	5 to 6 =	16.25	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Drywall Finisher**

**COMMENTS/NOTES**

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, and the third shift shall receive 8 hours pay for 7 hours of work.
- Shift work must run for a minimum of 5 consecutive workdays.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician**

**PREVAILING WAGE RATE**

	06/24/19	06/01/20	05/31/21
Cable Splicer	W62.74 B36.71 T99.45	W63.83 B37.99 T101.82	W64.92 B39.29 T104.21
Foreman (11-20 Journeymen)	W66.73 B39.04 T105.77	W67.90 B40.41 T108.31	W69.05 B41.78 T110.83
Foreman (1-3 Journeymen)	W62.74 B36.71 T99.45	W63.83 B37.99 T101.82	W64.92 B39.29 T104.21
Foreman (4-10 Journeymen)	W65.59 B38.38 T103.97	W66.74 B39.72 T106.46	W67.87 B41.07 T108.94
General Foreman (21-30 Journeymen)	W68.44 B40.04 T108.48	W69.64 B41.44 T111.08	W70.82 B42.85 T113.67
General Foreman (31-60 Journeymen)	W74.15 B43.38 T117.53	W75.44 B44.89 T120.33	W76.72 B46.42 T123.14
General Foreman (61+ Journeymen)	W75.29 B44.05 T119.34	W76.60 B45.58 T122.18	W77.90 B47.13 T125.03
Journeyman	W57.03 B33.37 T90.40	W58.03 B34.54 T92.57	W59.02 B35.72 T94.74
Sub-Foreman	W65.02 B38.03 T103.05	W66.16 B39.37 T105.53	W67.28 B40.71 T107.99

**Craft: Electrician**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	Yearly	40%	49%	58%	68%	80%		of Jour	neyman	Wage
Benefit	40%	49%	58%	68%	80%		of Jour	neyman	Benefit	Rate

**Ratio of Apprentices to Journeymen - 2:3**

**Craft: Electrician**

**COMMENTS/NOTES**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**THESE RATES ALSO APPLY TO THE FOLLOWING:**

- All burglar and fire alarm work.
- All fiber optic work.
- Teledata work in new construction.
- Teledata work involving 16 Voice/Data Lines or more.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

**FOREMAN REQUIREMENTS:**

- 1 to 3 Journeymen- 1 must be a Foreman (Foreman/1-3 Journeymen rate).
- 4 to 10 Journeymen- 1 must be a Foreman (Foreman/4-10 Journeymen rate).
- 11 to 20 Journeymen- 1 must be Foreman (Foreman/11-20 Journeymen rate) and 1 must be a Sub-Foreman.
- 21 to 30 Journeymen- 1 must be a General Foreman (General Foreman/21-30 Journeymen rate) and 2 must be a Sub-Foreman.
- 31 to 40 Journeymen- 1 must be a General Foreman (General Foreman/31-40 Journeymen rate) and 3 must be a Sub-Foreman.
- 41 to 50 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 4 must be a Sub-Foreman.
- 51 to 60 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 5 must be a Sub-Foreman.
- 61+ Journeymen- 1 must be a General Foreman (General Foreman/61+ Journeymen rate) and 6 must be a Sub-Foreman.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM) shall receive 8 hours pay for 7.5 hours work + an additional 10% of the regular rate, per hour, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM) shall receive 8 hours pay for 7 hours work + an additional 15% of the regular rate, per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)**

**PREVAILING WAGE RATE**

	10/29/18	10/28/19	11/02/20
Master	W54.86	W56.16	W57.42
Technician/General	B30.17	B30.89	B31.58
Foreman	T85.03	T87.05	T89.00
Senior Technician/Lead Foreman (21-30 Workers on Job)	W50.22 B27.62 T77.84	W51.41 B28.27 T79.68	W52.56 B28.91 T81.47
Technician A/Foreman (11-20 Workers on Job)	W48.11 B26.46 T74.57	W49.25 B27.08 T76.33	W50.35 B27.69 T78.04
Technician B/Working Foreman (4-10 Workers on Job)	W46.00 B25.30 T71.30	W47.09 B25.90 T72.99	W48.15 B26.47 T74.62
Technician C/Journeyman (1-3 Workers on Job)	W42.20 B23.21 T65.41	W43.20 B23.76 T66.96	W44.17 B24.29 T68.46

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>										
6 Months						66%	72%	79%	86%		
Benefits						11.81	12.89	14.14	15.40		

**Ratio of Apprentices to Journeymen - 2:3**

**Craft: Electrician - Teledata (15 Voice/Data Lines & Less)**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 10-31-14:

INTERVAL	PERIOD AND RATES										
6 Months	35%	35%	40%	43%	48%	54%	61%	67%	74%	81%	
Benefits	6.76	6.76	7.16	7.70	8.59	9.66	10.82	11.99	13.25	14.51	

NOTES:

- These rates are for service, maintenance, moves, and/or changes affecting 15 Voice/Data (teledata) lines or less. These rates may NOT be used for any teledata work in new construction (including additions) or any fiber optic work.
- The number of Teledata workers on the jobsite is the determining factor for which Foreman category applies .

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 5 consecutive workdays.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

- 2nd Shift (4:30 PM to 12:30 AM) shall receive 8 hours pay for 7.5 hours work + an additional 10% of the regular rate, per hour, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM) shall receive 8 hours pay for 7 hours work + an additional 15% of the regular rate, per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician - Teledata (16 Instruments & More)**

**PREVAILING WAGE RATE**

See "Electrician" Rates

**Craft: Electrician - Teledata (16 Instruments & More)**

**COMMENTS/NOTES**

\*\*\*See ELECTRICIAN Rates\*\*\*

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician- Outside Commercial**

**PREVAILING WAGE RATE**

	06/24/19	06/01/20	05/31/21
Cable Splicer	W63.04 B36.41 T99.45	W64.14 B37.69 T101.83	W65.22 B38.97 T104.19
Certified Welder	W60.17 B34.75 T94.92	W61.22 B35.97 T97.19	W62.26 B37.21 T99.47
Equipment Operator	W57.31 B33.10 T90.41	W58.31 B34.26 T92.57	W59.29 B35.43 T94.72
Foreman (1-3 Journeymen workers on job)	W63.04 B36.41 T99.45	W64.14 B37.69 T101.83	W65.22 B38.97 T104.19
Foreman (4-10 Journeymen workers on job)	W65.90 B38.06 T103.96	W67.06 B39.40 T106.46	W68.19 B40.75 T108.94
General Foreman (11-20 Journeymen workers on job)	W67.05 B38.73 T105.78	W68.22 B40.08 T108.30	W69.37 B41.45 T110.82
General Foreman (21-30 Journeymen workers on job)	W68.77 B39.72 T108.49	W69.97 B41.11 T111.08	W71.16 B42.52 T113.68
General Foreman (31-60 Journeymen workers on job)	W74.50 B43.03 T117.53	W75.80 B44.54 T120.34	W77.08 B46.06 T123.14
General Foreman (61+ Journeymen workers on job)	W75.65 B43.69 T119.34	W76.96 B45.22 T122.18	W78.27 B46.77 T125.04
Groundman	W34.39 B19.87 T54.26	W34.99 B20.56 T55.55	W35.58 B21.26 T56.84
Journeyman Lineman/Technician	W57.31 B33.10 T90.41	W58.31 B34.26 T92.57	W59.29 B35.43 T94.72
Sub-Foreman	W65.33 B37.73 T103.06	W66.47 B39.06 T105.53	W67.60 B40.40 T108.00

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician- Outside Commercial

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
1000 Hours	60%	65%	70%	75%	80%	85%	90%			
Benefits	57.75% of	Journey	man	wage	+	\$.01				

Craft: Electrician- Outside Commercial

**COMMENTS/NOTES**

EFFECTIVE 6-1-20- The apprentice benefit rate shall be 58.75% + \$.01.  
EFFECTIVE 5-31-21- The apprentice benefit rate shall be 59.75% + \$.01.

\* FOR UTILITY WORK PLEASE SEE STATEWIDE RATES

The regular worday shall be 8 hours, between 8:00 AM and 4:30 PM.

**FOREMAN REQUIREMENTS:**

- 1 to 3 Journeymen- 1 must be a Foreman (Foreman/1-3 Journeymen rate).
- 4 to 10 Journeymen- 1 must be a Foreman (Foreman/4-10 Journeymen rate).
- 11 to 20 Journeymen- 1 must be Foreman (Foreman/11-20 Journeymen rate) and 1 must be a Sub-Foreman.
- 21 to 30 Journeymen- 1 must be a General Foreman (General Foreman/21-30 Journeymen rate) and 2 must be a Sub-Foreman.
- 31 to 40 Journeymen- 1 must be a General Foreman (General Foreman/31-40 Journeymen rate) and 3 must be a Sub-Foreman.
- 41 to 50 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 4 must be a Sub-Foreman.
- 51 to 60 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 5 must be a Sub-Foreman.
- 61+ Journeymen- 1 must be a General Foreman (General Foreman/61+ Journeymen rate) and 6 must be a Sub-Foreman.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM): 8 hrs. pay for 7.5 hrs. work + an additional 10% of the regular rate, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM): 8 hrs. pay for 7 hrs. work + an additional 15% of the regular rate per hour, inclusive benefits.

**OVERTIME:**

Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:**

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician-Utility Work (North)**

**PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

**Craft: Electrician-Utility Work (North)**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
* 6 Months	60%	65%	70%	75%	80%	85%	90%			
Benefits	67% of	Appren	tice	Wage	Rate	for all	intervals			

**Craft: Electrician-Utility Work (North)**

**COMMENTS/NOTES**

Electrician-Utility Work (North) rates are located in the "Statewide" rate package.

\* The apprentice wage rate is paid at the percentage of the Journeyman Lineman wage rate located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Electrician-Utility Work (South)**

**PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

**Craft: Electrician-Utility Work (South)**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	28.53	30.91	33.29	35.66	38.04	40.42	42.80			
Benefits	25.01	26.41	27.83	29.24	30.65	32.05	33.47			

**Craft: Electrician-Utility Work (South)**

**COMMENTS/NOTES**

Electrician-Utility Work (South) rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Elevator Constructor**

**PREVAILING WAGE RATE**

	05/10/19	03/17/20	03/17/21	03/17/22	03/17/23
Journeyman	W66.95 B40.93 T107.88	W69.56 B41.92 T111.48	W72.29 B42.92 T115.21	W75.14 B43.91 T119.05	W77.49 B45.57 T123.06

**Craft: Elevator Constructor**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	29.85	36.82	43.52	50.21						
Benefits	32.71	33.51	34.80	36.09						

**Ratio of Apprentices to Journeymen - 1:1**

**Craft: Elevator Constructor**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 3-17-20:

INTERVAL	PERIOD AND RATES			
Yearly	31.03	38.26	45.21	52.17
Benefits	33.38	34.20	35.55	36.89

APPRENTICE RATE SCHEDULE AS OF 3-17-21:

INTERVAL	PERIOD AND RATES			
Yearly	32.27	39.76	46.99	54.22
Benefits	34.05	34.91	36.30	37.70

APPRENTICE RATE SCHEDULE AS OF 3-17-22:

INTERVAL	PERIOD AND RATES			
Yearly	33.56	41.33	48.84	56.36
Benefits	34.72	35.61	37.05	38.50

APPRENTICE RATE SCHEDULE AS OF 3-17-23:

INTERVAL	PERIOD AND RATES			
Yearly	34.60	42.62	50.37	58.12
Benefits	36.02	36.94	38.50	39.95

The regular workday shall consist of either 7 or 8 hours to be established at the beginning of the project, between 7:00 AM and 4:30 PM.

**OVERTIME:**

For all hours worked before or after the regular workday, Monday through Friday, and all hours on Saturday and Sunday, shall be paid at double the hourly rate. Holiday pay is one days wages (8 hours) plus double the hourly rate for all hours worked.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays shall be observed on the previous Friday and Sunday holidays shall be observed on the following Monday.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Elevator Modernization & Service

**PREVAILING WAGE RATE**

	05/10/19	03/17/20	03/17/21	03/17/22	03/17/23
Journeyman	W52.44	W54.56	W56.77	W59.09	W60.89
	B39.90	B40.86	B41.82	B42.79	B44.41
	T92.34	T95.42	T98.59	T101.88	T105.30

Craft: Elevator Modernization & Service

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	29.85	28.84	34.09	39.33						
Benefits	32.66	33.13	34.36	35.58						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 3-17-20:

INTERVAL	PERIOD AND RATES			
Yearly	31.03	30.01	35.46	40.92
Benefits	33.33	33.82	35.09	36.36

APPRENTICE RATE SCHEDULE AS OF 3-17-21:

INTERVAL	PERIOD AND RATES			
Yearly	32.27	31.22	36.90	42.58
Benefits	34.00	34.50	35.83	37.15

APPRENTICE RATE SCHEDULE AS OF 3-17-22:

INTERVAL	PERIOD AND RATES			
Yearly	33.56	32.50	38.41	44.32
Benefits	34.67	34.20	35.20	37.94

APPRENTICE RATE SCHEDULE AS OF 3-17-23:

INTERVAL	PERIOD AND RATES			
Yearly	34.60	33.49	39.58	45.67
Benefits	35.97	36.53	37.95	39.38

MODERNIZATION (addition, replacement, refurbishing, relocation, or changes in design or appearance, of elevator equipment in existing buildings):

- The regular workday consists of 8 hours, between 7:00 AM and 4:30 PM.

- Overtime:

Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturday and Sunday shall be paid at time and one-half the hourly rate. Holiday pay is one days wages (8 hours) plus time and one-half the hourly rate for all hours worked.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

SERVICE (repair or replacement of parts for the purpose of maintaining elevator equipment in good operating condition):

- The regular workday consists of 8 hours, between 6:00 AM and 6:00 PM.

- Overtime:

Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS (Modernization and Service): New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays shall be observed on the previous Friday and Sunday holidays shall be observed on the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Glazier                      PREVAILING WAGE RATE**

	05/01/19
* Leadman	W49.11 B25.06 T74.17
Foreman	W52.81 B23.62 T76.43
General Foreman	W54.81 B23.75 T78.56
Journeyman	W48.81 B23.36 T72.17

**Craft: Glazier                      APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
6 Months	50%	55%		60%	65%		70%	75%		
Benefits	Intervals	1 to 2 =	9.11	Intervals	3 to 4 =	11.71	Intervals	5 to 6 =	13.20	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Glazier                      COMMENTS/NOTES**

Hazard/Height Pay: +\$1.00 per hour

\* When there are three (3) men working on a jobsite for three (3) days or longer, 1 Journeyman may be designated as a Leadman for the duration of the job, provided he has his OSHA certification.

**FOREMAN REQUIREMENTS:**

- When there are 4 or more Glaziers on a job, 1 must be designated a Foreman.
- When there are 15 or more Glaziers on a job, 1 must be designated a General Foreman.

The regular workday shall consist of 8 hours, between 7:00 AM and 5:30 PM, Monday to Friday.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, and the third shift shall receive 8 hours pay for 7 hours of work.

**OVERTIME:**

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Heat & Frost Insulator**

**PREVAILING WAGE RATE**

	09/19/18
Foreman	W55.77 B31.92 T87.69
General Foreman	W58.11 B33.03 T91.14
Journeyman	W53.99 B31.36 T85.35

**Craft: Heat & Frost Insulator**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	25.15	29.84	36.00	42.16						
Benefits	18.71	22.13	24.41	26.56						

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Heat & Frost Insulator**

**COMMENTS/NOTES**

NOTE: These rates apply to the installing of insulation on hot and cold mechanical systems.

The regular workday shall be 8 hours between 8:00 AM and 4:30 PM.

**SHIFT DIFFERENTIAL:**

- Shift work must run for a minimum of 5 consecutive workdays.
- Second Shift shall work 7.5 hours and receive 8 hours pay, at the regular rate, plus 25% per hour.
- Third Shift shall work 7 hours and receive 8 hours pay, at the regular rate, plus 30% per hour.

**OVERTIME:**

The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day and Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Heat & Frost Insulator - Asbestos Worker**

**PREVAILING WAGE RATE**

	09/19/18
Asbestos Helper Abatement	W36.00 B24.41 T60.41
Firestop/Hazmat	W25.68 B9.25 T34.93

**Craft: Heat & Frost Insulator - Asbestos Worker**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	HEAT &	FROST	INSULAT OR						

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Heat & Frost Insulator - Asbestos Worker**

**COMMENTS/NOTES**

NOTE: These rates apply only to the removal of insulation materials/asbestos from mechanical systems, including containment erection and demolition, and placing material in appropriate containers.

The regular workday shall be 8 hours between 8:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- The second shift shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 25% per hour.
- The third shift shall work 7 hours and receive 8 hours pay at the regular rate, plus 30% per hour.

**OVERTIME:** The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day and Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Ironworker                      PREVAILING WAGE RATE**

	07/01/19	07/01/20
Rod /Fence Foreman	W45.39 B47.12 T92.51	W0.00 B0.00 T94.26
Rod/Fence Journeyman	W42.39 B47.12 T89.51	W0.00 B0.00 T91.26
Structural Foreman	W47.44 B47.12 T94.56	W0.00 B0.00 T96.56
Structural Journeyman	W44.44 B47.12 T91.56	W0.00 B0.00 T93.56

**Craft: Ironworker                      APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
6 Months	50%	60%		Yearly	70%	80%	90%			

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Ironworker                      COMMENTS/NOTES**

**HAZARDOUS WASTE WORK:** On hazardous waste removal work on a state or federally designated hazardous waste site where the Ironworker is required to wear Level A,B, or C personal protection: + \$3.00 per hour

The regular workday consists of 8 hours between 6:00 AM and 4:30 PM.

**FOREMAN REQUIREMENTS:**

When there are 2 or more Ironworkers on a job, 1 shall be designated a Foreman.

**SHIFT DIFFERENTIALS:**

- When a 2 shift schedule is established, the first, or day shift , shall be established on an 8 hour basis .The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%.

- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15%, and the third shift shall receive the regular rate plus 20%.

- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis.

- When an irregular shift is established for the Ironworker (Structural) classification, the rate shall be paid at time and one-half the regular rate, inclusive of benefits. When an irregular shift is established for the Rod/Fence classification, the shift shall be established on an 8 hour basis and receive the regular rate, plus 20%.

**OVERTIME:**

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits. Saturday may be used as a make-up day for a day lost to inclement weather. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits.

- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**PREVAILING WAGE RATE**

	08/01/18
Journeyman (Handler)	W31.48 B22.31 T53.79

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	18.89	22.04	25.18	28.33						
Benefits	20.66	for	all	intervals						

**Ratio of Apprentices to Journeymen - \***

\* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**COMMENTS/NOTES**

NOTE: These rates apply to work in connection with Asbestos, Radiation, Hazardous Waste, Lead, Chemical, Biological, Mold Remediation and Abatement.

The regular workday shall be 8 hours.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Saturday, and all hours on Sunday and holidays shall be paid at time and one-half the regular rate.
- Benefits on ALL overtime hours shall be paid at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Good Friday, Easter, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. (Holidays start at 12:00 am).

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Laborer - Building**

**PREVAILING WAGE RATE**

	05/01/19	05/01/20
Class A Journeyman	W34.05 B29.52 T63.57	W0.00 B0.00 T64.87
Class B Journeyman	W33.55 B29.52 T63.07	W0.00 B0.00 T64.37
Class C Journeyman	W28.52 B29.52 T58.04	W0.00 B0.00 T59.34
Foreman	W38.31 B29.52 T67.83	W0.00 B0.00 T69.13
General Foreman	W42.56 B29.52 T72.08	W0.00 B0.00 T73.38

**Craft: Laborer - Building**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	60%	70%	80%	90%						
6 Months										
Benefit	26.27	26.27	26.27	26.27						

**Ratio of Apprentices to Journeymen - \***

\* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

**Craft: Laborer - Building**

**COMMENTS/NOTES**

CLASS A: Specialist laborer including mason tender or concrete pour crew; scaffold builder (scaffolds up to 14 feet in height); operator of forklifts, Bobcats (or equivalent machinery), jack hammers, tampers, motorized tampers and compactors, vibrators, street cleaning machines, hydro demolition equipment, riding motor buggies, conveyors, burners; and nozzlemen on gunite work.

CLASS B: Basic laborer - includes all laborer work not listed in Class A or Class C.

CLASS C: Janitorial-type light clean-up work associated with the TURNOVER of a project, or part of a project, to the owner. All other clean-up work is Class B.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- When a 2-shift schedule is worked, including a day shift, both shifts shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%.
- When a 3-shift schedule is worked, the day shift shall be established on the basis of 8 hours pay for 8 hours worked, the second shift shall be established on the basis of 8 hours pay for 7.5 hours worked, and the third shift shall be established

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

on the basis of 8 hours pay for 7 hours worked. The day shift shall receive the regular rate, the second shift shall receive the regular rate plus an additional 10%, and the third shift shall receive the regular rate plus an additional 15%.

- When a second or third shift is worked with no day shift, the second or third shift shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%, and the third shift shall receive the regular rate plus an additional 15%.

**OVERTIME:**

- Hours in excess of 8 per day, or outside the regular workday that are not shift work, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. Saturday may be used as a make-up day (paid at straight time) for a day lost to inclement weather, or for a holiday that is observed during the work week, Monday through Friday. All hours on Sundays and holidays shall be paid at double the regular rate.

- Four 10-hour days may be worked Monday to Thursday, at straight time, with Friday used a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the regular rate.

- Benefits on ALL overtime hours shall be paid at time and one-half.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Laborer - Heavy & General**

**PREVAILING WAGE RATE**

Rates are located in the  
"Statewide" rate package

**Craft: Laborer - Heavy & General**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	70%	80%	90%						
Benefit	20.28	for	all	intervals						

**Ratio of Apprentices to Journeymen - \***

\* No more than 1 apprentice for the first journeyman and no more than 1 apprentice for each additional 3 journeymen.

**Craft: Laborer - Heavy & General**

**COMMENTS/NOTES**

As of 3-1-19, benefits shall be \$21.03.

As of 3-1-20, benefits shall be \$21.78.

Heavy & General Laborer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Laborer-Residential and Modular Construction**

**PREVAILING WAGE RATE**

	05/03/19	04/01/20
* Skilled Tradesman (only applies to Modular Construction)	W26.20 B5.45 T31.65	W26.55 B5.45 T32.00
Foreman (person directing crew, regardless of his skill classification)	W30.20 B5.45 T35.65	W30.55 B5.45 T36.00
Laborer	W22.20 B5.45 T27.65	W22.55 B5.45 T28.00
Laborer (for single family and stand-alone duplex owned by single owner)	W16.70 B2.95 T19.65	W17.05 B2.95 T20.00

**Craft: Laborer-Residential and Modular Construction**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	As shown	800 hours	600 hours	600 hours						
wage & benefits	70%	80%	90%							

Ratio of Apprentices to Journeymen-

One (1) apprentice shall be allowed for the first journeyman on site and no more than one (1) additional apprentice for each additional three (3) journeymen on site.

**Craft: Laborer-Residential and Modular Construction**

**COMMENTS/NOTES**

\* SKILLED TRADESMAN- any worker doing work not typically done by a Building Laborer. Some examples are installing interior doors, sheet rock, hooking up appliances, installing light fixtures, installing railing systems, etc. Please note where local building codes require that certain work be performed under the supervision of a licensed tradesman (i.e. Plumber, Electrician, etc.) Laborers shall work under such supervision.

RESIDENTIAL CONSTRUCTION- All residential construction (not commercial), single-family, stand-alone duplex houses, townhouses and multi-family buildings of not more than four (4) floors. Each housing unit must be fully and independently functional; each housing unit must have its own kitchen and bathroom. The definition includes all incidental items such as site work, parking areas, utilities, streets and sidewalks. Please note the construction must be Residential in nature. A First Floor at or below grade may contain commercial space not to exceed 50% square footage of the floor; at least 50% of the First Floor must contain living accommodations or related nonresidential uses (e.g. laundry space, recreation/hobby rooms, and/or corridor space). Basement stories below grade used for storage, parking, mechanical systems/equipment, etc., are considered basement stories which are not used in determining the building's height. An attic is an unfinished space located immediately below the roof. Such space is not used in determining a building's height even if used for storage purposes. In addition, barracks and dormitories are not considered residential projects.

MODULAR RESIDENTIAL CONSTRUCTION- all aspects of modular residential construction (not commercial) at the site of installation of structures of no more than four (4) stories, including all excavation and site preparation, footings and

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

foundation systems whether poured on-site or prefabricated, all underground waterproofing, underground utilities, concrete slabs, sidewalks, driveways, paving, hardscape and landscaping. Please note the construction must be Residential as defined above. All work performed by the Set Crew (the crew of workers who set the modular boxes on the foundation), including the rigging, setting, attaching and assembly of all modules and structural members, preparation of the foundation to accept modules, such as sill plates, connection of all in-module and under-module connections including, but not limited to, plumbing, electrical, HVAC, fire suppression, CATS, telephone, television/internet, and fiber optic, the building or installation of any porches or decks regardless of material or method of construction, the on-site installation of, or completion of any roof system, doors, windows and fenestrations, including flashing, gutter and soffit systems, waterproofing, insulation and interior and exterior trim work, and painting. Please note that modular construction does not include on-site stick built construction, tip up construction or panel built construction.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

**OVERTIME:**

Hours worked in excess of 8 per day/40 per week, Monday through Saturday, and all hours worked on Sunday and holidays shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOILDAYS:**

New Year's Day, Martin Luther King Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day.







**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Operating Engineer - Field Engineer**

**PREVAILING WAGE RATE**

Rates are located in the  
"Statewide" rate package

**Craft: Operating Engineer - Field Engineer**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	70%	75%	of Rod/	Chainman	Wage					
Yearly			80%	90%	Transit/	Instrument	man	Wage		

**Ratio of Apprentices to Journeymen - \***

\* No more than 1 Field Engineer Apprentice per Survey Crew.

**Craft: Operating Engineer - Field Engineer**

**COMMENTS/NOTES**

Operating Engineer - Field Engineer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Painter - Bridges**

**PREVAILING WAGE RATE**

	05/03/19
Foreman	W59.81 B28.74 T88.55
General Foreman	W61.81 B28.74 T90.55
Journeyman	W54.81 B28.74 T83.55

**Craft: Painter - Bridges**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	50%			60%	70%		80%	90%	
6 Months										
Benefits	Intervals	1 to 2 =	10.00	Intervals	3 to 4 =	12.27	Intervals	5 to 6 =	15.28	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Painter - Bridges**

**COMMENTS/NOTES**

These rates apply to: All bridges that span waterways, roadways, railways and canyons. All tunnels, overpasses, viaducts and all appurtenances.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Painter - Line Striping**

**PREVAILING WAGE RATE**

	05/03/19
Apprentice (1st year)	W26.44 B11.65 T38.09
Apprentice (2nd year)	W30.44 B19.16 T49.60
Foreman (Charge Person)	W39.09 B19.94 T59.03
Journeyman 1 (at least 1 year of working exp. as a journeyman)	W34.32 B19.94 T54.26
Journeyman 2 (at least 2 years of working exp. as a journeyman)	W38.09 B19.94 T58.03

**Craft: Painter - Line Striping**

**COMMENTS/NOTES**

**OVERTIME:**

Hours in excess of 8 per day, Monday through Saturday, and all hours on Sundays and holidays shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day. Veterans Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Painter - New Construction**

**PREVAILING WAGE RATE**

	05/01/19	05/01/20
Foreman	W45.45 B24.35 T69.80	W47.45 B24.35 T71.80
General Foreman	W49.43 B24.67 T74.10	W51.43 B24.67 T76.10
Journeyman	W41.47 B24.04 T65.51	W43.47 B24.04 T67.51

**Craft: Painter - New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	45%	55%	65%	70%	75%	80%	80%		
6 Months										
Benefits	8.05	8.05	10.05	10.05	11.05	11.05	14.05	14.05		

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Painter - New Construction**

**COMMENTS/NOTES**

Spraying, sandblasting, lead abatement, work on tanks or stacks, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Painter - Repainting**

**PREVAILING WAGE RATE**

	05/01/19	05/01/20
Foreman	W33.07 B19.95 T53.02	W33.92 B19.95 T53.87
General Foreman	W36.00 B20.10 T56.10	W36.85 B20.10 T56.95
Journeyman	W30.14 B19.77 T49.91	W30.99 B19.77 T50.76

**Craft: Painter - Repainting**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	NEW	CONSTR UC	TION					

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Painter - Repainting**

**COMMENTS/NOTES**

NOTE: These rates may only be used on jobs where no major alterations (only doing painting and carpeting with nothing else being changed in the office or on the project) occur, and where not more than 3 other trades are present on the job, but may NOT, under any circumstances, be used for work on bridges, stacks, elevated tank, or generating stations.

Spraying, sandblasting, lead abatement, work on tanks or stacks, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

**OVERTIME:**

- Hours in excess of 8 per day and 40 per week shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.
- Four 10-hour days may be worked, at straight time, Monday through Sunday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Painter- Containment

PREVAILING WAGE RATE

	05/04/17
Journeyman	W35.18 B24.75 T59.93

Craft: Painter- Containment

COMMENTS/NOTES

NOTE: These rates shall require no painting, but used in a supporting capacity only, such as wrapping, boxing, fencing, etc. on tanks.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate..

- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Painter-Elevated Water Tanks**

**PREVAILING WAGE RATE**

	05/04/17
Foreman	W48.92 B24.92 T73.84
General Foreman	W50.92 B24.92 T75.84
Journeyman	W43.92 B24.92 T68.84

**Craft: Painter-Elevated Water Tanks**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

**Craft: Painter-Elevated Water Tanks**

**COMMENTS/NOTES**

These rates apply to: All new and repaint elevated water tanks (interior and exterior).

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Painter-Structural Steel**

**PREVAILING WAGE RATE**

	05/04/17
Foreman	W47.87 B25.27 T73.14
General Foreman	W49.87 B25.27 T75.14
Journeyman	W42.87 B25.27 T68.14

**Craft: Painter-Structural Steel**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

**Craft: Painter-Structural Steel**

**COMMENTS/NOTES**

These rates apply to: All work in power plants (any aspect). On steeples, on dams, on hangers, transformers, substations, etc. and on open steel, whether new or repaint. All new work (excluding traditional commercial painting work) in refineries, tank farms, water/sewerage treatment facilities and on pipelines.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Paperhanger - New Construction**

**PREVAILING WAGE RATE**

	05/01/19	05/01/20
Foreman	W46.75 B24.11 T70.86	W47.68 B24.11 T71.79
Journeyman	W41.68 B24.11 T65.79	W42.61 B24.11 T66.72

**Craft: Paperhanger - New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	NEW	CONSTR	TION					
				UC						

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Paperhanger - New Construction**

**COMMENTS/NOTES**

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.

- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.

- Four 10-hour days may be worked, at straight time, Monday through Friday.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Paperhanger - Renovation**

**PREVAILING WAGE RATE**

	05/01/19	05/01/20
Foreman	W34.13 B19.81 T53.94	W35.15 B19.81 T54.96
Journeyman	W31.03 B19.81 T50.84	W31.96 B19.81 T51.77

**Craft: Paperhanger - Renovation**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
		SEE	PAINTER	NEW	CONSTR	TION				
					UC					

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Paperhanger - Renovation**

**COMMENTS/NOTES**

NOTE: These rates may only be used on jobs where no major alterations occur, and where not more than 3 other trades are present on the job, but may NOT, under any circumstances, be used for work on bridges, stacks, elevated tanks, or generating stations.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

**OVERTIME:**

- Hours in excess of 8 per day and 40 per week shall be paid at time and one-half the regular rate.
- Four 10-hour days may be worked, at straight time, Monday through Sunday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

County - UNION

**Craft: Pipefitter                                  PREVAILING WAGE RATE**

	05/01/19
Foreman	W53.91 B44.03 T97.94
Journeyman	W50.16 B40.98 T91.14

**Craft: Pipefitter                                  APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	75%					
Benefit	18.22	22.15	24.59	27.04	29.49					

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Pipefitter                                  COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 5-1-19:

INTERVAL	PERIOD AND RATES				
Yearly	35%	45%	55%	65%	75%
Benefits	20.35	22.83	25.31	27.79	30.28

**FOREMAN REQUIREMENTS:**

- When there are 2 or more Journeyman Pipefitters on a job, 1 shall be designated a Foreman.
- There shall be a Foreman for every 8 Journeyman Pipefitters on a job.

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM.

**SHIFT DIFFERENTIAL:**

- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour on the total rate.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour on the total rate.

**OVERTIME:**

- All hours worked in excess of 8 per day, Monday through Friday, and all hours worked on Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sunday and holidays shall be paid at double time, inclusive of benefits.
- By mutual agreement, employees may work four 10-hour days, Monday to Thursday, at straight time rate. Friday may be used as a make-up day for a day lost to inclement weather, and may be paid at straight time. If Friday is not a make-up day, the first 8 hours shall be paid at time and one-half, inclusive of benefits; hours in excess of 8 shall be paid at double time, inclusive of benefits.

**SHIFT DIFFERENTIAL (Maintenance Work Only):**

- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour on the

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

total rate.

- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour on the total rate.

OVERTIME (Maintenance Work Only):

- All hours in excess of 8 per day, Monday through Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sundays and holidays shall be paid at double time, inclusive of benefits.

NOTE: Maintenance work is work to repair, restore, or improve the efficiency of existing facilities. This does NOT apply to ANY new construction.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays are observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Plasterer**

**PREVAILING WAGE RATE**

See Bricklayer, Stone Mason Rates

**Craft: Plasterer**

**COMMENTS/NOTES**

\*\*\*See BRICKLAYER, STONE MASON Rates\*\*\*

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Plumber                      PREVAILING WAGE RATE**

	05/01/19
Foreman	W59.61 B35.77 T95.38
General Foreman	W63.47 B35.77 T99.24
Journeyman	W55.19 B35.77 T90.96

**Craft: Plumber                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	30%	45%	55%	65%	75%					
Benefits	13.35	19.71	21.51	23.34	25.13					

**Ratio of Apprentices to Journeymen - \***

\* Employers may employ 1 apprentice on any job where 1 or 2 journeymen are employed. Thereafter, 1 apprentice may be employed for every 4 journeymen.

**Craft: Plumber                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 5-1-19:

INTERVAL	PERIOD AND RATES				
Yearly	30%	45%	55%	65%	75%
Benefits	14.19	20.58	22.41	24.26	26.08

**FOREMAN REQUIREMENTS:**

- On any job having 2 or more Plumbers, 1 must be designated a Foreman.
- On any job having 9 or more Plumbers, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours between 7:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must continue for a minimum of 5 consecutive workdays.
- When two shifts are worked, the second shift shall work 7.5 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 10%, inclusive of benefits.
- When a third shift is worked, the third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 15%, inclusive of benefits.

**OVERTIME:**

- All hours in excess of 8 per day, or before of after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays, shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Roofer                      PREVAILING WAGE RATE**

	06/07/18
Foreman	W39.52 B26.28 T65.80
Journeyman	W37.52 B26.28 T63.80

**Craft: Roofer                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	15.00	18.76	22.51	26.26	30.01	33.77				
Benefits	0.00	0.00	21.40	21.40	21.40	21.40				

**Ratio of Apprentices to Journeymen - \***

- \* A) For roofing jobs that are of the 1 or single ply nature: 1:2 or fraction thereof
- B) For roofing jobs on new built up roofs: 1:3 or fraction thereof
- C) For roofing jobs that are of a tear-off nature: 1:2 or fraction thereof
- D) For roofing jobs {not requiring complete removal of existing systems, installation done over existing roof}: 1:3 or fraction thereof

**Craft: Roofer                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 4-1-17:

INTERVAL	PERIOD AND RATES							
6 Months	15.00	18.76	22.51	24.38	26.26	28.14	30.01	33.77
Benefits	0.00	0.00	21.40	21.40	21.40	21.40	21.40	21.40

Pitch: +.50 per hour

Mop Man: +.30 per hour

The regular workday consists of 8 hours between 8:00 AM and 4:30 PM.

**OVERTIME:**

Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays, Sundays, and holidays shall be paid at time and one-half the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Sheet Metal Sign Installation**

**PREVAILING WAGE RATE**

	04/03/19
Foreman	W36.79 B34.37 T71.16
Journeyman	W35.54 B34.37 T69.91

**Craft: Sheet Metal Sign Installation**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 hours	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
Benefits	11.63	13.26	14.88	16.52	18.57	20.23	21.90	23.56	25.23	26.90

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Sheet Metal Sign Installation**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENT:**

When there are 6 or more Sheet Metal Sign Installers on a job, 1 shall be designated a Foreman.

The regular workday consists of 8 hours, between 7:00 AM and 3:30 PM.

**OVERTIME:**

Hours before or after the regular workday, Monday through Friday, and all hours worked on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

Four(4) 10 hour days may be worked, Monday through Friday, at straight time, for projects lasting at least one week in duration. The fifth day may be used as a make-up day at straight time for a day lost due to inclement weather. However, if the fifth day is not a make-up day, all hours worked will be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Sheet Metal Worker**

**PREVAILING WAGE RATE**

	06/01/19	06/01/20
Foreman	W0.00 B0.00 T97.22	W0.00 B0.00 T100.47
General Foreman	W0.00 B0.00 T98.22	W0.00 B0.00 T101.47
Journeyman	W0.00 B0.00 T93.72	W0.00 B0.00 T96.97

**Craft: Sheet Metal Worker**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	of	Journey	man	Wage	Rate	
Benefit	35%	45%	55%	65%	of	Journey	man	Benefit	Rate	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Sheet Metal Worker**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

- When there are 2 or more Sheet Metal Workers on a project, 1 must be designated a Foreman.
- When there are 17 or more Sheet Metal Workers on a project, 1 must be designated a General Foreman.
- When there is only 1 Sheet Metal Worker (1 Journeyman) on a project, he/she shall receive \$1.00 more than the regular Journeyman's rate.

The regular workday is 8 hours between 7:00 AM and 4:30 PM.

**SHIFT DIFFERENTIAL:**

- 2nd Shift (3:30 PM - 12:00 AM) : +17% of regular hourly rate
- Shift work must run for a minimum of 5 consecutive workdays.

**OVERTIME:**

- Hours in excess of 8 per day, or before or after the regular workday, that are not shift work, and the first 10 hours on Saturdays shall be paid at time and one-half of the regular rate, inclusive of benefits. Hours in excess of 10 per day on Saturday, and all hours on Sundays and holidays shall be at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Friday, at straight time, with hours in excess of 10 per day, and hours in excess of 40 per week paid at the overtime rates listed above.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Sprinkler Fitter**

**PREVAILING WAGE RATE**

	07/02/19
Foreman	W66.15 B30.12 T96.27
General Foreman	W69.33 B30.12 T99.45
Journeyman	W61.90 B30.12 T92.02

**Craft: Sprinkler Fitter**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours									80%	85%
Benefits							Intervals	9 to 10	Jourymn	Ben.

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 7-1-13:

INTERVAL	PERIOD AND RATES									
1000 hours	25%	30%	40%	45%	55%	60%	70%	75%	85%	90%
Benefits	12.02	12.02	24.37	24.37	24.37	24.37	Intervals	7 to 10	receive	Journeyman Ben.

**Craft: Sprinkler Fitter**

**COMMENTS/NOTES**

The regular workday consists of 8 consecutive hours between 6:00 AM and 4:30 PM.

**FOREMAN REQUIREMENTS:**

- The first Sprinkler Fitter on the job must be designated a Foreman.
- On any job having 12 or more Sprinkler Fitters, one must be designated a General Foreman.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 2 consecutive workdays.
- 2nd and 3rd shift shall receive an additional 15% of the regular rate, per hour.
- Any "off hours" shift starting at 8:00 PM or later shall receive an additional 25% of the regular rate, per hour.

**OVERTIME:**

The first 2 hours in excess of 8 per day, after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate. Hours worked in excess of 10 per day, Monday through Friday, and all hours on Saturday, Sunday and holidays, shall be paid double the regular rate.

Four 10 hour days may be worked, Monday through Friday, at straight-time.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Finisher-Marble                      PREVAILING WAGE RATE**

	07/01/19
Finisher	W47.41 B34.64 T82.05

**Craft: Tile Finisher-Marble                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Finisher-Marble                      COMMENTS/NOTES**

**OVERTIME:**

Hours in excess of 7 per day, Monday through Friday, and the first 7 hours on Saturdays shall be paid at time and one half the regular rate, inclusive of benefits. Hours in excess of 7 on Saturdays and all hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Setter - Ceramic**

**PREVAILING WAGE RATE**

	06/03/19
Finisher	W45.54 B30.53 T76.07
Setter	W58.95 B34.00 T92.95

**Craft: Tile Setter - Ceramic**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	35%	40%	50%	55%	60%	65%	70%	75%	80%	90%

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Setter - Ceramic**

**COMMENTS/NOTES**

**OVERTIME:**

Hours in excess of 7 per day, and the first 10 hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Saturdays after 10 hours shall be paid double the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Setter - Marble**

**PREVAILING WAGE RATE**

	07/01/19
Tile Setter	W59.44 B36.88 T96.32

**Craft: Tile Setter - Marble**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Setter - Marble**

**COMMENTS/NOTES**

**OVERTIME:**

Hours in excess of 7 per day, Monday through Friday, and the first 7 hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. Hours in excess of 7 on Saturdays, and all hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Tile Setter - Mosaic & Terrazzo**

**PREVAILING WAGE RATE**

	07/01/19
Grinder or Assistant	W54.81 B36.42 T91.23
Mechanic	W56.41 B36.44 T92.85
Terrazzo Resinous Worker	W47.10 B29.47 T76.57

**Craft: Tile Setter - Mosaic & Terrazzo**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	50%	55%	60%	65%	70%	75%	85%	95%	100%	

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Tile Setter - Mosaic & Terrazzo**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 7-1-17:

INTERVAL	PERIOD AND RATES						
1500 Hours	35%	45%	60%	70%	80%	90%	100%

The regular workday consists of 7 hours, between 8:00 AM and 3:30 PM.

**OVERTIME:**

- Hours in excess of 7 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Monday after Easter, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Truck Driver**

**PREVAILING WAGE RATE**

	07/09/19	05/01/20
Bucket, Utility, Pick-up, Fuel Delivery trucks	W38.46 B37.05 T75.51	W39.21 B38.05 T77.26
Dump truck, Asphalt Distributor, Tack Spreader	W38.46 B37.05 T75.51	W39.21 B38.05 T77.26
Euclid-type vehicles (large, off-road equipment)	W38.56 B37.05 T75.61	W39.31 B38.05 T77.36
Helper on Asphalt Distributor truck	W38.46 B37.05 T75.51	W39.21 B38.05 T77.26
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W38.46 B37.05 T75.51	W39.21 B38.05 T77.26
Straight 3-axle truck	W38.46 B37.05 T75.51	W39.21 B38.05 T77.26
Tractor Trailer (all types)	W38.56 B37.05 T75.61	W39.31 B38.05 T77.36
Vacuum or Vac-All truck (entire unit)	W38.46 B37.05 T75.51	W39.21 B38.05 T77.26
Winch Trailer	W38.66 B37.05 T75.71	W39.41 B38.05 T77.46

**Craft: Truck Driver**

**COMMENTS/NOTES**

**BLENDED RATE:**

When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate" which shall be 80% of the above-listed wage rates, plus the full benefit rate. This rate shall be used when the driver "round robins" for a minimum of 6 hours during the work day.

**HAZARDOUS WASTE REMOVAL:**

- On hazardous waste removal work on a State designated hazardous waste site where the driver is in direct contact with hazardous materials and when personal protective equipment is required for respiratory, skin, and eye protection, the driver shall receive an additional \$3.00 per hour (with or without protective gear).
- A hazardous waste related certified worker at a designated hazardous waste site who is not working in a zone requiring level A, B or C personal protection shall receive an additional \$1.00 per hour.

**TRUCK FOREMAN:** \$.75 cents per hour above regular rate. Overtime shall be increased accordingly.



**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

The regular workday shall be 8 hours, starting between 6:00 AM and 8:00 AM.

**SHIFT DIFFERENTIAL:**

- Shifts starting at 4:00 PM (2nd Shift): + \$3.00 per hour.
- Shifts starting at 12:00 AM (midnight/3rd Shift): time and one-half the hourly rate.
- Shifts starting at a time other than from 6:00 AM to 8:00 AM, when such hours are mandated by the project owner: + \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Employees may work four 10-hour days at straight time, Monday through Thursday, with Friday used as a make-up day for a lost day. If Friday is not a make-up day, then all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Presidential Election Day, Veteran's Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veteran's Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Truck Driver-Material Delivery Driver**

**PREVAILING WAGE RATE**

	04/01/19	04/01/20
Driver	W25.10 B15.25 T40.35	W25.60 B15.71 T41.31

**Craft: Truck Driver-Material Delivery Driver**

**COMMENTS/NOTES**

**BLENDED RATE:**

When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate". See the "Truck Driver" craft for the blended rates.

Truck Foreman/Shop Steward: +\$0.25 per hour

**SHIFT DIFFERENTIALS:**

- 2nd Shift shall receive an additional \$0.50 per hour
- 3rd Shift shall receive time and one-half the hourly rate.

**OVERTIME:**

- Hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veterans' Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION**

**County - UNION**

**Craft: Welder**

**PREVAILING WAGE RATE**

Welder

**Craft: Welder**

**COMMENTS/NOTES**

Welders rate is the same as the craft to which the welding is incidental .

# STATEWIDE RATES

**OPERATING ENGINEERS**    **Rates Expiration Date :**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
51.53	33.85	85.38

**CLASSIFICATIONS:**

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder, Tree Shearer

Bulldozer, finish grade

Cableway

Carryall

Concrete Pump

Concrete Pumping System (Pumpcrete & similar types)

Conveyor, 125 feet or longer

Drill Doctor (Duties include dust collector and maintenance)

Front End Loader (2 cu. yds. but less than 5 cu. yds.)

Grader, finish

Groove Cutting Machine (ride-on type)

Heater Planer

Hoist: Outside Material Tower Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type) \* receives an additional \$1.00 per hour on 100 ft. up to 199 ft. total height, and an additional \$2.00 per hour on 200 ft. and over total height.

Hydraulic Crane (10 tons & under)

Hydraulic Dredge

Hydro-Axe

Hydro-Blaster

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
51.53	33.85	85.38

**CLASSIFICATIONS:**

Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)

Log Skidder

Pan

Paver, concrete

Plate & Frame Filter Press

Pumpcrete (unit type)

Pumpcrete, Squeezecrete, or Concrete Pumping machine (regardless of size)

Scraper

Side Boom

Straddle Carrier (Ross and similar types)

Whiphammer

Winch Truck (hoisting)

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

- Asphalt Curbing Machine
- Asphalt Plant Engineer
- Asphalt Spreader
- Autograde Curb Trimmer & Sidewalk Shoulder Slipform (CMI & similar types)
- Autograde Curecrete Machine (CMI & similar types)
- Autograde Tube Finisher & Texturing Machine (CMI & similar types)
- Bar Bending Machines (Power)
- Batcher, Batching Plant, & Crusher [On Site]
- Belt Conveyor System
- Boom-Type Skimmer Machine
- Bridge Deck Finisher
- Bulldozer (all sizes)
- Captain (Power Boats)
- Car Dumper (railroad)
- Compressor & Blower unit for loading/unloading of concrete, cement, fly ash, or similar type materials (used independently or truck-mounted)
- Compressor (2 or 3 battery)
- Concrete Breaking Machine
- Concrete Cleaning/Decontamination Machine
- Concrete Finishing Machine
- Concrete Saw or Cutter (ride-on type)
- Concrete Spreader (Hetzl, Rexomatic & similar types)
- Concrete Vibrator



**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

- Conveyors - under 125 feet
- Crane Signalman
- Crushing Machine
- Directional Boring Machine
- Ditching Machine - Small (Ditchwitch, Vermeer or similar types)
- Dope Pot - Mechanical (with or without pump)
- Dumpster
- Elevator
- Fireman
- Fork Lift (Economobile, Lull & similar types)
- Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)
- Generator (2 or 3 battery)
- Giraffe Grinder
- Goldhofer/Hydraulic Jacking Trailer
- Grader & Motor Patrols
- Grout Pump
- Gunnite Machine (Excluding nozzle)
- Hammer - Vibratory (in conjunction with generator)
- Heavy Equipment Robotics - Operator/Technician
- Hoist (roof, tigger, aerial platform hoist, house car)
- Hopper
- Hopper Doors (power operated)
- Ladder (motorized)

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

Laddervator

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

Pavement Breaker (truck-mounted or small self-propelled  
ride-on type)

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Rod Bending Machines

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

Tug Captains

Tug Master (Power Boats)

Ultra High Pressure Waterjet Cutting Tool System -  
Operator/Maintenance Technician

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
46.28	33.85	80.13

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Tire Repair & Maintenance

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
43.70	33.85	77.55

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

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Effective Dates:

**07/01/2019**

Rate	Fringe	Total
53.86	33.85	87.71

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.12	33.85	86.97

**CLASSIFICATIONS:**

Autograde Pavement Profiler (CMI & similar types)

Autograde Pavement Profiler - Recycle Type (CMI & similar types)

Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)

Autograde Slipform Paver (CMI & similar types)

Backhoe (Excavator)

Central Power Plant

Concrete Paving Machine

Cranes, Derricks, Pile Drivers (all types), under 100 tons with a boom (including jib and/or leads) under 100 ft.

Draglines

Drill, Bauer, AMI and similar types

Drillmaster, Quarrymaster

Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill

Elevator Grader

Field Engineer-Chief of Party

Front End Loader (5 cu. yards or larger)

Gradall

Grader, Rago

Helicopter Co-Pilot

Helicopter Communications Engineer

Juntann Pile Driver

Locomotive (large)

Mucking Machine

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.12	33.85	86.97

**CLASSIFICATIONS:**

Pavement & Concrete Breaker (Superhammer & Hoe Ram)

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

Vacuum Truck

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
47.99	33.85	81.84

**CLASSIFICATIONS:**

- Chipper
- Compressor (single)
- Concrete Spreader (small type)
- Conveyor Loader (Except elevator graders)
- Engines, Large Diesel (1620 HP) & Staging Pump
- Farm Tractor
- Fertilizing Equipment (operation & maintenance)
- Fine Grade Machine (small type)
- Form Line Grader (small type)
- Front End Loader (under 1 cubic yard)
- Generator (single)
- Grease, Gas, Fuel, & Oil Supply Trucks
- Heaters (Nelson or other type)
- Lights - portable generating light plant
- Mixer, Concrete (small)
- Mulching Equipment (operation & maintenance)
- Power Broom or Sweeper
- Pump (diesel engine & hydraulic - regardless of power)
- Pump (larger than 2 inch suction, including submersible pumps)
- Road Finishing Machine (small type)
- Roller - grade, fill, or stone base
- Seeding Equipment (operation & maintenance)
- Sprinkler & Water Pump Trucks

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
47.99	33.85	81.84

**CLASSIFICATIONS:**

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including  
proprane, natural gas, and flow-type units)

Water or Sprinkler Truck

Welding Machine (gas, diesel, or electric convertor, of any type)

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and  
maintenance)

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
54.94	33.85	88.79

**CLASSIFICATIONS:**

Helicopter Pilot/Engineer

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
59.62	33.85	93.47

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
58.62	33.85	92.47

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.



**OPERATING ENGINEERS**     **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
55.12	33.85	88.97

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
57.62	33.85	91.47

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
54.12	33.85	87.97

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), under 100 tons with a boom (including jib and/or leads) from 100 ft. to 139 ft.

**STRUCTURAL STEEL ERECTION**     **Rates Expiration Date :**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
56.75	33.85	90.60

**CLASSIFICATIONS:**

Helicopter Co-Pilot & Communications Engineer

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STRUCTURAL STEEL ERECTION    Rates Expiration Date :

Effective Dates:

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Rate	Fringe	Total
52.69	33.85	86.54

**CLASSIFICATIONS:**

A-Frame

Cherry Picker -10 tons or less (Over 10 tons use crane rate)

Hoist (all types Except Chicago-boom)

Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)

Side Boom

Straddle Carrier

**STRUCTURAL STEEL ERECTION**     **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
50.03	33.85	83.88

**CLASSIFICATIONS:**

- Aerial Platform Used On Hoists
- Apprentice Engineer/Oiler with Compressor or Welding Machine
- Captain (Power Boats)
- Compressor (2 or 3 in battery)
- Concrete Cleaning/Decontamination Machine Operator
- Conveyor or Tugger Hoist
- Directional Boring Machine
- Elevator or House Car
- Fireman
- Forklift
- Generator (2 or 3)
- Heavy Equipment Robotics, Operator/Technician
- Maintenance Utility Man
- Master Environmental Maintenance Technician
- Tug Master (Power Boats)
- Ultra High Pressure Waterjet Cutting Tool System Operator/Maintenance Technician
- Vacuum Blasting Machine Operator/Maintenance Technician
- Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
48.50	33.85	82.35

**CLASSIFICATIONS:**

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
46.74	33.85	80.59

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
54.31	33.85	88.16

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
43.70	33.85	77.55

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.45	33.85	87.30

**CLASSIFICATIONS:**

Field Engineer-Chief of Party

Vacuum Truck

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
61.64	33.85	95.49

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) 100 tons and over and Tower Cranes.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
59.98	33.85	93.83

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), 100 tons and over and Tower Crane.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
57.14	33.85	90.99

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
55.48	33.85	89.33

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

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STRUCTURAL STEEL ERECTION     Rates Expiration Date :

Effective Dates:

**07/01/2019**

Rate	Fringe	Total
57.14	33.85	90.99

**CLASSIFICATIONS:**

Helicopter Pilot & Engineer

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST     Rates Expiration Date :

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.12	33.85	86.97

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
46.28	33.85	80.13

**CLASSIFICATIONS:**

Driller's Helper



**FREE AIR TUNNEL JOBS**     **Rates Expiration Date :**

{For apprentice rates refer to "Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
44.25	31.53	75.78	78.28

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.95	31.53	75.48	77.98

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

**FREE AIR TUNNEL JOBS**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.45	31.53	74.98	77.48

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
45.95	31.53	77.48	79.98

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.90	31.53	74.43	76.93

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.55	31.53	74.08	76.58

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manitenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.40	31.53	73.93	76.43

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

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FREE AIR TUNNEL JOBS      Rates Expiration Date :

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.00	31.53	73.53	76.03

**CLASSIFICATIONS:**

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

**DRILL FOR GROUND WATER SUPPLY**    **Rates Expiration Date :**

The well driller and/or helper may perform all work relative to the construction, finishing, and servicing of wells, pumps and borings for ground water supply. The present methods of well drilling entailing as they do, many diverse job operations calling for drilling, pump discharge, piping, and the operation of various types of related power equipment, shall all be within the job duties and functions of the well driller and/or helper. In the event that an extension of work should occur beyond water well drilling functions, into the field of general construction work, such extension of work would come under the appropriate rates listed elsewhere in this wage determination.

- For Work Hours, Shift Differentials, Overtime Rates, and Recognized Holidays see the "Operating Engineers" section of this wage determination.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
51.87	33.85	85.72

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
45.03	33.85	78.88

**CLASSIFICATIONS:**

Driller's Helper

**OPERATING ENGINEERS MARINE-DREDGING**    **Rates Expiration Date :**

NOTE: These wage rates only apply to dredging and other marine construction activities occurring in navigable waters and their tributaries.

Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.

**OVERTIME:**

Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
39.23	14.17	53.40	54.91	56.71

**CLASSIFICATIONS:**

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
33.93	13.77	47.70	49.05	50.66

**CLASSIFICATIONS:**

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
31.94	13.62	45.56	46.86	48.39

**CLASSIFICATIONS:**

Certified Welder

**OPERATING ENGINEERS MARINE-DREDGING**      **Rates Expiration Date :**

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
31.07	13.26	44.33	45.59	47.10

**CLASSIFICATIONS:**

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
30.06	13.18	43.24	44.48	45.95

**CLASSIFICATIONS:**

Boat Operator

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
24.97	12.50	37.47	38.56	39.85

**CLASSIFICATIONS:**

Shoreman, Deckhand, Rodman, Scowman

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
34.96	13.85	48.81	50.19	51.84

**CLASSIFICATIONS:**

Crane Operator

MICROSURFACING/SLURRY SEAL      Rates Expiration Date :

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

\*\*\*IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.\*\*\*

SHIFT DIFFERENTIALS:

Any shift starting at 3:30 PM or later shall receive an additional \$0.35/hr

OVERTIME:

Hours in excess of 8 per day or 40 per week shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
36.50	21.27	57.77

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
33.80	21.27	55.07

**CLASSIFICATIONS:**

Box man

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
31.75	21.27	53.02

**CLASSIFICATIONS:**

Microsurface/Slurry Preparation

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
31.75	21.27	53.02

**CLASSIFICATIONS:**

Squeegee man

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

MICROSURFACING/SLURRY SEAL      Rates Expiration Date :

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
30.30	21.27	51.57

**CLASSIFICATIONS:**

Cleaner, Taper



**ASPHALT LABORERS - SOUTH**    **Rates Expiration Date :**

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	03/01/2019		03/01/2020
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

Paving Foreman

**Effective Dates:**

	03/01/2019		03/01/2020
Rate	Fringe	Total	Total
42.30	31.53	73.83	76.33

**CLASSIFICATIONS:**

Head Raker

**Effective Dates:**

	03/01/2019		03/01/2020
Rate	Fringe	Total	Total
42.15	31.53	73.68	76.18

**CLASSIFICATIONS:**

Raker, Screedman, Luteman

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS - SOUTH    Rates Expiration Date :

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.90	31.53	73.43	75.93

**CLASSIFICATIONS:**

Tampers, Smoothers, Kettlemen,  
Painters, Shovelers, Roller Boys

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.00	31.53	73.53	76.03

**CLASSIFICATIONS:**

Milling Controller

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

Traffic Control Coordinator

**TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH**      **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:  
Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Union

**SHIFT DIFFERENTIAL:**

Employees on a shift other than between the hours of 8:00 AM and 5:00 PM shall receive an additional \$1.00 per hour.

**OVERTIME:**

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Hazardous Waste Pay (for Levels A, B, and C): an additional 10% of the hourly rate, per hour.

A newly hired Helper with no experience in the industry shall be paid as follows:

- 1st year on the job - 70% of Helper wage rate
- 2nd year on the job - 80% of Helper wage rate
- 3rd year on the job - 90% of Helper wage rate
- All helpers receive full fringe benefit rate.

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
31.62	25.55	57.17

**CLASSIFICATIONS:**

Helper (4th year helper)

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
39.69	25.55	65.24

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
45.73	25.55	71.28

**CLASSIFICATIONS:**

Foreman

HEAVY & GENERAL LABORERS - NORTH    Rates Expiration Date :

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

**Effective Dates:**

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

"C" Rate:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; traffic control coordinator; asphalt raker or lute man

**HEAVY & GENERAL LABORERS - NORTH**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.45	31.53	73.98	76.48

**CLASSIFICATIONS:**

"B" Rate:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
46.00	31.53	77.53	80.03

**CLASSIFICATIONS:**

"A" Rate:

blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
44.75	31.53	76.28	78.78

**CLASSIFICATIONS:**

"GENERAL FOREMAN" Rate

**HEAVY & GENERAL LABORERS - SOUTH**    **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

basic, landscape, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofers; tree cutter, timberman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

wagon drill or drill master helper; powder carrier; magazine tender; signal man

**HEAVY & GENERAL LABORERS - SOUTH**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

wagon or directional drill operator; drill master

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
46.00	31.53	77.53	80.03

**CLASSIFICATIONS:**

blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
44.75	31.53	76.28	78.78

**CLASSIFICATIONS:**

general foreman

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS - SOUTH      Rates Expiration Date :

Effective Dates:

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
42.45	31.53	73.98	76.48

**CLASSIFICATIONS:**

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man



PIPELINE - MAINLINE TRANSMISSION     Rates Expiration Date :

These rates apply to the following: welding on Transportation Mainline pipe lines (cross-country pipe lines, or any segments thereof, transporting coal, gas, oil, water or other transportable materials, vapors or liquids, including portions of such pipe lines within private property boundaries up to the final metering station or connection - the point where a valve, consumer connection, or town border station divides mainline transmission lines or higher pressure lateral and branch lines from lower pressure distribution systems).

PER DIEM PAYMENT:

In addition to the total wage rate paid for each craft, the following per diem (per day) amounts must also be paid - Pipeline Journeyman: \$42.50; Pipeline Journeyman Welder: \$102.50; and Pipeline Helper: \$42.50. Note: in order to receive the per diem payment an employee must work a minimum of 8 hours in a 24 hour period.

NOTES:

- Journeymen employed as "stringer bead" welders and journeymen who are regularly employed as "hot-pass" welders shall receive \$1.00 per hour more than other journeymen.
- Welders running "stringer bead" or "hot-pass" on "cutouts" or "tie-ins" on a production basis shall be paid \$1.00 per hour above the journeymen rate.
- Whenever a welder helper is employed using a power buffer or power grinder immediately behind the stringer bead and/or hot-pass welders, and the pipe gang is set on a production basis, the helper shall be paid \$2.00 per hour above the helper rate.
- If back welding is performed inside a pipe under either or both of the following conditions, the welder engaged in the welding will receive \$3.00 per hour above the regular rate for the job only for the days on which such back welding is performed:
  - The employer elects, as a regular procedure, to back weld each line-up. This condition is not intended to apply to occasional back welding performed by the pipe gang to repair a bead, to rectify a "high-lo" condition or wall thickness, etc.
  - A welder is required to back weld a completed weld behind the firing line.
- If the welder helper is required to go inside the pipe for the purpose of brushing, buffing and grinding the weld, they shall receive a wage rate \$1.00 per hour above the regular helper rate for the days involved.
- Welders working on "hot work" shall be paid \$2.00 per hour above the regular rate for each day engaged in such work. "Hot work" is defined as work on lines in service where there is the danger of fire or explosion.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

OVERTIME:

Hours in excess of 8 per day, and all hours on Sundays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

**06/03/2019**

Rate	Fringe	Total
54.64	32.30	86.94

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

PIPELINE - MAINLINE TRANSMISSION      Rates Expiration Date :

Effective Dates:

06/03/2019

Rate	Fringe	Total
54.64	32.30	86.94

**CLASSIFICATIONS:**

Pipeline Journeyman

Effective Dates:

06/03/2019

Rate	Fringe	Total
33.84	21.92	55.76

**CLASSIFICATIONS:**

Pipeline Helper

**PIPELINE - GAS DISTRIBUTION**     **Rates Expiration Date :**

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

**SHIFT DIFFERENTIALS:**

An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

<b>11/01/2018</b>			<b>11/01/2019</b>
Rate	Fringe	Total	Total
60.00	23.73	83.73	86.23

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

**Effective Dates:**

<b>11/01/2018</b>			<b>11/01/2019</b>
Rate	Fringe	Total	Total
60.00	23.73	83.73	86.23

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

<b>11/01/2018</b>			<b>11/01/2019</b>
Rate	Fringe	Total	Total
38.46	17.54	56.00	57.67

**CLASSIFICATIONS:**

Pipeline Helper

**ASPHALT LABORERS- NORTH**    **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

Asphalt Foreman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.45	31.53	73.98	76.48

**CLASSIFICATIONS:**

Asphalt Screedman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

Asphalt Raker or Lute Man

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS- NORTH      Rates Expiration Date :

Effective Dates:

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

Asphalt Laborer

**ELECTRICIAN- UTILITY WORK (NORTH)**     **Rates Expiration Date :**

Electrician-Utility Work (North)

(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).

These rates apply to work contracted for by the following utility companies:

Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.

These rates do not apply to work on substations or switching stations.

For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

\* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.

**SHIFT DIFFERENTIALS:**

Shift work must run for a minimum of 5 consecutive workdays.

2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.

3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.

Four 10-hour days may worked, at straight time, between 7:00 AM and 6:30 PM, Monday through Thursday.

**RECOGNIZED HOLIDAYS:**

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day, or day on which they are legally observed.

**Effective Dates:**

	12/02/2018		12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
55.13	36.93	92.06	94.45	96.84

**CLASSIFICATIONS:**

Chief Lineman

**Effective Dates:**

	12/02/2018		12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
52.01	34.84	86.85	89.11	91.36

**CLASSIFICATIONS:**

Journeyman Lineman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
52.01	34.84	86.85	89.11	91.36

**CLASSIFICATIONS:**

Special License Operator

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
51.49	34.49	85.98	88.22	90.44

**CLASSIFICATIONS:**

Transit Man

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
49.93	33.45	83.38	85.53	87.70

**CLASSIFICATIONS:**

Line Equipment Operator

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
43.69	29.27	72.96	74.84	76.73

**CLASSIFICATIONS:**

Dynamite Man

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
65.01	43.55	108.56	111.38	114.19

**CLASSIFICATIONS:**

General Foreman

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
59.81	40.07	99.88	102.47	105.05

**CLASSIFICATIONS:**

Assistant General Foreman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
58.25	39.02	97.27	99.79	102.32

**CLASSIFICATIONS:**

Line Foreman

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
42.13	28.22	70.35	72.17	73.99

**CLASSIFICATIONS:**

Street Light Mechanical Leader

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
40.05	26.83	66.88	68.62	70.34

**CLASSIFICATIONS:**

Groundman Winch Operator

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
40.05	26.83	66.88	68.62	70.34

**CLASSIFICATIONS:**

Groundman Truck Operator

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
39.53	26.48	66.01	67.71	69.43

**CLASSIFICATIONS:**

Street Light Mechanic

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
39.53	26.48	66.01	67.71	69.43

**CLASSIFICATIONS:**

Line Equipment Mechanic



**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

<b>12/02/2018</b>			<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total
33.81	22.65	56.46	57.91	59.38

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

<b>12/02/2018</b>			<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total
31.21	20.91	52.12	53.47	54.80

**CLASSIFICATIONS:**

Groundman 1st Year

**Effective Dates:**

<b>12/02/2018</b>			<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total
51.49	34.49	85.98	88.22	90.44

**CLASSIFICATIONS:**

Line Equipment Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)**    **Rates Expiration Date :**

Electrician-Utility Work (South)

(For apprentice rates refer to Electrician-Utility Work (South) in any county rate package).

These rates apply to work contracted for by the following utility company:

Atlantic City Electric.

These rates do not apply to work on substations or switching stations.

For utility work contracted for by a utility company other than the one listed above or those listed under "Electrician-Utility Work (North), see the "Outside Commercial Rates" for the county in which the jobsite is located.

\* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)- all hours of work shall be paid at double the hourly rate.

**SHIFT DIFFERENTIALS:**

Shift work must run for a minimum of 5 consecutive workdays.

When two (2) or three (3) shifts are worked the following shall apply:

1st shift (between the hours of 8:00 AM and 4:30 PM)

2nd shift (between the hours of 4:30 PM and 12:30 AM): 8 hours of work + 10% of the regular rate of pay for 7.5 hours worked.

3rd shift (between the hours of 12:30 AM and 8:00 AM): 8 hours of work + 15% of the regular rate of pay for 7 hours worked.

**OVERTIME:**

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and Holidays shall be paid double the hourly rate.

Four 10-hour days may be worked, at straight time, between 6:00 AM and 6:00 PM, Monday through Thursday with Friday used as a make-up day.

**RECOGNIZED HOLIDAYS:**

New Year's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day or on days celebrated.

**WORKING RULES:**

There shall be a Foreman in charge of each work crew. No crews are to exceed twelve (12) men, including Foremen.

There shall be a General Foreman designated for transmission work when three (3) or more crews are on the same job and for distribution work where there are more than twenty (20) employees on site.

A small job crew shall consist of five (5) or less employees, one (1) of the Journeyman Linemen in the crew shall be designated as a Small Job Foreman.

Work performed from ladders and/or mechanical lift equipment shall be the work of Linemen and/or Apprentices.

On new construction, fitting and framing poles, towers or structures may be done by Journeymen and/or Apprentices. Groundmen may assist, but may not perform any work which would be performed by Linemen if assembled in the air.

There shall be a Journeyman Lineman in each pole setting, erection, grounding, wire and cable-pulling crew of more than three (3) men.

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
60.86	48.05	108.91

**CLASSIFICATIONS:**

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH)      Rates Expiration Date :

Effective Dates:

12/02/2018

Rate	Fringe	Total
54.21	44.12	98.33

**CLASSIFICATIONS:**

Foreman

Effective Dates:

12/02/2018

Rate	Fringe	Total
51.35	42.44	93.79

**CLASSIFICATIONS:**

Small Job Foreman

Effective Dates:

12/02/2018

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Heavy Equipment Operator

Effective Dates:

12/02/2018

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Cable Splicer

Effective Dates:

12/02/2018

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Journeyman Lineman

Effective Dates:

12/02/2018

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Journeyman Welder

**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date :**

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Journeyman Painter

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
38.04	34.55	72.59

**CLASSIFICATIONS:**

Light Equipment Operator

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
33.29	31.73	65.02

**CLASSIFICATIONS:**

Groundman Truck Driver

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
30.91	30.31	61.22

**CLASSIFICATIONS:**

Groundman 3rd Year

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
28.53	28.91	57.44

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
26.15	27.51	53.66

**CLASSIFICATIONS:**

Groundman 1st Year

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ELECTRICIAN- UTILITY WORK (SOUTH)     Rates Expiration Date :

Effective Dates:

12/02/2018

Rate	Fringe	Total
20.92	24.41	45.33

**CLASSIFICATIONS:**

Flagman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**     **Rates Expiration Date :**

**\*\*THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY\*\***

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
66.38	31.53	97.91	101.16

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
65.93	31.53	97.46	100.71

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
65.18	31.53	96.71	99.96

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
68.93	31.53	100.46	103.71

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
64.35	31.53	95.88	99.13

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
63.83	31.53	95.36	98.61

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
63.60	31.53	95.13	98.38

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

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PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS      Rates Expiration Date :

**Effective Dates:**

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
63.00	31.53	94.53	97.78

**CLASSIFICATIONS:**

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)



**OPERATING ENGINEERS**    **Rates Expiration Date :**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
51.53	33.85	85.38

**CLASSIFICATIONS:**

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder, Tree Shearer

Bulldozer, finish grade

Cableway

Carryall

Concrete Pump

Concrete Pumping System (Pumpcrete & similar types)

Conveyor, 125 feet or longer

Drill Doctor (Duties include dust collector and maintenance)

Front End Loader (2 cu. yds. but less than 5 cu. yds.)

Grader, finish

Groove Cutting Machine (ride-on type)

Heater Planer

Hoist: Outside Material Tower Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type) \* receives an additional \$1.00 per hour on 100 ft. up to 199 ft. total height, and an additional \$2.00 per hour on 200 ft. and over total height.

Hydraulic Crane (10 tons & under)

Hydraulic Dredge

Hydro-Axe

Hydro-Blaster

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
51.53	33.85	85.38

**CLASSIFICATIONS:**

Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)

Log Skidder

Pan

Paver, concrete

Plate & Frame Filter Press

Pumpcrete (unit type)

Pumpcrete, Squeezecrete, or Concrete Pumping machine (regardless of size)

Scraper

Side Boom

Straddle Carrier (Ross and similar types)

Whiphammer

Winch Truck (hoisting)

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

- Asphalt Curbing Machine
- Asphalt Plant Engineer
- Asphalt Spreader
- Autograde Curb Trimmer & Sidewalk Shoulder Slipform (CMI & similar types)
- Autograde Curecrete Machine (CMI & similar types)
- Autograde Tube Finisher & Texturing Machine (CMI & similar types)
- Bar Bending Machines (Power)
- Batcher, Batching Plant, & Crusher [On Site]
- Belt Conveyor System
- Boom-Type Skimmer Machine
- Bridge Deck Finisher
- Bulldozer (all sizes)
- Captain (Power Boats)
- Car Dumper (railroad)
- Compressor & Blower unit for loading/unloading of concrete, cement, fly ash, or similar type materials (used independently or truck-mounted)
- Compressor (2 or 3 battery)
- Concrete Breaking Machine
- Concrete Cleaning/Decontamination Machine
- Concrete Finishing Machine
- Concrete Saw or Cutter (ride-on type)
- Concrete Spreader (Hetzl, Rexomatic & similar types)
- Concrete Vibrator

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

- Conveyors - under 125 feet
- Crane Signalman
- Crushing Machine
- Directional Boring Machine
- Ditching Machine - Small (Ditchwitch, Vermeer or similar types)
- Dope Pot - Mechanical (with or without pump)
- Dumpster
- Elevator
- Fireman
- Fork Lift (Economobile, Lull & similar types)
- Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)
- Generator (2 or 3 battery)
- Giraffe Grinder
- Goldhofer/Hydraulic Jacking Trailer
- Grader & Motor Patrols
- Grout Pump
- Gunnite Machine (Excluding nozzle)
- Hammer - Vibratory (in conjunction with generator)
- Heavy Equipment Robotics - Operator/Technician
- Hoist (roof, tigger, aerial platform hoist, house car)
- Hopper
- Hopper Doors (power operated)
- Ladder (motorized)

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

Laddervator

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

Pavement Breaker (truck-mounted or small self-propelled  
ride-on type)

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Rod Bending Machines

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
49.62	33.85	83.47

**CLASSIFICATIONS:**

Tug Captains

Tug Master (Power Boats)

Ultra High Pressure Waterjet Cutting Tool System -  
Operator/Maintenance Technician

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
46.28	33.85	80.13

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Tire Repair & Maintenance

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
43.70	33.85	77.55

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

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OPERATING ENGINEERS     Rates Expiration Date :

Effective Dates:

**07/01/2019**

Rate	Fringe	Total
53.86	33.85	87.71

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)



**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.12	33.85	86.97

**CLASSIFICATIONS:**

- Autograde Pavement Profiler (CMI & similar types)
- Autograde Pavement Profiler - Recycle Type (CMI & similar types)
- Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)
- Autograde Slipform Paver (CMI & similar types)
- Backhoe (Excavator)
- Central Power Plant
- Concrete Paving Machine
- Cranes, Derricks, Pile Drivers (all types), under 100 tons with a boom (including jib and/or leads) under 100 ft.
- Draglines
- Drill, Bauer, AMI and similar types
- Drillmaster, Quarrymaster
- Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill
- Elevator Grader
- Field Engineer-Chief of Party
- Front End Loader (5 cu. yards or larger)
- Gradall
- Grader, Rago
- Helicopter Co-Pilot
- Helicopter Communications Engineer
- Juntann Pile Driver
- Locomotive (large)
- Mucking Machine

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.12	33.85	86.97

**CLASSIFICATIONS:**

Pavement & Concrete Breaker (Superhammer & Hoe Ram)

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

Vacuum Truck

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
47.99	33.85	81.84

**CLASSIFICATIONS:**

- Chipper
- Compressor (single)
- Concrete Spreader (small type)
- Conveyor Loader (Except elevator graders)
- Engines, Large Diesel (1620 HP) & Staging Pump
- Farm Tractor
- Fertilizing Equipment (operation & maintenance)
- Fine Grade Machine (small type)
- Form Line Grader (small type)
- Front End Loader (under 1 cubic yard)
- Generator (single)
- Grease, Gas, Fuel, & Oil Supply Trucks
- Heaters (Nelson or other type)
- Lights - portable generating light plant
- Mixer, Concrete (small)
- Mulching Equipment (operation & maintenance)
- Power Broom or Sweeper
- Pump (diesel engine & hydraulic - regardless of power)
- Pump (larger than 2 inch suction, including submersible pumps)
- Road Finishing Machine (small type)
- Roller - grade, fill, or stone base
- Seeding Equipment (operation & maintenance)
- Sprinkler & Water Pump Trucks

**OPERATING ENGINEERS**    **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
47.99	33.85	81.84

**CLASSIFICATIONS:**

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including  
proprane, natural gas, and flow-type units)

Water or Sprinkler Truck

Welding Machine (gas, diesel, or electric convertor, of any type)

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and  
maintenance)

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
54.94	33.85	88.79

**CLASSIFICATIONS:**

Helicopter Pilot/Engineer

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
59.62	33.85	93.47

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
58.62	33.85	92.47

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.

**OPERATING ENGINEERS**     **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
55.12	33.85	88.97

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
57.62	33.85	91.47

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
54.12	33.85	87.97

**CLASSIFICATIONS:**

Cranes, Derricks, Pile Driver (all types), under 100 tons with a boom (including jib and/or leads) from 100 ft. to 139 ft.

**STRUCTURAL STEEL ERECTION**     **Rates Expiration Date :**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
56.75	33.85	90.60

**CLASSIFICATIONS:**

Helicopter Co-Pilot & Communications Engineer

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STRUCTURAL STEEL ERECTION     Rates Expiration Date :

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
52.69	33.85	86.54

**CLASSIFICATIONS:**

A-Frame

Cherry Picker -10 tons or less (Over 10 tons use crane rate)

Hoist (all types Except Chicago-boom)

Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)

Side Boom

Straddle Carrier

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
50.03	33.85	83.88

**CLASSIFICATIONS:**

- Aerial Platform Used On Hoists
- Apprentice Engineer/Oiler with Compressor or Welding Machine
- Captain (Power Boats)
- Compressor (2 or 3 in battery)
- Concrete Cleaning/Decontamination Machine Operator
- Conveyor or Tugger Hoist
- Directional Boring Machine
- Elevator or House Car
- Fireman
- Forklift
- Generator (2 or 3)
- Heavy Equipment Robotics, Operator/Technician
- Maintenance Utility Man
- Master Environmental Maintenance Technician
- Tug Master (Power Boats)
- Ultra High Pressure Waterjet Cutting Tool System Operator/Maintenance Technician
- Vacuum Blasting Machine Operator/Maintenance Technician
- Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels



**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
48.50	33.85	82.35

**CLASSIFICATIONS:**

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
46.74	33.85	80.59

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
54.31	33.85	88.16

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
43.70	33.85	77.55

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date :**

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.45	33.85	87.30

**CLASSIFICATIONS:**

Field Engineer-Chief of Party

Vacuum Truck

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
61.64	33.85	95.49

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) 100 tons and over and Tower Cranes.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
59.98	33.85	93.83

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), 100 tons and over and Tower Crane.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
57.14	33.85	90.99

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
55.48	33.85	89.33

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

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STRUCTURAL STEEL ERECTION      Rates Expiration Date :

Effective Dates:

**07/01/2019**

Rate	Fringe	Total
57.14	33.85	90.99

**CLASSIFICATIONS:**

Helicopter Pilot & Engineer

**TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST**     **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
53.12	33.85	86.97

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
46.28	33.85	80.13

**CLASSIFICATIONS:**

Driller's Helper

**FREE AIR TUNNEL JOBS**    **Rates Expiration Date :**

{For apprentice rates refer to "Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
44.25	31.53	75.78	78.28

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.95	31.53	75.48	77.98

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

**FREE AIR TUNNEL JOBS**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.45	31.53	74.98	77.48

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
45.95	31.53	77.48	79.98

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.90	31.53	74.43	76.93

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.55	31.53	74.08	76.58

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manitenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.40	31.53	73.93	76.43

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

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FREE AIR TUNNEL JOBS      Rates Expiration Date :

Effective Dates:

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
42.00	31.53	73.53	76.03

**CLASSIFICATIONS:**

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

**DRILL FOR GROUND WATER SUPPLY**    **Rates Expiration Date :**

The well driller and/or helper may perform all work relative to the construction, finishing, and servicing of wells, pumps and borings for ground water supply. The present methods of well drilling entailing as they do, many diverse job operations calling for drilling, pump discharge, piping, and the operation of various types of related power equipment, shall all be within the job duties and functions of the well driller and/or helper. In the event that an extension of work should occur beyond water well drilling functions, into the field of general construction work, such extension of work would come under the appropriate rates listed elsewhere in this wage determination.

- For Work Hours, Shift Differentials, Overtime Rates, and Recognized Holidays see the "Operating Engineers" section of this wage determination.

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
51.87	33.85	85.72

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**07/01/2019**

Rate	Fringe	Total
45.03	33.85	78.88

**CLASSIFICATIONS:**

Driller's Helper



**OPERATING ENGINEERS MARINE-DREDGING**     **Rates Expiration Date :**

NOTE: These wage rates only apply to dredging and other marine construction activities occurring in navigable waters and their tributaries.

Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.

**OVERTIME:**

Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
39.23	14.17	53.40	54.91	56.71

**CLASSIFICATIONS:**

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
33.93	13.77	47.70	49.05	50.66

**CLASSIFICATIONS:**

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
31.94	13.62	45.56	46.86	48.39

**CLASSIFICATIONS:**

Certified Welder

**OPERATING ENGINEERS MARINE-DREDGING**      **Rates Expiration Date :**

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
31.07	13.26	44.33	45.59	47.10

**CLASSIFICATIONS:**

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
30.06	13.18	43.24	44.48	45.95

**CLASSIFICATIONS:**

Boat Operator

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
24.97	12.50	37.47	38.56	39.85

**CLASSIFICATIONS:**

Shoreman, Deckhand, Rodman, Scowman

**Effective Dates:**

04/17/2019			10/01/2019	10/01/2020
Rate	Fringe	Total	Total	Total
34.96	13.85	48.81	50.19	51.84

**CLASSIFICATIONS:**

Crane Operator

MICROSURFACING/SLURRY SEAL     Rates Expiration Date :

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

\*\*\*IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.\*\*\*

SHIFT DIFFERENTIALS:

Any shift starting at 3:30 PM or later shall receive an additional \$0.35/hr

OVERTIME:

Hours in excess of 8 per day or 40 per week shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
36.50	21.27	57.77

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
33.80	21.27	55.07

**CLASSIFICATIONS:**

Box man

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
31.75	21.27	53.02

**CLASSIFICATIONS:**

Microsurface/Slurry Preparation

**Effective Dates:**

**03/01/2017**

Rate	Fringe	Total
31.75	21.27	53.02

**CLASSIFICATIONS:**

Squeegee man

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MICROSURFACING/SLURRY SEAL      Rates Expiration Date :

Effective Dates:

03/01/2017

Rate	Fringe	Total
30.30	21.27	51.57

**CLASSIFICATIONS:**

Cleaner, Taper

**ASPHALT LABORERS - SOUTH**    **Rates Expiration Date :**

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

Paving Foreman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.30	31.53	73.83	76.33

**CLASSIFICATIONS:**

Head Raker

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.15	31.53	73.68	76.18

**CLASSIFICATIONS:**

Raker, Screedman, Luteman

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ASPHALT LABORERS - SOUTH    Rates Expiration Date :

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.90	31.53	73.43	75.93

**CLASSIFICATIONS:**

Tampers, Smoothers, Kettlemen,  
Painters, Shovelers, Roller Boys

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.00	31.53	73.53	76.03

**CLASSIFICATIONS:**

Milling Controller

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

Traffic Control Coordinator

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH      Rates Expiration Date :

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:  
Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Union

**SHIFT DIFFERENTIAL:**

Employees on a shift other than between the hours of 8:00 AM and 5:00 PM shall receive an additional \$1.00 per hour.

**OVERTIME:**

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Hazardous Waste Pay (for Levels A, B, and C): an additional 10% of the hourly rate, per hour.

A newly hired Helper with no experience in the industry shall be paid as follows:

- 1st year on the job - 70% of Helper wage rate
- 2nd year on the job - 80% of Helper wage rate
- 3rd year on the job - 90% of Helper wage rate
- All helpers receive full fringe benefit rate.

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
31.62	25.55	57.17

**CLASSIFICATIONS:**

Helper (4th year helper)

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
39.69	25.55	65.24

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
45.73	25.55	71.28

**CLASSIFICATIONS:**

Foreman

**HEAVY & GENERAL LABORERS - NORTH**    **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

**"D" Rate:**

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

**Effective Dates:**

03/01/2019			03/01/2020
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

**"C" Rate:**

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; traffic control coordinator; asphalt raker or lute man



**HEAVY & GENERAL LABORERS - NORTH**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.45	31.53	73.98	76.48

**CLASSIFICATIONS:**

"B" Rate:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
46.00	31.53	77.53	80.03

**CLASSIFICATIONS:**

"A" Rate:

blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
44.75	31.53	76.28	78.78

**CLASSIFICATIONS:**

"GENERAL FOREMAN" Rate

**HEAVY & GENERAL LABORERS - SOUTH**    **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

basic, landscape, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofers; tree cutter, timberman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

wagon drill or drill master helper; powder carrier; magazine tender; signal man

**HEAVY & GENERAL LABORERS - SOUTH**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

wagon or directional drill operator; drill master

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
46.00	31.53	77.53	80.03

**CLASSIFICATIONS:**

blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
44.75	31.53	76.28	78.78

**CLASSIFICATIONS:**

general foreman

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS - SOUTH      Rates Expiration Date :

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.45	31.53	73.98	76.48

**CLASSIFICATIONS:**

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man

PIPELINE - MAINLINE TRANSMISSION     Rates Expiration Date :

These rates apply to the following: welding on Transportation Mainline pipe lines (cross-country pipe lines, or any segments thereof, transporting coal, gas, oil, water or other transportable materials, vapors or liquids, including portions of such pipe lines within private property boundaries up to the final metering station or connection - the point where a valve, consumer connection, or town border station divides mainline transmission lines or higher pressure lateral and branch lines from lower pressure distribution systems).

PER DIEM PAYMENT:

In addition to the total wage rate paid for each craft, the following per diem (per day) amounts must also be paid - Pipeline Journeyman: \$42.50; Pipeline Journeyman Welder: \$102.50; and Pipeline Helper: \$42.50. Note: in order to receive the per diem payment an employee must work a minimum of 8 hours in a 24 hour period.

NOTES:

- Journeymen employed as "stringer bead" welders and journeymen who are regularly employed as "hot-pass" welders shall receive \$1.00 per hour more than other journeymen.
- Welders running "stringer bead" or "hot-pass" on "cutouts" or "tie-ins" on a production basis shall be paid \$1.00 per hour above the journeymen rate.
- Whenever a welder helper is employed using a power buffer or power grinder immediately behind the stringer bead and/or hot-pass welders, and the pipe gang is set on a production basis, the helper shall be paid \$2.00 per hour above the helper rate.
- If back welding is performed inside a pipe under either or both of the following conditions, the welder engaged in the welding will receive \$3.00 per hour above the regular rate for the job only for the days on which such back welding is performed:
  - The employer elects, as a regular procedure, to back weld each line-up. This condition is not intended to apply to occasional back welding performed by the pipe gang to repair a bead, to rectify a "high-lo" condition or wall thickness, etc.
  - A welder is required to back weld a completed weld behind the firing line.
- If the welder helper is required to go inside the pipe for the purpose of brushing, buffing and grinding the weld, they shall receive a wage rate \$1.00 per hour above the regular helper rate for the days involved.
- Welders working on "hot work" shall be paid \$2.00 per hour above the regular rate for each day engaged in such work. "Hot work" is defined as work on lines in service where there is the danger of fire or explosion.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

OVERTIME:

Hours in excess of 8 per day, and all hours on Sundays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

**06/03/2019**

Rate	Fringe	Total
54.64	32.30	86.94

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

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ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

PIPELINE - MAINLINE TRANSMISSION      Rates Expiration Date :

Effective Dates:

06/03/2019

Rate	Fringe	Total
54.64	32.30	86.94

**CLASSIFICATIONS:**

Pipeline Journeyman

Effective Dates:

06/03/2019

Rate	Fringe	Total
33.84	21.92	55.76

**CLASSIFICATIONS:**

Pipeline Helper

**PIPELINE - GAS DISTRIBUTION**     **Rates Expiration Date :**

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

**SHIFT DIFFERENTIALS:**

An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

<b>11/01/2018</b>			<b>11/01/2019</b>
Rate	Fringe	Total	Total
60.00	23.73	83.73	86.23

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

**Effective Dates:**

<b>11/01/2018</b>			<b>11/01/2019</b>
Rate	Fringe	Total	Total
60.00	23.73	83.73	86.23

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

<b>11/01/2018</b>			<b>11/01/2019</b>
Rate	Fringe	Total	Total
38.46	17.54	56.00	57.67

**CLASSIFICATIONS:**

Pipeline Helper

**ASPHALT LABORERS- NORTH**    **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
43.75	31.53	75.28	77.78

**CLASSIFICATIONS:**

Asphalt Foreman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.45	31.53	73.98	76.48

**CLASSIFICATIONS:**

Asphalt Screedman

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
Rate	Fringe	Total	Total
42.20	31.53	73.73	76.23

**CLASSIFICATIONS:**

Asphalt Raker or Lute Man



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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS- NORTH      Rates Expiration Date :

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
41.50	31.53	73.03	75.53

**CLASSIFICATIONS:**

Asphalt Laborer

**ELECTRICIAN- UTILITY WORK (NORTH)**     **Rates Expiration Date :**

Electrician-Utility Work (North)

(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).

These rates apply to work contracted for by the following utility companies:

Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.

These rates do not apply to work on substations or switching stations.

For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

\* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.

**SHIFT DIFFERENTIALS:**

Shift work must run for a minimum of 5 consecutive workdays.

2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.

3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.

Four 10-hour days may worked, at straight time, between 7:00 AM and 6:30 PM, Monday through Thursday.

**RECOGNIZED HOLIDAYS:**

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day, or day on which they are legally observed.

**Effective Dates:**

	12/02/2018		12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
55.13	36.93	92.06	94.45	96.84

**CLASSIFICATIONS:**

Chief Lineman

**Effective Dates:**

	12/02/2018		12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
52.01	34.84	86.85	89.11	91.36

**CLASSIFICATIONS:**

Journeyman Lineman

ELECTRICIAN- UTILITY WORK (NORTH)      Rates Expiration Date :

Effective Dates:

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
52.01	34.84	86.85	89.11	91.36

**CLASSIFICATIONS:**

Special License Operator

Effective Dates:

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
51.49	34.49	85.98	88.22	90.44

**CLASSIFICATIONS:**

Transit Man

Effective Dates:

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
49.93	33.45	83.38	85.53	87.70

**CLASSIFICATIONS:**

Line Equipment Operator

Effective Dates:

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
43.69	29.27	72.96	74.84	76.73

**CLASSIFICATIONS:**

Dynamite Man

Effective Dates:

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
65.01	43.55	108.56	111.38	114.19

**CLASSIFICATIONS:**

General Foreman

Effective Dates:

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
59.81	40.07	99.88	102.47	105.05

**CLASSIFICATIONS:**

Assistant General Foreman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
58.25	39.02	97.27	99.79	102.32

**CLASSIFICATIONS:**

Line Foreman

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
42.13	28.22	70.35	72.17	73.99

**CLASSIFICATIONS:**

Street Light Mechanical Leader

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
40.05	26.83	66.88	68.62	70.34

**CLASSIFICATIONS:**

Groundman Winch Operator

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
40.05	26.83	66.88	68.62	70.34

**CLASSIFICATIONS:**

Groundman Truck Operator

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
39.53	26.48	66.01	67.71	69.43

**CLASSIFICATIONS:**

Street Light Mechanic

**Effective Dates:**

12/02/2018			12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total
39.53	26.48	66.01	67.71	69.43

**CLASSIFICATIONS:**

Line Equipment Mechanic

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date :**

**Effective Dates:**

<b>12/02/2018</b>			<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total
33.81	22.65	56.46	57.91	59.38

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

<b>12/02/2018</b>			<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total
31.21	20.91	52.12	53.47	54.80

**CLASSIFICATIONS:**

Groundman 1st Year

**Effective Dates:**

<b>12/02/2018</b>			<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total
51.49	34.49	85.98	88.22	90.44

**CLASSIFICATIONS:**

Line Equipment Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)**    **Rates Expiration Date :**

Electrician-Utility Work (South)

(For apprentice rates refer to Electrician-Utility Work (South) in any county rate package).

These rates apply to work contracted for by the following utility company:

Atlantic City Electric.

These rates do not apply to work on substations or switching stations.

For utility work contracted for by a utility company other than the one listed above or those listed under "Electrician-Utility Work (North), see the "Outside Commercial Rates" for the county in which the jobsite is located.

\* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)- all hours of work shall be paid at double the hourly rate.

**SHIFT DIFFERENTIALS:**

Shift work must run for a minimum of 5 consecutive workdays.

When two (2) or three (3) shifts are worked the following shall apply:

1st shift (between the hours of 8:00 AM and 4:30 PM)

2nd shift (between the hours of 4:30 PM and 12:30 AM): 8 hours of work + 10% of the regular rate of pay for 7.5 hours worked.

3rd shift (between the hours of 12:30 AM and 8:00 AM): 8 hours of work + 15% of the regular rate of pay for 7 hours worked.

**OVERTIME:**

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and Holidays shall be paid double the hourly rate.

Four 10-hour days may be worked, at straight time, between 6:00 AM and 6:00 PM, Monday through Thursday with Friday used as a make-up day.

**RECOGNIZED HOLIDAYS:**

New Year's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day or on days celebrated.

**WORKING RULES:**

There shall be a Foreman in charge of each work crew. No crews are to exceed twelve (12) men, including Foremen.

There shall be a General Foreman designated for transmission work when three (3) or more crews are on the same job and for distribution work where there are more than twenty (20) employees on site.

A small job crew shall consist of five (5) or less employees, one (1) of the Journeyman Linemen in the crew shall be designated as a Small Job Foreman.

Work performed from ladders and/or mechanical lift equipment shall be the work of Linemen and/or Apprentices.

On new construction, fitting and framing poles, towers or structures may be done by Journeymen and/or Apprentices. Groundmen may assist, but may not perform any work which would be performed by Linemen if assembled in the air.

There shall be a Journeyman Lineman in each pole setting, erection, grounding, wire and cable-pulling crew of more than three (3) men.

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
60.86	48.05	108.91

**CLASSIFICATIONS:**

General Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date :**

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
54.21	44.12	98.33

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
51.35	42.44	93.79

**CLASSIFICATIONS:**

Small Job Foreman

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Heavy Equipment Operator

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Cable Splicer

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Journeyman Lineman

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Journeyman Welder

**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date :**

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
47.55	40.18	87.73

**CLASSIFICATIONS:**

Journeyman Painter

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
38.04	34.55	72.59

**CLASSIFICATIONS:**

Light Equipment Operator

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
33.29	31.73	65.02

**CLASSIFICATIONS:**

Groundman Truck Driver

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
30.91	30.31	61.22

**CLASSIFICATIONS:**

Groundman 3rd Year

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
28.53	28.91	57.44

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

**12/02/2018**

Rate	Fringe	Total
26.15	27.51	53.66

**CLASSIFICATIONS:**

Groundman 1st Year



TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

ELECTRICIAN- UTILITY WORK (SOUTH)     Rates Expiration Date :

Effective Dates:

12/02/2018

Rate	Fringe	Total
20.92	24.41	45.33

**CLASSIFICATIONS:**

Flagman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**     **Rates Expiration Date :**

**\*\*THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY\*\***

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

**SHIFT DIFFERENTIALS:**

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$3.00 per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

**Hazardous Waste Work:**

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
	Rate	Fringe	Total
	66.38	31.53	97.91
			101.16

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	<b>03/01/2019</b>		<b>03/01/2020</b>
	Rate	Fringe	Total
	65.93	31.53	97.46
			100.71

**CLASSIFICATIONS:**

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**      **Rates Expiration Date :**

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
65.18	31.53	96.71	99.96

**CLASSIFICATIONS:**

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
68.93	31.53	100.46	103.71

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
64.35	31.53	95.88	99.13

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
63.83	31.53	95.36	98.61

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
63.60	31.53	95.13	98.38

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY  
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS      Rates Expiration Date :

**Effective Dates:**

<b>03/01/2019</b>			<b>03/01/2020</b>
Rate	Fringe	Total	Total
63.00	31.53	94.53	97.78

**CLASSIFICATIONS:**

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)



TECHNICAL SPECIFICATIONS

FOR THE

**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER SUPERSTRUCTURE  
REPLACEMENT, STRUCTURE 2011-060, COUNTY ROUTE 647**

BOROUGH OF NEW PROVIDENCE

TOWNSHIP OF CHATHAM

UNION AND MORRIS COUNTIES, NEW JERSEY

MARCH 14, 2018

NEA PROJECT No.: UNIOCTY17.013

***Neglia Engineering Associates***

34 Park Avenue – P.O. Box 426

Lyndhurst, New Jersey 07071

Tel: (201) 939-8805

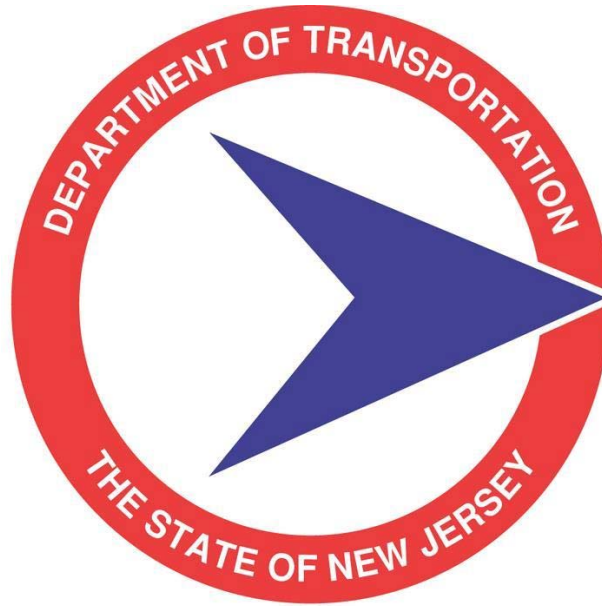
Fax: (201) 939-0846

A handwritten signature in black ink, appearing to read 'D. Atkinson', with a long horizontal stroke extending to the right.

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David R. Atkinson, Professional Engineer  
New Jersey License No. 45506

# **State of New Jersey Department of Transportation**



## **Special Provisions For State Aid Projects**

**Chris Christie**  
Governor

**Richard T. Hammer**  
Acting Commissioner

**Kim Guadagno**  
Lt. Governor

**Edition 2011**

**SPECIAL PROVISIONS  
FOR  
STATE AID PROJECTS**

**FOR THE**

**BRIDGE REPLACEMENT AT PASSIAC STREET, COUNTY ROUTE 647**

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**IN THE BOROUGH OF NEW PROVIDENCE/  
TOWNSHIP OF CHATHAM**

**COUNTY OF UNION/  
COUNTY OF MORRIS**

The Bridge Replacement at Passaic Street Bridge is a bridge replacement project which is partially funded through NJDOT Municipal Aid Grant. The improvements consist of the replacement of the existing bridge deck to due to structural deterioration as well as repairing the existing abutments, removal and replacement of the existing bridge railing, concrete curb, concrete sidewalk, milling and repaving, re-striping, and utility reconstruction.

**AUTHORIZATION OF CONTRACT**

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The contract for this project is authorized by the provisions of local public contracts law, NJSA 40A: 11-1 et seq.

**SPECIFICATIONS TO BE USED**

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The 2007 Standard Specifications for Road and Bridge Construction, of the New Jersey Department of Transportation and as amended herein, shall govern the construction of this project.

**WAGE RATES**

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The contractor shall pay the minimum wage rates determined by the New Jersey Department of Labor.

State wage rates may be obtained from the New Jersey Department of Labor (Telephone: 609-292-2259) or by accessing the Department of Labor's web site at [http://lwd.dol.state.nj.us/labor/wagehour/wagehour\\_index.html](http://lwd.dol.state.nj.us/labor/wagehour/wagehour_index.html). The State wage rates in effect at the time of award will be made a part of this Contract, pursuant to Chapter 150, Laws of 1963 (NJSA 34:11-56.25, *et seq.*).

In the event it is found that any employee of the contractor or any subcontractor covered by the contract, has been paid a rate of wages less than the minimum wage required to be paid by the contract, the contracting agency may terminate the contractor's or subcontractor's right to proceed with the work, or such part of the work, as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise. The contractor and his sureties shall be liable to the contracting agency for any excess costs occasioned thereby.

**GENERAL**

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All awards shall be made subject to the approval of the New Jersey Department of Transportation. No construction shall start before approval of said award by the New Jersey Department of Transportation. Prior to the start of construction the contractor must submit a Material Questionnaire (SA-11) listing all sources of materials. Any materials used on the project from a non-approved New Jersey Department of Transportation source will be considered non-participating. The contractor is

also notified that the District Office, Division of Local Aid and Economic Development must be notified of the construction commencement date at least three (3) calendar days prior to the start of construction.

Award of contract and subletting will not be permitted to, materials will not be permitted from, and use of equipment will not be permitted that is owned and/or operated by, firms and individuals included in the report of suspensions, debarments and disqualifications of firms and individuals as maintained by the Department of the Treasury, General Services Administration, CN-039, Trenton NJ 08625 (609-292-5400).

Payment for a pay item in the proposal includes all the compensation that will be made for the work of that item as described in the contract documents unless the "measurement and payment" clause provides that certain work essential to that item will be paid for under another pay item.

Whenever any section, subsection, subpart or subheading is amended by such terms as changed to, deleted or added it is construed to mean that it amends that section, subsection, subpart or subheading of the 2007 Standard Specifications unless otherwise noted.

Whenever reference to page number is made, it is construed to refer to the 2007 Standard Specifications unless otherwise noted.

Henceforth in this supplementary specification whenever reference to the State, Department, ME, RE or Inspector is made, it is construed to mean the particular municipality or county executing this contract.

Whenever reference to Title 27 is made, it is construed to mean Title 40.



## DIVISION 100 – GENERAL PROVISIONS

### SECTION 101 – GENERAL INFORMATION

#### 101.02 ABBREVIATIONS

THE FOLLOWING ABBREVIATIONS ARE ADDED:

ADA	Americans with Disabilities Act
CFR	Code of Federal Regulations
CUF	Commercially Useful Function
DCR/AA	New Jersey Department of Transportation, Division of Civil Rights and Affirmative Action
EEO	Equal Employment Opportunity
GFE	Good Faith Effort
OJT	On-The-Job-Training
USC	United States Code
USDOL	United States Department of Labor

#### 101.03 TERMS

THE FOLLOWING TERMS ARE CHANGED.

**Contractor.** The individual, firm, partnership, corporation, joint venture, or any acceptable combination thereof contracting with the Department for performance of the Contract. For the purpose of carrying out the Contract, it also means the Contractor's representative.

**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.

**Subcontractor.** An individual, firm, partnership, corporation, joint venture, or any acceptable combination thereof, to which the Contractor subcontracts part of the Work pursuant to 108.01.

THE FOLLOWING TERMS ARE ADDED.

**Commercially Useful Function.** Occurrences in which the subcontractor is be responsible for the execution of a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing, and supervising the work involved., and with respect to materials and supplies used on the contract, prepares the estimate, negotiates price, determines quality and quantity, orders the material, arranges delivery, installs (where applicable), and pays for the material and supplies itself for the project.

**Discrimination.** That act (or action) whether intentional or unintentional, through which a person in the United States, solely because of race, creed, color, national origin, age, ancestry, nationality, sex (including pregnancy and sexual harassment), marital status, domestic partnership or civil union status, affectional or sexual orientation, gender identity or expression, atypical hereditary cellular or blood trait, genetic information, liability for military service, or disability has been otherwise subjected to unequal treatment.

**Federal Aid Project.** Any agreement or modification thereof between NJDOT and any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Federal government or borrowed on the credit of the Federal government pursuant to any program involving a grant, contract, loan, insurance or guarantee under which the NJDOT itself participates in the construction work.

**Federal Aid Project Attachments.** Attachments to the Contract Special Provision document, used for Federal aid projects.

**ITS commissioning.** Completion of Level A testing of an Intelligent Transportation System per 704.03.01. This does not constitute Acceptance by the Department of the work.

**State Funded Project Attachments.** Attachments to the Contract Special Provision document, used for wholly state funded contracts.

**Special Provisions.** Project specific specifications, non-standard specifications, and requirements for the performance of prescribed work which, in addition to the Standard Specifications, is part of the Contract documents.

#### **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 contacting the County of Union 2325 South Avenue, Scotch Plains, NJ 07076 Ph 908-789-3653

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.**

Neglia Engineering  
1119 Raritan Road  
Clark, NJ 07066

### **TELEPHONE: 201-939-8805 SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS**

#### **102.01 QUALIFICATION TO BID**

SECOND CRITERIA IS CHANGED TO:

2. Before the receipt of the bid or accompanying the bid, the Bidder has disclosed ownership as required by N.J.S.A. 52:25-24.2.

#### **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.

## **2. Utility Agreements.**

THE LAST SENTENCE IS DELETED.

## **3. Existing Plans and As-Builts.**

ENTIRE PART IS CHANGED TO:

The Department will provide a list of existing structures bearing structure numbers within the Project on the Plans. The Department will list the existing plans including structural plans, contour maps and as-built plans used in the development of the Contract in the Special Provisions. The Bidder may download the existing plans including structural plans, contour maps and as-built plans of Department-owned facilities through the electronic bidding process along with the Proposal documents. The Bidder shall obtain plans of municipality-owned or county-owned facilities through the municipality or county. The Bidder shall verify information obtained from the existing documents with regard to its application to bidding and performing the Contract.

Existing Plans including structural plans, contour maps and as-built plans used are as follows:

### **102.09 PROPOSAL BOND**

THE FIFTH PARAGRAPH IS CHANGED TO:

The Department will not accept Proposal Bonds that do not comply in all respects with the provisions of N.J.A.C. 16:44-7.3(e) and that are not substantiated by a valid power of attorney executed by the Surety.

### **102.10 SUBMISSION OF BIDS**

THE SECOND PARAGRAPH IS CHANGED TO:

The Bidder shall ensure delivery of its bid with all required components and attachments, including, but not limited to the following:

1. Schedule of Items.
2. Proposal Electronic Bidding File with Bidder's Certification.
3. For wholly State funded contracts, acknowledgement of compliance with the registrations specified in 102.01.
4. For wholly State funded contracts, acknowledgement of compliance with N.J.S.A. 19:44A-20.13, et seq.
5. Proposal Bond form.
6. Other related documents as specified in the Contract.
7. 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.
8. For Federal Aid Projects exceeding a bid amount of \$100,000 or more, Bidder shall certify to the Byrd Anti-Lobbying Act requirements under 31 USC 1352.

### **102.15 DISQUALIFICATION OF BIDDERS**

THE ENTIRE SUBSECTION IS CHANGED TO:

The Department will disqualify a Bidder and reject a bid submitted by that Bidder if the Bidder is determined by the Department to lack responsiveness. Failure of a Bidder to follow the requirements of 102.10 demonstrates a lack of responsiveness.

The Department will disqualify a Bidder and reject a bid submitted by that Bidder if the Bidder is determined by the Department to lack responsibility. Factors demonstrating a lack of responsibility include, but are not limited to:

1. Evidence of collusion among Bidders.
2. Uncompleted work, which in the opinion of the Department, might hinder or prevent completion of additional work if awarded.
3. Failure to submit at time of bid or within 5 days of bid opening, a completed and signed CR-266 – Schedule of Disadvantaged Business Enterprise/Emerging Small Business Enterprise/Small Business Enterprise Participation.
4. Failure to submit within 5 days of bid opening, proof of documented evidence of good faith efforts to meet the Contract goal, if the Bidder fails to meet the Contract DBE, ESBE or SBE goal.
5. Failure to submit within 5 days of bid opening, a completed and signed Confirmation of DBE/ESBE/SBE Firm (Form CR-273) for each DBE/ESBE/SBE firm listed on the CR-266.

6. Failure to submit within 5 days of bid opening, a completed and signed DBE/ESBE/SBE Trucking Verification (Form CR-274) for each DBE/ESBE/SBE firm listed on the CR-266, if applicable.
7. Failure to submit within 5 days of bid opening, a completed and signed DBE/ESBE/SBE Regular Dealer/Supplier Verification (Form CR-272) for each DBE/ESBE/SBE Regular Dealer/Supplier listed on the CR-266, if applicable.
8. Failure of the bidder to meet the Contract DBE, ESBE or SBE goal, or make adequate good faith efforts to do so.
9. Submission of a materially unbalanced bid. A materially unbalanced bid is a bid where there is a reasonable doubt that award to the Bidder submitting a mathematically unbalanced bid, which is structured on the basis of nominal prices for some work and inflated prices for other work, will result in the lowest ultimate cost to the Department.
10. Lack of competency or lack of adequate machinery, plant, or other equipment.
11. Unsatisfactory performance on previous or current contracts.
12. Questionable moral integrity as determined by the Attorney General of New Jersey or the Department.
13. Any other outward actions or lack of action that demonstrates the Bidder is not responsible.
14. Disqualification, suspension, or debarment of an individual, firm, partnership, corporation, joint venture, or any combination as required by N.J.A.C. 16:44-11.1 for state projects.
15. Disqualification, suspension, or debarment of an individual firm, partnership, corporation, joint venture, or any combination as required by N.J.A.C. 16:44-11.1 or Federal Government's System for Award Management (SAM), located at <https://www.sam.gov/portal/SAM/#1forfederallyassistedcontracts>.

## **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 LAST PARAGRAPH IS CHANGED TO:

The RE has the authority to suspend the Work wholly or in part and to suspend Estimates, as specified in 109.05, for failure of the Contractor to correct conditions unsafe for the workers or the general public, for failure to carry out provisions of the Contract, or for failure to comply with RE direction. The RE also has the authority to suspend the Work wholly or in part for unsuitable weather, for conditions considered unsuitable for the prosecution of the Work or portion of the Work, or for any other condition or reason deemed to be in the interest of the public.

THE FOLLOWING NEW SUBPART IS ADDED:

#### **105.01.03 Contractor Performance Evaluation**

Pursuant to N.J.A.C. 16:44-1 et seq., the Department will assign Performance Evaluation ratings to determine the Contractor's Work Classification Limit.

The RE will perform a Contractor Performance Evaluation using the Department's form DC-83 that is current at the time of bid. The Department's form DC-83 is available at <http://www.state.nj.us/transportation/eng/forms/>. The RE will perform the Contractor Performance Evaluation at the end of the annual rating period, which extends from January 1 through December 31, if the value of work performed is at least 25% of the Total Adjusted Contract Price or has a value of more than \$1 million. If a Project is completed prior to the end of the regular annual rating period, the RE will perform the Contractor Performance Evaluation when the Department initiates a Certificate of Completion. The Department may extend the rating period or decide to not perform a Contractor Performance Evaluation Rating at its sole discretion, and will provide the Contractor with written notification of a decision to extend a rating period or to not perform a Contractor Performance Evaluation Rating. The RE will provide the Contractor with the breakdown and weighting of the Quality/Contract Compliance subcategories at the preconstruction conference. The Contractor Performance Evaluation process is not an administrative process and is contractual in nature.

Meet with the RE to review the Contractor Performance Evaluation rating when requested by the RE. A protest regarding the Performance Evaluation rating will be resolved through the Rating Review meeting process specified in this Subpart and not through the Contractual Claim Resolution Process specified in Subsection 107.12.

The Contractor may only protest a Contractor Performance Evaluation rating of less than 70. If the Contractor receives a Contractor Performance Evaluation rating of less than 70, the Contractor may protest the assigned rating by submitting a request for a Rating Review meeting with the Department Manager as specified in Subsection 101.04 (2) of the Special Provisions, responsible for the administration of the construction. Submit a written request for a Rating Review meeting to the Department Manager within 15 days of receiving the Contractor Performance Evaluation Rating from the RE. Provide with the request for a Rating Review Meeting a specific and detailed statement of the reasons for the protest and provide a copy of any documents that the Contractor wants the Department to consider. The Contractor waives its right to protest a Contractor Performance Evaluation Rating if it does not submit a written request for a Rating Review meeting within 15 days of the Contractor's receipt of the Contractor Performance Evaluation Rating.

The Department Manager will schedule and hold a meeting to review the Contractor's Performance Evaluation with the Contractor and hear the Contractor's protest within 30 days of receiving the Contractor's request for a Rating Review meeting. The Department Manager will issue a written decision upholding or adjusting the Performance Evaluation rating within 10 days of conducting the Rating Review meeting.

#### **105.02.01 Labor and Equipment**

THE FIRST PARAGRAPH OF PART 1 IS CHANGED TO:

1. **Labor.** Employ workers that have sufficient skill and experience to properly perform the work assigned to them. Do not engage or employ current Department employees or workers that would cause the worker to be in violation of N.J.S.A. 52:13D-17. Do not engage or employ any former federal, state, or municipal worker who has been personally or individually debarred or subject to a forfeiture of public office pursuant to N.J.S.A. 2C:51-2.

THE FOLLOWING SUBPART IS ADDED:

#### **105.02.05 Civil Rights Requirements**

The Contractor is obligated to comply with Title VI of the Civil Rights Act of 1964, 49 CFR Part 21 and 28 CFR Section 50.3, 2 C.F.R. Part 200 and 2 C.F.R. Part 200 Appendix II and any other Rules relative to Nondiscrimination as they may be amended from time to time, which are herein and incorporated by reference and made part of the Contract. The Contractor in the performance of the Contract agrees to comply with nondiscrimination regulations and other requirements as specified in Section 107. Failure of a Contractor to comply with the nondiscrimination provisions of the Contract may result in the actions as set forth as specified in Sections 105, 108 and 109.

#### **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. After Award, the Department will provide additional formatting information, the number of copies required, and the address of the receiving designated design unit.

THE THIRD PARAGRAPH IS CHANGED TO:

Submit working drawings on 22 × 36-inch sheets. The Department may approve the use of 8-1/2 x 11 inch sheet on a case by case basis. Submit design calculations required for the working drawings on 8-1/2 × 11-inch paper. Submit 7 copies of the working drawings to the designated design unit for review with a copy of the transmittal letter to the RE. For railroad-carrying structures, submit 4 additional copies to the designated design unit. Submit an additional copy for each outside testing agency or authority involved in the Project.

THE NINTH PARAGRAPH IS CHANGED TO:

Submit working drawings for certification or approval as specified in Table 105.05-1. This list is not all inclusive. Ensure that the working drawings submitted for approval are signed and sealed by a Professional Engineer. The working drawings submitted for certification are not required to be signed and sealed by a Professional Engineer unless they alter the original Contract.

TABLE 105.05-1 IS CHANGED TO:

**Table 105.05 1 – Working Drawing Submission Category**

<b>Certified</b>	<b>Approved</b>
Breakaway I-Beam GA Sign Support Posts	Catalog Cuts (related to landscape Items)
Bridge Drainage	Change in Structural Steel Details
Bridge Railing and Fencing Anchorage System	Change of Prestressed Concrete Strand Patterns
Catalog Cuts	Demolition Plans
Composite Piles	Erection Plans
DMS Sign Support Structure	High Load Multi-Rotational (HLMR) Bearings
DMS Standard Ground Mounted	Isolation Bearings
Elastomeric Bearings Pads	ITS System Drawings, including Block Diagrams
Electrical Items Not Pre-Qualified	Machinery and Electrical Items for Movable Bridges
Expansion Deck Joint Assembly Systems	Mechanically Stabilized Earth (MSE) Walls
Modular Expansion Joint Assembly	Other work shown on the Plans as conceptual
Precast Prestressed Concrete Beams and Piles Fabrication	Precast Concrete Arch Structures
Reinforced Elastomeric Bearings	Precast Concrete Box Culverts
Sign Legends	Prefabricated Modular Walls
Sign Support Structures	Stay-In-Place Forms
Structural Steel Fabrication	Temporary Sheeting and Cofferdams
	Temporary Shielding
	Temporary Structures
	Value Engineering Plans

THE FIRST PARAGRAPH UNDER PART 1 OF TENTH PARAGRAPH IS CHANGED TO:

1. **Certified Working Drawings.** For working drawings requiring certification, include 2 blank blocks directly above the title block. Designate one block for design unit certification, and designate the other block for the Contractor’s approval stamp and a signed statement stating that the Contract has not been altered. The Department will require 30 days for review and certification or rejection and return of certified working drawings.

1. **Certified Working Drawings.**

THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will require 10 days for review and certification or rejection and return of certified working drawings.

2. **Approved Working Drawings.**

THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

The Department will require 10 days for review and approval or rejection and return of working drawings.

THE FIRST PARAGRAPH AFTER 105.05 PART 2 “APPROVED WORKING DRAWINGS” IS CHANGED TO:

After the submitted working drawings have been stamped “CERTIFIED,” “CERTIFIED AS NOTED,” or “APPROVED,” submit the final drawings, including the Designer’s stamp, the Department’s stamp, and the Contractor’s approval stamp, containing the word “APPROVED,” and the Contractor’s original signature and date on 3.15 mil minimum polyester film to the RE at least 30 days before Completion. Also, submit the specified number of copies on bond. Ensure that lines and lettering are opaque and of sufficient height and width so that legible 11 × 17 inch reductions may be made.

**105.07.01 Working in the Vicinity of Utilities**

**A. Initial Notice.**

**B. Locating Existing Facilities.**

PART (2) IS CHANGED TO:

2. For the Department's fiber optic network, Obtain and complete the fiber optic markout request form as specified in the Special Provisions. Submit a fiber optic markout request form to the Traffic Operations location specified in the Special Provisions for the markout. The Traffic Operations will complete the markout within 15 days of the receipt. Provide the RE a copy of the markout, and maintain the markout until construction operations in the vicinity of the Department's fiber optic network are completed.

Fiber Optic Markout Form is available at:

<http://www.state.nj.us/transportation/eng/elec/ITS/requests.shtm>

Bureau of Traffic Operations, North Region (TOCN)  
670 River Drive  
Elmwood Park, NJ 07407-1347  
Telephone: 732-697-7360

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, North Region  
200 Stierli Court  
Mt. Arlington, NJ 07856-1322  
Telephone: 973-770-5065
3. NJDOT  
Central Region Electrical  
1035 Parkway Avenue  
4th Floor E&O Bldg.  
CN 600  
Trenton, NJ 08625  
Telephone: 732-625-4350
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:

Transportation Data and Safety Unit  
PO Box 600  
Trenton, NJ 08625  
609-530-3508

FOR ROADWAY WEATHER INFORMATION SYSTEMS CONTACT:

Permits, Electrical Maintenance & Claims Unit  
PO Box 600  
Trenton, NJ 08625  
609-530-5728



**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. When access to Traffic Operation Centers, communication hubs, ITS cabinets or any other ITS facilities is required to perform work, submit a request for access to ITS facilities. Ensure that the request for access is made at least five working days before any work is scheduled, using the online form as specified in the Special Provisions.

<http://www.state.nj.us/transportation/eng/elec/ITS/access.shtm>

**SECTION 106 – CONTROL OF MATERIAL**

**106.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS**

THE FIRST PARAGRAPH IS CHANGED TO:

Ensure that materials furnished for the Project are new, unless otherwise specified in the contract. Comply with 2 CFR 200.322 Procurement of Recovered Materials “to the highest percentage of recovered materials practicable” where the purchase price of the covered item listed exceeds \$10,000. Use materials that conform to the requirements of the contract. When required by the Contract, use only products and suppliers listed on the QPL. Use sources of materials that have been approved by the Department on a Materials Questionnaire as specified in 106.04.

**106.03 FOREIGN MATERIALS**

**1. Wholly State-Funded Projects**

THE ENTIRE TEXT IS CHANGED TO:

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.

**106.07.01 Certification of Compliance**

THE ENTIRE TEXT IS CHANGED TO:

Submit manufacturer’s Certifications of Compliance stating that the materials and/or assemblies fully comply with the requirements of the Contract when required by the Contract or requested by the Department.

Ensure that Manufacturer’s Certification of Compliance contains the following information:

1. Project Name.
2. Name of the Contractor.
3. Material description.
4. Quantity of material represented by the certification.
5. Means of identifying the consignment, such as label marking or seal number.

6. Date and method of shipment.
7. A statement that the material conforms to the Contract material requirements and that representative samples have been sampled and tested.
8. If the submission is for an assembly of materials, a statement that the assembly conforms to the Contract.
9. Signature of a person having legal authority to bind the supplier.
10. Typed or printed name of the person who signed the certification.

Before incorporating the materials into the Project, obtain 3 copies of the manufacturer's Certifications of Compliance for materials, components, and manufactured items that are accepted by certification. Retain 1 copy and submit 2 copies to the RE. With the Certification of Compliance, provide a transmittal identifying the Item for which it is submitted. For products that contain steel or iron, attach additional documents as required by the certification procedures as specified in 106.07.02. The Contractor may submit the Certifications of Compliance electronically to the RE in a scanned document. Include the transmittal and all backup documentation in the scanned document.

The Department has the right to sample and test materials or assemblies accepted on the basis of Certifications of Compliance at any time. The Department will reject materials or assemblies, whether in place or not, if found not to be in conformance with the Contract requirements.

The Department will not make payment for an Item for which material is accepted on the basis of a Certification of Compliance until the RE has received the required Certification of Compliance and has inspected and accepted the material or assembly.

#### **106.07.02 Certification for Iron and Steel**

THE ENTIRE TEXT IS CHANGED TO:

- A. Precast Concrete Steel and Concrete Pipe Certification of Compliance.** For precast concrete and concrete pipe items, a Buy America Compliance Plan is required to confirm that the material meets the Buy America requirements as specified in 106.03. The ME will periodically audit compliance with the program at the precast plant. If the precast concrete item is not inspected by ME, submit a Certification of Compliance for the precast concrete item as required in 106.07.01. When a Certification of Compliance is submitted, ensure that the Certification of Compliance contains a statement that the reinforcing steel used in the precast concrete item complies with the Buy America requirements as specified in 106.03
- B. Step Certification of Compliance.** For products that contain steel or iron components and are not covered in 106.07.02.A, step Certification of Compliance is required to confirm that the item meets the Buy America requirements as specified in 106.03. A step certification is a process under which each handler (e.g., supplier, fabricator, manufacturer, processor, coating facility) of the iron and steel components certifies that the steel and iron components were of domestic origin and that their step in the process was domestically performed.

Every step in the process from melting to coating must be performed in the United States in order for the steel or iron component to be considered domestic and must be documented by step certification. If a domestic source for a steel or iron component cannot be found, submit a request for waiver to the Department. Do not purchase non-domestic steel or iron components without the express written consent of the Department.

Ensure that 3 copies of the Contractor's Certification of Compliance (Form DC-17) and the step Certifications of Compliance are provided for items containing steel or iron. Retain 1 copy and submit 2 copies to the RE. The Contractor may submit the DC-17 and the step certifications electronically in a scanned document.

Ensure that step Certifications of Compliance contain the following information:

1. Name of the Company supplying the material.
2. Name and location of the Company the material was shipped to.
3. Material description.
4. Quantity of material represented by the Certification.
5. Means of identifying the consignment, such as label marking or seal number.
6. Date and method of shipment.
7. A statement that the material conforms to the Contract material requirements and to the Buy America requirements in 106.03.
8. A statement that all steel or iron components in the material or assembly were "melted and manufactured in the US", unless there is non-domestic steel or iron in the material or assembly.
9. If there is non-domestic steel or iron in the assembly, describe in detail the non-domestic steel or iron material and the quantity. Attach a copy of the Department's approval for the use of non-domestic steel or iron components.
10. Signature of a person having legal authority to bind the supplier.
11. Typed or printed name of the person who signed the certification.

The Department will not make payment for work containing steel or iron materials until the RE has received the required DC-17 and step Certifications of Compliance, has inspected and accepted the material or assembly.

## SECTION 107 – LEGAL RELATIONS

### 107.02 DISCRIMINATION IN EMPLOYMENT ON PUBLIC WORKS

THE TITLE AND ENTIRE SUBSECTION IS CHANGED TO:

#### 107.02 NONDISCRIMINATION

It is the policy of the Department that anyone performing work under any program, activity, or Contract with the Department, shall not discriminate on the basis of race, creed, color, national origin, age, ancestry, nationality, marital or domestic partnership status, gender, disability, affectional or sexual orientation, gender identity or expression, religion, liability for military service, veteran's status, income level or ability to read, write or speak English.

Pursuant to N.J.S.A. 10:2-1, the Contractor agrees that 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 their 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;

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.

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 this contract may be terminated by the Department, 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 Department of any prior violation of this section of the contract.

**Standard Title VI Assurance.** During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), in accordance with Title VI /Nondiscrimination Assurance – Appendix A, USDOT Order 1050.2A agrees as follows:

- 1. Compliance with Regulations:** The Contractor will comply with the Acts and Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which herein incorporated by reference and made a part of this Contract.
- 2. Nondiscrimination:** The Contractor, with regard to the Work performed by it during the Contract, will not discriminate on the grounds race, creed, color, national origin, age, ancestry, nationality, marital or domestic partnership status, gender, disability, affectional or sexual orientation, gender identity or expression, religion, liability for military service, veteran's status, income level or ability to read, write or speak English in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and Regulations, including employment practices when the Contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
- 3. Solicitations for Subcontracts, Including Procurement of Materials and Equipment:** In all solicitations, either by competitive bidding, negotiation made by the Contractor for Work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the Contractor's obligations under this Contract and the Acts and Regulations relative to nondiscrimination on the grounds of race, creed, color, national origin, age, ancestry, nationality, marital or domestic partnership status, gender, disability, affectional or sexual orientation, gender identity or expression, religion, liability for military service, veteran's status, income level or ability to read, write or speak English.
- 4. Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA, to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a Contractor is in the exclusive possession of

another who fails or refuses to furnish the information, the Contractor will so certify to the Recipient or the FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Non-Compliance:** In the event of a Contractor's noncompliance with the Nondiscrimination provisions of this Contract, the Recipient will impose such Contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
  1. Withholding payments to the Contractor under the Contract until the Contractor complies; and/or
  2. Cancelling, terminating, or suspending a Contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Contractor may request the United States to enter into the litigation to protect the interest of the United States.

During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") in accordance with the Title VI /Nondiscrimination Assurance – Appendix E, USDOT Order 1050.2A, agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252); and 49 CFR Part 21.
2. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601);
3. Section 162(a) of the Federal Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.);
4. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended; and 49 C.F.R. Part 27;
5. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.);
6. Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended;
7. The Civil Rights Restoration Act of 1987, (PL 100-209);
8. Title II and III of the Americans with Disabilities Act (42 U.S.C. § 12131- - 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
9. The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123);
10. Executive Order 12898, Federal Actions to address Environmental Justice in Minority Populations and Low Income Populations;
11. Executive Order 13166, Improving Access to services for Persons with Limited English Proficiency (70 Fed. Reg. at 74087 to 74100);
12. 23 CFR Part 230 (EEO, Affirmative Action & OJT)
13. 49 CFR Part 26
14. Executive Order 11246 as amended
15. Section 503 of the Rehabilitation Act of 1973 as amended
16. Section 4212 of the Vietnam Era Veteran's Readjustment Assistance Act, as amended
17. New Jersey Statutes N.J.S.A. 10:5-31 et seq.
18. New Jersey P.L. 1975 Chapter 27

### **107.03 AFFIRMATIVE ACTION, DISADVANTAGED BUSINESS ENTERPRISES, OR EMERGING SMALL BUSINESS ENTERPRISE**

THE TITLE AND ENTIRE SUBSECTION IS CHANGED TO:

### **107.03 AFFIRMATIVE ACTION, DISADVANTAGED BUSINESS ENTERPRISES OR EMERGING SMALL BUSINESS ENTERPRISES, AND SMALL BUSINESS ENTERPRISES**

It is the public policy of the State and of the United States that no individual, group, firm, corporation or joint venture working on or seeking to work on a Public Works Project should be discriminated against on the basis of race, creed, color, national origin, age, ancestry, nationality, marital or domestic partnership status, gender, disability, liability for military service, affectional or sexual orientation, atypical cellular or blood trait, or genetic information (including the refusal to submit to genetic testing). The Department has developed Affirmative Action, Disadvantaged Business Enterprise, or Emerging Small Business Enterprise Programs to implement this policy, and the regulations and requirements applicable to the Contract are contained in the Special Provisions. The Department will resolve conflicts between these regulations and requirements and the other provisions of the Contract to further the above stated public policy.

**Contract Assurance.** The Contractor, sub-recipient 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 Department deems appropriate, which may include, but is not limited to:

1. Withholding monthly progress payments;
2. Assessing sanctions;
3. Liquidated damages; and/or
4. Disqualifying the Contractor from future bidding as non-responsive.

**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 of the Proposed Final Certificate 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.

**107.14 PATENTED DEVICES, MATERIALS, AND PROCESSES**

THE FOLLOWING IS ADDED

Observe 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements” and any implementing regulations set forth by the USDOT, FHWA or FAA if State contract is for the performance of experimental, developmental, or research work funded under a Federal Aid Project.

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

THE FOLLOWING PARAGRAPH IS ADDED BEFORE THE FIRST PARAGRAPH:

Do not discriminate on the grounds of race, creed, color, national origin, age, ancestry, nationality, marital/domestic partnership/civil union status, gender, disability, religion, affectional or sexual orientation, gender identity or expression, family status, atypical cellular or blood trait, genetic information, military service, or veterans status, in the selection and retention of subcontractors, including procurement of materials and leases of equipment. In all solicitations, either by competitive bidding, or negotiation made by the Contractor for work to be performed under a subcontract, including procurement of materials, or leases of equipment, each potential subcontractor or firm will be notified by the Contractor of the Contractor's obligations under this Contract and the Acts and Regulations relative to Nondiscrimination.

#### 1. Values and Quantities.

THE FOLLOWING IS ADDED TO FIRST PARAGRAPH

1.

There are no Specialty Items in this Project.

Specialty Items are as listed below:

Drilling and blasting.

Above ground highway lighting items.

Above ground sign lighting items.

Above and below bridge deck lighting items.

Electrical wire items.

ITS items, except for foundations, standards, and junction boxes.

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.

#### 2. Limits and Restrictions.

PART 3 IS CHANGED TO:

3. The Contractor is barred from subcontracting to firms and individuals suspended or debarred by the Department or included in the State of New Jersey Consolidated Debarment Report maintained by the Department of the Treasury, Division of Building and Construction, Bureau of Contractor Prequalification. The Contractor must certify that neither the individual, partnership, corporation, joint venture, or limited liability corporation applying to do subcontract work nor any of its corporate officers, stockholders, partners, or members are collectively or individually suspended, debarred, proposed for debarment, disqualified, declared ineligible, or voluntarily excluded from doing business by this or any other State or sub-division thereof or listed in the Federal Government's System for Award Management (SAM), located at: <https://www.sam.gov/portal/SAM/#1>.

#### 3. Subcontract Requirements.

THE ENTIRE PART 3 IS CHANGED TO:

3. **Subcontract Requirements.** Ensure that subcontract agreements include the following Contract provisions:

- b. **Wholly State Funded Projects.** When subcontracting work on a wholly State funded project, ensure the following are included in the subcontract agreement.

1. State of New Jersey Equal Employment Opportunity Special Provisions for Wholly State Funded Projects (State Funded Project Attachment 2).

2. Requirements for Affirmative Action to Ensure Equal Employment Opportunity on Wholly State Funded Projects (State Funded Project Attachment 3)
3. Investigating, Reporting and Resolving Employment Discrimination and Sexual Harassment Complaints on Wholly State Funded Projects (State Funded Project Attachment 4)
4. Payroll Requirements for Wholly State Funded Projects (State Funded Project Attachment 5).
5. Americans with Disabilities Act Requirements for Wholly State Funded Projects (State Funded Project Attachment 6).
6. New Jersey Department of Labor Prevailing Wage Rate Determination.
7. New Jersey Department of Transportation Code of Ethics for Vendors.
8. Subsection 107.04 as amended or supplemented.
9. The Standard Title VI Assurance found in Subsection 107.02, as amended or supplemented.

**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.

**108.07.02 Changes to the Traffic Control Plan (TCP)**

THE FIRST SENTENCE IN THE FIRST PARAGRAPH IS CHANGED TO:

Submit requests for changes to the TCP to the RE for approval at least 30 days before the change is needed.

THE FOLLOWING NEW SUBPART IS ADDED:

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**

The Bridge Replacement at Passaic Street (NJDOT Funded) project shall be completed within three hundred sixty five (365) working days (one year) after notice proceed, weather permitting.

**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 FOLLOWING IS ADDED:

For delays caused by Railroads, when the availability to access is reduced by more than 30 percent greater than the estimated availability specified in 105.07.

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.

**108.14 DEFAULT AND TERMINATION OF CONTRACTOR'S RIGHT TO PROCEED**  
THE FOLLOWING LISTS UNDER THE FIRST PARAGRAPH IS CHANGED TO:

1. Fails to begin construction operations within \_\_ days of execution of the Contract.
  
11. Fails to comply with Contract requirements regarding minimum wage payments, 49 CFR Part 26 et seq., the DBE program requirements, SBE program requirements, and equal employment opportunity requirements.

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 Subsection 108.10 of these Special Provisions, for Interim Completion, the Department will assess liquidated damages in the amount of \$1,000\_\_.
- B. For each day that the Contractor fails to complete the work as specified in Subsection 108.10 of these Special Provisions, for Substantial Completion, the Department will assess liquidated damages in the amount of \$\_1,000\_\_\_\_\_.
- C. For each day that the Contractor fails to achieve Completion as specified in Subsection 108.10 of these Special Provisions, the Department will assess liquidated damages in the amount of \$\_1,000\_\_\_\_\_.

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.

THE LAST SENTENCE OF THE LAST PARAGRAPH IS CHANGED TO:

The Department will measure quantities for Proposal Items that are designated on the Plans as “if and where directed” for payment when the RE directs work using the “if and where directed” quantity.

**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 FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH:

Pay subcontractors and suppliers for satisfactory performance of their work no later than 30 days from receipt of each payment made by the Department.

Pay subcontractors and suppliers the full amount of retainage no later than 30 days from receipt of payment made by the Department for the subcontractor's or supplier's work.

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, including retainage, from the previous progress payment and will be paid the amount due from the current progress payment, including retainage, for the subcontractor or supplier's work that was paid by the Department.
2. There exists a valid basis under the terms of the subcontractor's or supplier's contract to withhold payments from the subcontractor or supplier, and therefore payment is withheld.

THE FOLLOWING IS ADDED AFTER THE FOURTH PARAGRAPH:

If the Contractor fails to pay the subcontractor or supplier within 30 days after the subcontractor or supplier satisfactorily completes the specified work, the Department may withhold progress payments from the Contractor, until the Contractor pays the subcontractor or supplier all delinquent amounts due, or the Contract is terminated, or the matter is resolved under N.J.S.A. 52:32-40 and N.J.S.A. 52:32-41.

If the Department receives an allegation from a subcontractor or a supplier that the Contractor has not paid the subcontractor or supplier the amount due from a previous progress payment, including retainage, submit to the RE within 10 days of a request made by the RE, evidence that payment has been made.

THE EIGHTH PARAGRAPH IS CHANGED TO:

From the total Estimate amount, excluding amounts for subcontracted work on Federal aid projects, the Department will deduct and retain 2 percent until Substantial Completion.

THE NINTH PARAGRAPH IS CHANGED TO:

In the first Estimate following Substantial Completion, the Department will reduce the retainage withheld to one percent of the Total Adjusted Contract Price, excluding subcontracted work on Federal aid projects, unless it has been determined by the Department that the withholding of additional retainage is required. If retainage is held in cash withholdings, the reduction is to be accomplished by payment under the next Estimate. If retainage is held in bonds, the Department will authorize a reduction in the escrow account. THE NINTH PARAGRAPH IS CHANGED TO:

In the first Estimate following installation of all landscape work, the Department will reduce the retainage withheld to one percent of the Total Adjusted Contract Price, excluding subcontracted work on Federally aid projects, unless it has been determined by the Department that the withholding of additional retainage is required. If retainage is held in cash withholdings, the reduction is to be accomplished by payment under the next Estimate. If retainage is held in bonds, the Department will authorize a reduction in the escrow account.

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.

**109.06 MATERIALS PAYMENTS AND STORAGE**

THE TEXT BEFORE THE LIST UNDER THE FIRST PARAGRAPH IS CHANGED TO:

The Contractor may request payment for the cost of materials, including the storage cost, not incorporated into the Work. If approved by the RE, the Department will make payment for the cost of materials, including storage costs if such payment exceeds \$25,000; however, the amount of payment may not exceed 85 percent of the bid price for the associated Item. The Department will not make payment for such materials until the RE is satisfied that:

**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 SECTION IS DELETED AND REVISED TO:

PERFORMANCE BOND AND PAYMENT BOND SHALL NOT BE MEASURE FOR PAYMENT AND THE COST SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

### **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**

###### **1. Comprehensive General Liability Insurance.**

###### **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.

#### **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 SECTION IS DELETED AND REVISED TO:

SEPARATE PAYMENT WILL NOT BE MADE FOR INSURANCE AND THE COST THEREFORE SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.

### **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**

**THIS SECTION IS DELETED IN ITS ENTIRITY.**

## SECTION 156 – MATERIALS FIELD LABORATORY AND CURING FACILITY

THIS SECTION IS DELETED IN ITS ENTIRITY.

## SECTION 157 – CONSTRUCTION LAYOUT AND MONUMENTS

### 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.

### 157.04 MEASUREMENT AND PAYMENT

THE FOLLOWING SECTION IS DELETD AND REPLACED WITH:

CONSTRUCTION LAYOUT SHALL NOT BE MEASURED FOR PAYMENT AND THE COST SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.

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

### 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:

## SECTION 159 – TRAFFIC CONTROL

### 159.02.01 Materials

THE FOLLOWING IS ADDED TO THE LIST OF MATERIALS REFERENCES:

Box Beam for Construction Barrier Curb ..... 913.04

THE FOLLOWING IS ADDED:

Provide temporary crash cushions, inertial barrier systems as specified in 611.02. Provide temporary compressive crash cushions as specified for compressive crash cushions in 611.02.

#### **159.02.02 Equipment**

#### **159.03.02 Traffic Control Devices**

##### **2. Construction Barrier Curb.**

THE ENTIRE TEXT IS CHANGED TO:

Alternate A or B construction barrier curb may be used interchangeably in any location. The Contractor may use construction barrier curb that is constructed using gray or white concrete. Do not place different colors of construction barrier curb in a continuous run. Do not use construction barrier curb having any of the following deficiencies:

1. Exposed steel at the connector flangeway.
2. Exposed reinforcement steel.
3. Cracking through the cross section.
4. An area of concrete missing larger than a 3-inch by 3-inch right triangle.
5. Debris in the keyway.
6. Non-functioning anchor bolt holes.
7. Non-functioning anchor rod hole.
8. Paint applied to the surface.
9. Objects protruding from the surface.
10. Previous repairs.
11. Do not use damaged, kinked or bent connection key or box beam stiffener.

At least 30 days before delivering construction barrier curb to the Project Limit, provide the RE notice that the barrier curb is available for inspection. The RE will inspect the barrier curb and approve individual pieces for delivery to the Project Limits.

Ensure that anchor pins do not project above the plane of the barrier curb. Install the Construction Barrier Curb stiffened with box beams as indicated in the contract documents.

Replace construction barrier curb that does not meet the specified requirements. Do not patch or repair construction barrier curb.

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, or 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.

##### **5. Temporary Crash Cushion**

THE SECOND SENTENCE IS CHANGED TO:

Install temporary compressive crash cushions as specified for compressive crash cushions in 611.03.02.

##### **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:

- 8. Portable Variable Message Sign with Remote Communication (PVMSRC).** Place the PVMSRC at the locations directed by the RE for the duration of the project. Ensure that a designated representative familiar with the operation and

programming of the unit is available on the Project for On-Site Configuration. Only display messages on the PVMSRC authorized by the Department for the Project in accordance with the plans or as directed by the RE and make the signs available for use remotely from the Traffic Operation Center (TOC) specified in [105.07.01.B](#). Program within 8 hours, any message requested by the RE to be displayed on the PVMS at a scheduled time and verify that the message is displayed correctly and notify the RE. If the PVMSRC fails to function, repair the equipment within 48 hours of receiving notice from the Department that the PVMSRC is not functioning.

Integrate the PVMSRC for remote operation from TOC using Vanguard DMS software or the Department's central DMS control software at the time of installation as directed by the RE.

Provide for one week of testing by the TOC for remotely operating the PVMSRC before the start of construction operations that require lane or shoulder closures, or other impacts to traffic. At least 10 days before testing, submit to the RE for approval a plan for any work to be completed in the TOC. Submit a request to the RE at least 4 days in advance to access the TOC for any work.

#### **159.03.06 Temporary Traffic Stripes and Temporary Traffic Markings**

THE SUBPART HEADING AND THE ENTIRE TEXT IS CHANGED TO:

#### **159.03.06 Traffic Stripes, Latex ,Traffic Markings Lines, Latex and Traffic Markings Symbols, Latex**

Apply latex traffic stripes and latex markings when they are required for 14 days or less. Apply epoxy traffic stripes and thermoplastic markings as specified in 610.03.01 and 610.03.02 when they are required for more than 14 days. Apply latex traffic stripes and latex 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 latex paint in a wet film thickness of  $6 \pm 1$  mil. Apply glass beads to the wet paint in a uniform pattern and at the rate of 12 pounds per gallon of paint.

#### **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.

##### **B. Police.**

THE FOURTH PARAGRAPH IS DELETED.

#### **159.04 MEASUREMENT AND PAYMENT**

THE SECOND PARAGRAPH IS CHANGED TO:

For traffic control devices measured by the linear foot or unit basis that are specified in 159.03.02, the Department will make payment for the maximum quantity in service at one time as required by the Contract. For CONSTRUCTION SIGNS, the Department will make payment for the maximum quantity of specific sign types in service at one time as required by the Contract. If a particular sign type has more than one unique text, each sign with a unique text will be considered to be a specific sign type. The Department will make payment for 50 percent of the Contract bid price for traffic control devices specified in 159.03.02 that are measured on a linear foot, square foot or unit basis upon approved placement. The Department will prorate the balance of payment over the duration of the Contract.

THE FOLLOWING IS ADDED

If after being notified by the Department that the PORTABLE VARIABLE MESSAGE SIGN WITH REMOTE COMMUNICATION 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.

## DIVISION 200 – EARTHWORK

### SECTION 201 – CLEARING SITE

#### 201.03.01 Clearing Site

##### **B. Clearing and Grubbing.**

THE FOLLOWING IS ADDED:

Dispose of material and debris as specified in 201.03.09.

Remove trees and branches within 15 feet of the end of JCP&L pole cross arms. If the resulting tree is rendered hazardous, then remove the entire tree according to SECTION 802.

THE FOLLOWING IS ADDED.

**H. Removal and Replacement and/or Resetting of Miscellaneous Items.** This work shall include the removal and resetting of all flag poles, traffic signs, street signs, sprinkler systems, landscaping, roof drains, splash blocks, gates, wooden stairs, concrete stoops, decorative stones, and any and all other items as required to complete the work. The contractor is responsible for temporary storage of all items. Any damaged items are to be replaced by the contractor at no additional cost to the owner. Any excess material is to be removed and disposed of by the contractor. All excavation, labor, temporary storage and other work necessary for this work shall be included.

The Contractor must maintain access to all businesses and residences in the project area for the duration of the project and his construction shall be so sequenced as to limit the impact to these businesses and residences. The Contractor shall coordinate his activities in writing prior to commencing work and during the course of construction. No separate payment will be made for this work but the costs shall be included in the Lump Sum bid price for Clearing Site in the proposal.

### 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.

##### **B. Temporarily Storing.**

THE FOLLOWING SENTENCE IS ADDED AFTER THE SECOND SENTENCE OF THE FIRST PARAGRAPH:

Do not commingle different types or classifications of material.

#### 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.

#### 202.03.07 Reuse or Disposal of Excess Material



**A. Reuse.**

THE THIRD PARAGRAPH IS CHANGED TO:

Upon RE's approval, reuse excavated soil to widen or flatten slopes of embankment, to fade embankments into cuts, or as approved at other locations. Ensure that the excess material is not reused within a wetland, a transition area, a riparian zone, a flood hazard area or other regulated area without obtaining an appropriate NJDEP permit.

**B. Disposal.**

PARTS 1 AND 2 UNDER THE FIRST PARAGRAPH ARE CHANGED AND PART 3 IS ADDED:

1. At least 10 days before disposing, submit the disposal procedure and location to the RE for approval. Do not dispose of excavation on property proposed to be or used for parks, playgrounds, and other recreational purposes; residential facilities; educational facilities; environmentally sensitive areas such as wetlands; historic sites; or within sight of a State highway during all seasons.
2. Obtain the potential owner's notarized authorization of the acceptance of the excess material. If the potential owner requires environmental material sampling, obtain RE's approval at least 7 days before sampling for oversight only. Approval of the sampling does not imply agreement with the sampling results and the Department reserves the right to sample the material for classification. Provide the RE all testing results and documentation associated with the sampling.
3. Load and transport excess material that the RE determines to be excess, unusable or unsuitable for the project according to Federal, State, and local law, rules and regulations.

# 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

THE FOLLOWING IS ADDED TO THE MATERIALS LIST

Polymer Modified Tack Coat ..... 902.01.04

### 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
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THE FOLLOWING IS ADDED TO THE THIRD PARAGRAPH:

If unbound aggregate material is encountered within the specified milling depth, mill unbound aggregate material without damaging the underlying material.

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.

#### B. Milling of Concrete

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

If reinforcement steel becomes exposed or dislodged, cut off the exposed reinforcement at the concrete surface as directed by the RE.

THE FOLLOWING IS ADDED TO THE FIFTH PARAGRAPH:

Ensure that no reinforcement steel is protruding from the surface.

#### D. Repairing HMA Pavement.

THE ENTIRE TEXT IS CHANGED TO:

Arrange a meeting with the RE at the project site to establish the limits of HMA pavement repair. Additional repairs, not delineated on the plans or by the RE during the project site meeting, may be required if the need is established by the RE.

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.

Perform HMA repairs as a separate operation before milling, paving and other surface treatments. The Contractor may request approval of the RE to perform the repair work as one operation with the paving or surface treatment.

HMA repairs may be performed on full depth HMA pavement or on composite pavement (HMA over concrete pavement). For full depth HMA pavement, sawcut existing HMA pavement to a depth of 8 inches. For composite pavement sawcut existing HMA to a depth of 8 inches or up to the top of concrete, 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 within the boundary of the sawcuts to form rectangular openings with vertical sides to a depth of 8 inches for HMA pavement, or to the top of concrete for composite pavement. A milling machine may be used to remove damaged pavement and form the repair areas if approved by the RE.

After the existing damaged HMA and loose material has been removed, the RE will examine underlying material to determine its condition.

If the base of the repair area is unbound material then shape and compact the unbound material to produce a firm and level base.

If water exists in the area, remove the underlying material to the depth specified by the RE. Place geotextile, then place and compact coarse aggregate to required grade to provide for a minimum 8 inch thick HMA pavement repair. Compact coarse aggregate as specified in 203.03.02.C. If the base of the repair is HMA or concrete pavement then ensure that the remaining pavement is cleaned and dry prior to applying tack coat.

Apply tack coat at an application rate of 0.15 gallons per square yard to the vertical surfaces and base of the opening. Spread and grade HMA surface course mix in the opening as specified for the roadway surface or a HMA surface course mix approved 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, or 1/8 inch higher than, the adjacent pavement surface.

Reuse removed material as specified in 202.03.07.A.

#### THE FOLLOWING PART IS ADDED:

- E. Micro-Milling.** Ensure that pavement repairs are performed prior to micro-milling. Ensure that joint and crack sealing is performed after micro-milling.

Micro-mill pavement surfaces to the required depth, profile, and cross slope. The micro milling depth is not to exceed 1 1/2 inch depth. Operate the micro-milling machine at a speed recommended by the manufacturer, not greater than 50 feet per minute. Use automatic grade controls to control the line and grade of the milling machine. Use either a stringline or ski reference system. Replace teeth in the milling drum that become dislodged, broken, or unevenly worn. Perform the work in a manner that prevents dust and other particulate matter from escaping into the air.

Ensure positive drainage is maintained. When micro-milling to improve the profile, ensure that at least 95 percent of the surface is micro-milled and textured. Ensure that the micro-milled area is free from gouges, continuous grooves, ridges, and delaminated areas and has a uniform texture consisting of discontinuous longitudinal striations. If during micro-milling the pavement surface becomes damaged, then correct the damaged areas as approved by the RE. Ensure that the micro-milling produces a final surface texture with a mean texture depth of not greater than 4mm when tested according to ASTM E 965.

Ensure that the vertical differential in the surfaces across transverse joints and cracks is less than 1/4 inch after micro-milling. The RE will use a 10 feet long straight edge to evaluate the vertical differential at transverse joints and cracks by centering the straightedge perpendicular to and across the transverse joints or cracks. If the vertical differential exceeds 1/4 inch as measured from the bottom of the straight edge to the top of the pavement surface at any point, perform corrective action until the differential is 1/4 inch or less.

When micro-milling to correct profile and cross slope, ensure the cutting depth is sufficient to remove ruts and corrugations and to scarify the remaining surface. If the depth required to remove ruts and corrugations exceeds a depth of 1 1/2 inches, then notify the RE. The RE may direct additional milling to correct these areas.

Using a mechanical sweeper, clean the area before opening to traffic and before subsequent construction or resurfacing. Reuse millings and sweepings as specified in 202.03.07.A.

The RE will visually inspect the micro-milled surface. The RE may reject micro-milled areas that are unsatisfactory based on visual inspection. Improper micro-milling that produces excess surface damage or a surface which does not meet the requirements of this specification may be rendered unsatisfactory as determined by the RE. Correct areas of the micro-milling that the RE rejects. Visual inspection by the RE is considered sufficient grounds for such rejection.

#### **401.03.02 Tack Coat and Prime Coat**

THE ENTIRE TEXT IS CHANGED TO:

Clean the surface where the HMA is to be placed of foreign and loose material. Immediately before beginning paving operations, ensure that the surface is dry. Do not place tack coat or prime coat unless the weather restrictions, as specified in 401.03.03.B, are met.

Do not apply tack coat or prime coat to asphalt-stabilized drainage course.

For curbs, gutters, manholes, and other similar structures, do not apply tack coat or prime coat. Clean the exposed surfaces of these structures and apply a uniform coating of polymerized joint adhesive to contact surfaces before paving.

In areas inaccessible to distributor spray bars, use hand spraying equipment for tack and prime coat. Do not allow traffic on tack coated or prime coated surfaces. Treat surfaces as follows:

- Tack Coat.** Uniformly spray tack coat when placing HMA on paved surfaces. Apply tack coat only to areas to be paved in the same day. Apply tack coat as specified in Table 401.03.02-1:

<b>Table 401.03.02-1 Tack Coat Application</b>			
<b>Material</b>	<b>Spraying Temp, °F</b>	<b>Gallons per Square Yard</b>	<b>Season</b>
<b>Cut-Back Asphalt:</b>			
RC-70	120 to 190	0.05 to 0.15	Oct 15 to Apr 15
<b>Emulsified Asphalt:</b>			
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

Correct uncoated or lightly coated areas. Blot areas showing an excess of tack coat with sand or other similar material. Remove blotting material before paving. Ensure that the material is not streaked or ribboned.

Before paving, allow tack coat to cure to a condition that is tacky to the touch.

- Tack Coat 64-22.** When precipitation has occurred within 24 hours before application, the RE will determine whether to allow the work to proceed, or to wait until the surface is completely dry. Only apply tack coat that can be paved over in the same day. Apply tack coat 64-22 at a rate of 0.06 to 0.14 gallons per square yard and at a spraying temperature of 325 °F. Adjust the spraying temperature and application rate to produce a uniform coating, with no excess material.

Correct uncoated or lightly coated areas and remove excess tack coat from affected areas. Ensure that the material is not streaked or ribboned.

- Polymer Modified Tack Coat.** Apply polymer modified tack coat with an ultra-thin paver at a temperature of 140 to 175 °F. Continuously monitor rate of spray, ensuring a uniform application rate over entire width to be overlaid. Apply at the rate of  $0.20 \pm 0.05$  gallons per square yard. Do not allow traffic, equipment, tools, or any other disturbance to the polymer modified tack coat before placing the ultra-thin friction course.
- Prime Coat.** Clean the surface of foreign and loose material where the HMA is to be placed. Immediately before beginning paving operations, ensure that the surface is dry. Do not place prime coat unless the weather restrictions, as specified in 401.03.03.B are met.

Do not apply prime coat to asphalt-stabilized drainage course.

For curbs, gutters, manholes, and other similar structures, do not apply prime coat. Clean the exposed surfaces of these structures and apply a uniform coating of polymerized joint adhesive to contact surfaces before paving.

In areas inaccessible to distributor spray bars, use hand spraying equipment for. Do not allow traffic on prime coated surfaces. Treat surfaces as follows:

Apply prime coat of cut-back asphalt on unpaved surfaces as follows:

<b>Table 401.03.02-2 Prime Coat Application</b>			
<b>Cut-Back Asphalt</b>	<b>Spraying Temp, °F</b>	<b>Gallons per Square Yard</b>	<b>Season</b>
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
<b>Emulsified Asphalt:</b>			
CSS-1	70 to 140	0.1 to 0.50	All year

Apply prime coat at least 12 hours before placement of the HMA and when the base courses are not saturated or frozen. Unless the prime coat is under asphalt-stabilized drainage course, the RE may waive the application of prime coat if more than 5 inches of HMA is placed on the unbound aggregate course before the roadway is opened to traffic. Take measures to prevent prime coat from entering into the drainage system or extending beyond the area to be paved.

### 401.03.03 HMA Courses

#### A. Paving Plan.

THE PARTS 3, 5 & 9 ARE CHANGED TO:

3. Number, type, and model of equipment. Innovative equipment features to be utilized such as but not limited to intelligent compaction rollers, paver mounted infrared thermal profile system, and other Global Position System (GPS) located construction equipment.
5. Longitudinal joint layout plan, quality control and construction practices.
9. Paving sequence and paver automation use plan. Ensure that the HMA surface course is constructed for the full width of the traveled way, shoulder, and auxiliary lanes as a single paving operation.

THE FOLLOWING IS ADDED AT THE END OF THE FIRST PARAGRAPH:

15. If applicable, the warm mix asphalt additive or process being used.

**C. Test Strip.**

THE FIRST SENTENCE IN THE FIRST PARAGRAPH IS CHANGED TO:

Construct a test strip for each HMA mix for contracts with more than a total of 5500 tons of HMA.

THE FOLLOWING IS ADDED AT THE END OF THE FIRST PARAGRAPH:

1. **Warm Mix Asphalt.** Note the warm mix asphalt additive or process, if used.

THE LAST SENTENCE IN THE SECOND PARAGRAPH IS CHANGED TO:

If the Contractor does not continue paving, the Department will accept the test strip as the first lot regardless of size.

THE FOLLOWING IS ADDED TO THE END OF THE FOURTH PARAGRAPH:

If any changes are made to the paving plan after the beginning of the paving operation, construct an additional test strip.

**D. Transportation and Delivery of HMA.**

THE ENTIRE TEXT 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. Contractor
3. Project title.
4. Load time and date.
5. Truck number.
6. Mix designation.
7. Item name and number
8. Plant lot number.
9. Tare, gross, and net weight.

Ensure that weigh tickets are signed and sealed by a certified weighmaster.

In the event of breakdown of an automatic printer system, the RE will accept weigh tickets showing the tare, gross, and net weight of each truck, as entered and certified by a weighmaster for a period not exceeding the necessary repair time as certified by a licensed repairman.

When using an automated batching plant, obtain weigh tickets from the printer used in conjunction with an automated batching and mixing system. Ensure the printed ticket shows the individual weights of the various components of the HMA in a batch, the total weight of each batch, and the sum of all batch weights in the truckload. At the completion of each day's work provide certification from the weighmaster that the total net weight supplied was correct.

**E. Spreading and Grading.**

THE ENTIRE TEXT IS CHANGED TO:

Use a stringline or other linear reference system to ensure proper line and grade when spreading material. Ensure that the system is in place and approved by the RE before placing HMA. Ensure that the underlying surface meets line and grade as specified in 202.03.03.C. Before placing HMA, ensure that the tack coat or prime coat has been placed as specified in 401.03.02 to the full width of the HMA. Obtain RE approval of the underlying surface far enough in advance of spreading HMA to allow 1 day's paving operations.

Ensure that the certified APCT is present during paving operations.

Ensure that an MTV independently delivers HMA from the HMA trucks to the HMA paver.

Before beginning, ensure that the temperature of the screed on the HMA paver is heated to at least the laydown temperature of the HMA. Using the MTVs and HMA pavers, construct paving courses in lifts of at least 4 times the nominal maximum aggregate size of the HMA being constructed. Ensure the paver vibratory screed is on when paving and that the paver automation is used as per the paving plan. Ensure the paver and auger speed are coordinated and operated at the proper speed to allow for a uniform head of material across the entire width of the paver. Ensure that the proper paver and auger speed are maintained. Ensure that the grade and profile are maintained.

Use HMA having a nominal maximum aggregate size of 3/8 inch or less in transition (run out) areas. On areas where irregularities or unavoidable obstacles make use of a paver impractical, spread, rake, and lute HMA with hand tools. For these areas, dump, spread, and screed the HMA to obtain the required compacted thickness.

Construct joints as follows:

**1. Longitudinal Joints.** Perform paving with the spring-loaded end plates of the paver in the “down” position and ensure that they are firmly seated on the pavement surface. Ensure augers and tunnels are extended to within 12 to 18 inches of the end plates and that a continual supply of hot material flows out to the end plates and the material is not segregating. Ensure the longitudinal joint in 1 lift offsets that in the lift immediately below by approximately 6 inches. Offset the joint in the surface course from the lane lines by 6 inches. When constructing a joint between lanes of opposing traffic, offset the joint by 6 inches into either lane.

**a. Echelon Paving.** If a single paver does not spread the HMA the entire width of the roadway, use 2 or more pavers in echelon. Ensure that the trailing paver follows within 300 feet of the lead paver. Extend the screed and end gate of the trailing paver 1 inch over the uncompacted HMA placed by the lead paver. Ensure that the uncompacted HMA elevation from the trailing paver is equal to that from the lead paver at the joint. The Contractor may construct either a butt joint or a wedge joint. Do not rake the joint.

**b. Cold Joint Paving.** If echelon paving is not possible, construct the pavement using cold longitudinal joints. When constructing the first lane, compact so the line and grade of the edges of the HMA are not displaced. Construct longitudinal joints parallel to the centerlines within a tolerance of  $\pm 1$  inches per 100 linear feet. If this tolerance is not met, trim or mill the edge of the HMA mat as necessary. Before paving the abutting lane, ensure longitudinal joints are straight, and free from dust and debris.

For surface course only, uniformly apply polymerized joint adhesive to longitudinal cold joint. Apply a 1/8 inch thick coating of polymerized joint adhesive over the entire joint face. Apply slowly to ensure an even coating thickness. Apply polymerized joint adhesive to the vertical faces, curb and utility structures.

When maintaining traffic with a lift thickness greater than 2 inches, construct a wedge joint. The RE will permit a butt joint for lift thickness 2 inches or less when maintaining traffic, or for lift thickness greater than 2 inches when maintaining traffic is not required. Maintain a uniform width and depth of overlapped material at all times. Position the paver so that the HMA overlaps the edge of the lane previously placed by 1/2 to 1 inch. Leave the material sufficiently high to allow for compaction. Do not lute the HMA material. Do not broadcast HMA material at the joint across the new HMA mat.

When compacted, ensure that the new mat at the joint is even or slightly higher (maximum 1/8 inch) than the previously placed adjoining mat. If the newly compacted mat results in a depression at the joint of more than 1/8 inch, suspend paving operations until corrective action is taken to prevent reoccurrence.

**2. Transverse Joints.** Construct transverse joints to provide a smooth riding surface. When using a bulkhead to form the joint, ensure that the bulkhead forms a straight line and vertical face. If a bulkhead is not used to form the joint, make the joint by sawing the compacted HMA for a sufficient distance behind the end of the placement to ensure full thickness and a smooth surface at the joint. Remove the full lift thickness of HMA ahead of the sawed joint. In either case, paint the joint face with polymerized joint adhesive before the fresh material is placed against it. Unless prohibited by field conditions, cross roll to obtain thorough compaction of these joints.

#### **F. Compacting.**

THE FOURTH SENTENCE OF THE LAST PARAGRAPH IS CHANGED TO:

On a daily basis, provide results of both the nuclear density and core testing to the RE.

#### **G. Opening to Traffic.**

THE ENTIRE TEXT IS CHANGED TO:

Remove loose material from the traveled way, shoulder, and auxiliary lanes before opening to traffic. Open HMA courses to traffic or construction equipment, including paving equipment, only after the surface temperature has cooled to less than 140 °F.

When using Warm Mix Asphalt, do not allow traffic or construction equipment on the HMA course until the surface temperature is less than 120 °F.

**H. Air Void Requirements.**

THIS SUBSECTION IS REPLACE BY THE FOLLOWING FOR STATE AIDE PROJECTS:

Pavement lots are defined as approximately 15,000 square yards of pavement in Surface area. If pavement lot area is less than 5000 square yards, the Regional District Local Aid Office may waive the air voids requirements.

The RE will designate an independent testing agency (Laboratory) to perform the quality assurance sampling, testing and analysis. The Laboratory is required to be accredited by the AASHTO Accreditation Program ([www.amrl.net](http://www.amrl.net)). The Laboratory’s accreditation must include AASHTO T 166 and AASHTO T 209.

The Laboratory Technician who performs the quality assurance sampling shall be certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Plant Technologist, Level 1. The Laboratory will determine air voids from 5 (Five) 6 inch diameter cores taken from each lot in random locations within the traveled way and at least one core in each travel lane. The Laboratory will determine air voids of cores from the values for the maximum specific gravity of the mix and the bulk specific gravity of the core. The Laboratory will determine the maximum specific gravity of the mix according to NJDOT B-3 and AASHTO T 209, except that minimum sample size may be waived in order to use a 6-inch diameter core sample. The Laboratory will determine the bulk specific gravity of the compacted mixture by testing each core according to AASHTO T 166. The Laboratory will calculate the in-place air voids of each completed lot outside the acceptable range of 2 percent air voids to 8 percent air voids.

The RE will assess a reduction in lot due to nonconformance to air voids according to the Table 401.03.03-3.

<b>Table 401.03.03-3 Reduction for Nonconformance to Air Voids Requirements</b>	
<b>Lot Average Air Void Value (Five Samples)</b>	<b>Reduction Per Lot (Percent of Lot)</b>
0.0 to 1.9	10
2.0 to 8.0	0
8.1 to 9.0	5
9.1 to 10.0	15
10.1 to 12.0	30
Over 12.0	Remove & Replace

If the average air voids for the lot is greater than 12.0 percent, remove and replace the lot. The replacement work is subject to the same requirements as the initial work.

**I. Thickness Requirements.**

THIS SUBSECTION IS REPLACED BY THE FOLLOWING:

Thickness requirements will apply when full-depth, uniform-thickness HMA pavement construction is shown. Pavement

lots are defined as approximately 15,000 square yards of pavement area. The Engineer will not include areas consisting of different HMA mixtures or thicknesses in the same lot. If thickness lot area is less than 5000 square yards, the Regional District Local Aid Office may waive the thickness requirements.

The RE will designate an independent testing agency (Laboratory) to perform the quality assurance sampling, testing and analysis. The Laboratory is required to be accredited by the AASHTO Accreditation Program ([www.amrl.net](http://www.amrl.net)). The Laboratory's accreditation must include AASHTO T 166 and AASHTO T 209.

The Laboratory Technician who performs the quality assurance sampling shall be certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Plant Technologist, Level 1.

The Laboratory will test for thickness using the full-depth cores taken for surface course air voids, evaluated according to NJDOT B-4. The Laboratory will base acceptance on total thickness and thickness of the surface course.

1. **Total Thickness.** The Laboratory will calculate the percent defective (PD) as the percentage of the lot that is less than the design thickness. The Department will base total thickness acceptance on the percentage of the lot estimated to fall below the specified thickness as follows:

- a. **Sample Mean ( $\bar{X}$ ) and Standard Deviation (S) of the N Test Results ( $X_1, X_2, \dots, X_N$ ).**

$$\bar{X} = \frac{(X_1 + X_2 + \dots + X_N)}{N}$$

$$S = \frac{\sqrt{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 + \dots + (X_N - \bar{X})^2}}{N - 1}$$

- b. **Quality Index ( $Q_L$ ).**

$Q_L = (\bar{X} - T_{des})/S$ , and  $T_{des}$  is the design thickness.



- c. **Percent Defective (PD).** Using NJDOT ST - Statistical Tables (NJDOT Standard Specs for Roads and Bridges 2007-NJDOT TEST METHODS) for the appropriate sample size, determine the percentage of material (PD) falling below the design thickness associated with  $Q_L$  (lower limit).
- d. **Reduction in Payment.** The Department will determine the reduction in payment based on the quantity of the surface course multiplied by the percent reduction in payment from Table 401.03.03-5.

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**Table 401.03.03-5 Reduction in Payment for Nonconformance to Requirements for Total Thickmess**

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Percent Defective	Percent Reduction
0 to 25.0	0
25.1 to 30.0	2
30.1 to 35.0	5
35.1 to 40.0	10
40.1 to 45.0	20
Over 45.0	Remove & Replace

- e. **Removal and Replacement.** If the lot  $PD \geq 45$ , remove and replace, or mill and overlay, the lot. The replacement work is subject to the same requirements as the initial work.
2. **Surface Course Thickness.** The Laboratory will evaluate the surface course solely to determine whether a remove-and-replace or an overlay condition exists, not for pay adjustment. The Laboratory will calculate the percent defective (PD) as the percentage of the lot that is less than the allowable thickness for the nominal maximum aggregate used in the surface course. The Laboratory will accept pavement lots with  $PD \leq 25$  and will reject pavement lots with  $PD > 25$ .

The Laboratory will base surface thickness acceptance on the percentage of the lot estimated to fall below the allowable thickness as follows:

- a. **Sample Mean ( $\bar{X}$ ) and Standard Deviation (S) of the N Test Results ( $X_1, X_2, \dots, X_N$ ).** Calculate using the formula as specified in 401.03.03.I.1.
- b. **Quality Index (Q).**  
 $Q_L = (\bar{X} - T_{all})/S$ , where  $T_{all}$  is the minimum allowable thickness from Table 401.03.03-6.

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**Table 401.03.03-6 Surface Course Thickness Requirements**

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HMA Mix Design Size Designation	Minimum Allowable Compacted Lift Thickness ( $T_{all}$ )
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4.75 MM	0.75 inch
9.5 MM	1.00 inch
12.5 MM	1.25 inches
19 MM	2.00 inches

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- c. **Percent Defective.** Using NJDOT ST - Statistical Tables (NJDOT Standard Specs for Roads and Bridges 2007-NJDOT TEST METHODS) for the appropriate sample size, determine the percentage of material (PD) falling below the allowable thickness associated with  $Q_L$  (lower limit).
- d. **Removal and Replacement.** If the surface course fails to meet the acceptance requirement with a  $PD \leq 25$ , the Department will require removal and replacement of the lot. The replacement work is subject to the same requirements as the initial work.

**REPLACE 401.03.03.J WITH THE FOLLOWING:**

- J. **Ride Quality Requirements.** The Department may evaluate the HMA surface course placed in travel lanes using the International Roughness Index (IRI) according to ASTM E 1926. Other areas will be tested with a ten foot straight edge. The Department will use the measured IRI and straight edge to compute pay adjustment (PA). The PA will be negative for defective work.

The RE will designate an independent testing agency to perform the ride quality testing and analysis. The testing agency is required to comply with certification requirements according to NJDOT R-1.

The Department will calculate the Pay Adjustment (PA) as specified in Table 401.03.03-7 and will base PA on lots of 0.01mile length for each travel lane.

1. Smoothness Measurement.

The testing agency will test the longitudinal profile of the HMA surface course for ride quality with a Class 1 Inertial Profiling System according to AASHTO MP 11 approved according to AASHTO PP 49. The testing agency will test the full extent of the pavement in the direction of travel in each wheel path. The single IRI value reported for each 0.01-mile lot of pavement is the average of 3 runs.

2. Other Areas.

In addition to the above, a 10-foot straightedge shall be used for the following areas: transverse profile of the finished riding surface, longitudinal and transverse profile of shoulders and ramps, utility hardware, drainage inlets and manholes, and any other areas so designated in the Special Provisions. Any areas that have more than a 1/4-inch deviation between any two contact points of the straightedge shall be corrected by the Contractor using infrared heating to rework the material in a manner approved by the Engineer. Following correction, the area will be retested to verify compliance, each individual non-complying location will be assessed \$250 negative PA.

3. Control Testing.

Perform control testing during HMA placement to ensure compliance with the ride quality requirements specified in Table 401.03.03-7.

4. Preparation for IRI Testing.

Provide the necessary traffic control when the testing agency performs IRI testing. Perform required mechanical sweeping of the surface course before IRI testing. To facilitate auto triggering on laser profilers, place a single line of preformed traffic marking tape perpendicular to the roadway baseline 300 feet before the beginning of each lane to be tested.

5. Acceptance.

The Engineer will determine acceptance and make payment adjustments based on the following:

i. Pay Adjustment.

The pay equations in Table 401.03.03-7 express the pay adjustment in dollars per lot of 0.01 mile. For lots of any other length, the Engineer will scale the pay adjustment up or down in proportion to the actual length of the lot. IRI numbers are in inches per mile.

**Table 401.03.03-7 Pay Equations for IRI Ride Quality for 0.01 Mile**

Local Roadways with Posted Speed $\geq$ 45 MPH	IRI $\leq$ 100	PA = \$0
	100 < IRI $\leq$ 170	PA = (IRI - 100) $\times$ (- \$1.43)
	IRI > 170	Remove & Replace
Local Roadways with Posted Speed < 45 MPH	IRI $\leq$ 120	PA = \$0
	120 < IRI $\leq$ 220	PA = (IRI - 120) $\times$ (- \$1.00)
	IRI > 220	Remove & Replace

ii. Retest provision.

After testing, if the IRI exceeds the Remove and Replace value (RRV) in Table 401.03.03-7, the testing agency will retest the lot. The testing agency will average the IRI values from the initial test and the retest to determine the final result.

iii. Removal and Replacement.

If the average IRI is greater than the RRV after a retest is performed, remove and replace the lot. Any replacement work is subject to the same requirements as the initial work. If only a small percentage (less than 8 percent) of paving lots falls under the RRV, the RE may allow the Contractor to submit a plan for corrective action. If the Contractor's plan for corrective action is not approved, the RE may require removal and replacement, or may allow the lot to remain in place and the lot will be subject to the pay adjustment as computed in Table 401.03.03-7. If the Contractor's plan for corrective action is approved and the lot is reworked, the testing agency will test and evaluate it as a new lot that must meet the same requirements as the initial work.

**401.03.04 Sawcutting and Sealing of Joints in HMA Overlays**

THE TEXT OF THIS SUBPART IS DELETED.

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**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.

THE FIFTH PARAGRAPH IS CHANGED TO:

At least 24 hours prior to coring, provide a tamper proof core sample box for the RE's inspection and approval. Ensure that the core sample box can be locked and sealed and is tamper proof in such a manner that it cannot be opened without removing the seals. Ensure that the core sample box provides protection for the cores from being disturbed or damaged during transit. Mark the Department assigned core number on the side of the sample. Place core samples and corresponding forms, including a completed and signed Form DC-286 Contractor's certificate of compliance Core sample delivery, in the core sample box. Ensure Form DC-286 is also signed by a Department witness. Before sealing the core sample box, ensure that the RE has recorded the seal number on the laboratory form. Transport the sealed core sample boxes to the Department Laboratory. The RE at his discretion may decide to deliver the core samples as indicated above.

THE SIXTH PARAGRAPH IS CHANGED TO:

The Department will not accept damaged core samples for testing. If the core sample box exhibits indications of tampering, the core samples will be rejected. If the Department rejects any core samples, drill a replacement core at the same offset and within 5 feet of the original station and deliver to the laboratory as specified above within 48 hours.

**401.04 MEASUREMENT AND PAYMENT**

THE FOLLOWING ITEM IS DELETED:

The Department will measure TACK COAT, TACK COAT 64-22, PRIME COAT and POLYMER MODIFIED TACK COAT by the volume delivered, converted to the number of gallons at 60 °F as calculated by the temperature-volume correction factors specified in 902.01.

THE FOLLOWING IS ADDED:

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

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

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:

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

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.

## SECTION 405 – CONCRETE SURFACE COURSE

### 405.03.02 Concrete Surface Course

#### I. Thickness Requirements.

THIS PART IS CHANGED TO:

- I. Thickness Requirements.** The ME will divide the concrete pavement into lots of approximately 5000 square yards. The ME will divide each lot into 5 equal sections. The RE will direct the Contractor to drill 1 core, as specified in 405.03.03, from a randomly selected location within each section. The ME will test these cores for thickness as specified in ASTM C 174.

The Department will determine conformance with thickness requirements as follows and will either assess the greater of the pay reduction for average core thickness or individual core thickness, or the Department will direct the Contractor to remove and replace the lot:

1. **Average Core Thickness.** If the average core thickness is greater than or equal to the specified core thickness, the Department will not apply a payment reduction. If the average thickness is less than the specified thickness, but is greater than or equal to the specified thickness minus 1/2 inch, the Department will determine payment reduction by the following formula:

$$\text{Payment Reduction} = Q \times \text{BP} \times \text{PPR}$$

Where:

Q = Thickness Lot Quantity

BP = Bid Price

T<sub>S</sub> = Specified Thickness.

T<sub>A</sub> = Average Thickness

$$\text{PPR} = \text{Percent Payment Reduction} = \frac{T_S - T_A}{T_S}$$

2. **Individual Core Thickness.** When more than 2 individual cores in the lot are less than the specified thickness minus 1/4 inch, the Department will determine the payment reduction using for the above noted formula and using a PPR = 2 percent.
3. **Remove and Replace.** If the average thickness is less than the specified thickness minus 1/2 inch, the RE will require that the lot be removed and replaced.

### 405.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

The Department will make a payment adjustment for Concrete Surface thickness quality, as specified in 405.03.02.

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

# DIVISION 500 – BRIDGES AND STRUCTURES

## SECTION 504 – STRUCTURAL CONCRETE

### 504.02.01 Materials

THE FOLLOWING MATERIAL REFERENCE IS CHANGED TO:

Grit for Epoxy Waterproofing ..... 901.07.01

### 504.03.02 Constructing Concrete

#### D. Placing and Consolidating Concrete.

THE FIRST SENTENCE OF THE FIFTH PARAGRAPH IS DELETED

#### G. Removal of Forms and Falsework.

Do not remove forms and false work until the concrete obtains a compressive strength of \_\_\_\_ psi.

## SECTION 507 – CONCRETE BRIDGE DECK AND APPROACHES

THIS SECTION IS RENAMED TO:

## SECTION 507 – CONCRETE BRIDGE DECK, BRIDGE PARAPET AND APPROACHES

### 507.02.01 Materials

THE FOLLOWING IS DELETED FROM MATERIALS LIST:

4-Bar Open Steel Parapet ..... 906.07

THE FOLLOWING ARE ADDED TO MATERIALS LIST:

Steel Bar Bridge Railing..... 906.07

Anchor

Bolts.....908.01.03

### 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.

#### 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.

### 507.03.05 Concrete Parapet and Barrier Curb

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**

SUBPART IS RENAMED AND CHANGED TO:

**507.03.06 Steel Bar Bridge Railing**

Ensure that the deck has cured for at least 14 days before placing concrete for steel bar bridge railing. Place concrete as specified in 504.03.02.D. Install as shown on the Plans. Construct anchor bolt system as specified in 509.03.01-1.

**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 ITEM IS DELETED:

4-BAR OPEN STEEL PARAPET LINEAR FOOT

THE FOLLOWING ITEM IS ADDED:

STEEL \_\_\_BAR BRIDGE RAILING LINEAR FOOT

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:

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

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**

THIS SECTION IS RENAMED TO:

**SECTION 509 – BRIDGE COMBINATION RAILING, MISCELLANEOUS RAILINGS AND FENCE**

**509.01 DESCRIPTION**

THE ENTIRE SUBSECTION IS CHANGED TO:

This Section describes the requirements for constructing metal railing, fence, and guide rail on bridges. Metal railing includes metal railing components for combination traffic railing system, combination non-traffic railing system, non-traffic pedestrian or bicycle railing, ornamental railing and other railing not subject to vehicular impact.

**509.03.01 Bridge Railing**

THE THIRD PARAGRAPH IS CHANGED TO WITHOUT PARTS 1 & 2:

Ensure that the railing is fabricated to allow for minor adjustments in both horizontal and vertical directions. Install 1 or 2-rail aluminum or steel railing on top of the concrete parapet as shown on the Plans. Install other types of metal railing on concrete sidewalk or deck as shown on the Plans. Do not use expansion type anchor bolts.

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:

<i>Item</i>	<i>Pay Unit</i>
BRIDGE COMBINATION RAILING (___RAIL, STEEL)	LINEAR FOOT



## **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 606 – SIDEWALKS, DRIVEWAYS, AND ISLANDS**

#### **606.03.02 Concrete Sidewalks, Driveways, and Islands**

##### **F. Placing Concrete.**

THE ENTIRE PART F. IS CHANGED TO:

Obtain RE approval of forms and joint placement before placing concrete. Place concrete according to the limitations specified in 504.03.02.C. To place concrete between November 1 and 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. Do not begin placing concrete until this plan is approved. Place concrete across the formed area to minimize rehandling. Ensure that concrete is not discharged into windrows or piles. Continuously place concrete between transverse joints without the use of intermediate bulkheads. To prevent bowing or misalignment of the transverse joints, place concrete simultaneously on both sides of transverse joints without disturbing the joints. Consolidate the concrete by hand spading or using internal mechanical vibrators. If a slab is not completed from transverse joint to transverse joint, remove the incomplete slab and replace. Terminate each day's placement at a transverse joint. If concrete becomes segregated during placement, cease operations and correct handling operations. Protect concrete as specified in 504.03.02.I.

##### **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.

### **SECTION 607 – CURB**

#### **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.

#### **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.

#### **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.

#### 607.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEMS ARE ADDED:

<i>Item</i>	<i>Pay Unit</i>
__" X __" F SHAPE CONCRETE BARRIER CURB	LINEAR FOOT
__" X __" F SHAPE CONCRETE BARRIER CURB, DOWELLED	LINEAR FOOT
__" X VARIABLE HEIGHT F SHAPE CONCRETE BARRIER CURB, DOWELLED	LINEAR FOOT
__" X __" HEIGHT F SHAPE CONCRETE BARRIER CURB, DOWELLED	LINEAR FOOT
VARIABLE WIDTH X VARIABLE HEIGHT F SHAPE CONCRETE BARRIER CURB	LINEAR FOOT
VARIABLE WIDTH X VARIABLE HEIGHT CONCRETE BARRIER CURB	LINEAR FOOT

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

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

#### 610.02.01 Materials

THE FOLLOWING MATERIALS ARE RENAMED TO:

Traffic Stripes.....	912.03.01
Traffic Markings.....	912.03.02

#### 610.03.01 Long-Life Traffic Stripes

THE SUBPART HEADING AND THE ENTIRE TEXT IS CHANGED TO:

##### 610.03.01 Traffic Stripes

- A. Striping Plan.** At least 20 days before beginning the work, submit to the RE for approval a striping plan that includes:
1. Schedule of operations for applying traffic stripes.
  2. Number and type of equipment.
  3. Manufacturer's recommendations for use of the materials, including, but not limited to, mixing ratios and application temperatures.
  4. Details on the means and methods for surface preparation
  5. Details on the means and methods for premarking
  6. Details on the proposed test strip such as location, length etc
- B. Surface Preparation.** Immediately before striping the pavement surface, clean the surface of dirt, oil, grease, and foreign material, including curing compound on new concrete. Clean the surface 2 inches beyond the perimeter of the stripes to be placed.
- C. Striping Test Strip.** Before beginning striping operations, construct 1 or more striping test strips to demonstrate the Contractor's ability to meet the requirements specified in 610.03.01.D. For each striping test strip, apply striping to approximately 500 linear feet of pavement with the same striping procedure that will be used for the Project. Construct a test strip for each applicator unit and epoxy resin material used. Provide the RE with 50 test cards made of heavy stock paper measuring 8 inches by 2 inches, and two wet film thickness gauges. Construct additional test strips when major equipment repairs or adjustments are made or when the traffic stripes are determined to be defective. Construct additional test strips when traffic striping operations are performed on multiple, non-continuous occasions. Perform additional test strips as requested by the RE. When the test strip is in compliance, as determined by the RE, proceed with striping operations. Each test strip may remain in place and become part of the finished stripes subject to the requirements of 610.03.01.E.
- D. Applying Striping.** Mix epoxy resin with an automatic proportioning and mixing machine, and hot-spray the compound at a temperature of between 100 and 130 °F onto dry surfaces. Apply the compound with a wet film thickness of 20 ± 1 mil. Apply the material during dry weather conditions when the ambient temperature is a minimum of 45 °F and the surface temperature is a minimum of 50 °F. Adjust operations as required for the prevailing ambient and surface conditions to achieve a no-track drying time of 30 minutes or less.

Immediately after, or in conjunction with, the compound application, uniformly apply 12 pounds of large glass beads per gallon of epoxy resin to the compound. After applying the large glass beads, uniformly apply 12 pounds of small glass beads per gallon of epoxy resin to the compound.

Remove all compound that has been tracked or spilled outside of the intended placement areas.

- E. Performance.** Ensure that the traffic stripes, show no fading, lifting, cracking, chipping for any reason including but not limited to traffic wear, maintenance activities including snow plowing, until Acceptance. Ensure that 60 days after application, traffic stripes have a minimum retroreflectance value of:

375 millicandelas per square meter per lux for white traffic stripe

250 millicandelas per square meter per lux for yellow traffic stripe

**F. Defective work.**

THE FIRST SENTENCE IN THE FOURTH PARAGRAPH IS CHANGED TO:

Replace traffic stripes that are determined by the RE before Acceptance to be defective or that are damaged during construction. Remove defective stripes as specified in 610.03.08.

Replace an entire 10-foot skip line if the RE determines the stripe to have a deficiency.

If the RE determines, based upon calculated and measured yields, that the striping has a wet film thickness of less than 19 mils, restripe the entire length with 20 mils of new compound.

Provide the RE with a Reflectometer that meets a 30 meter geometry as specified in ASTM E 1710, capable of measuring wet and dry conditions as specified in ASTM E 2176 and ASTM E 2177, and that has been certified by the manufacturer as being calibrated within the last two years. The RE will test the retroreflectance of traffic stripes. Replace traffic stripes that do not meet the retroreflectance values indicated in 610.03.01.E. Replace the entire length of striping where improper curing or discoloration has occurred. Discoloration is localized areas or patches of brown or grayish colored compound. Where improper curing or discoloration occurs intermittently in intervals of 100 feet or less throughout the striping length, replace the entire length of striping from the beginning of the first occurrence until the end of the last occurrence, plus 5 feet on each end.

Replace the entire length of striping that has failed to bond to the pavement, or has chipped or cracked. Where more than 25 spots of chipping, cracking, or poor bonding have occurred within 1000 linear feet of striping, replace the entire 1000 foot length of striping as indicated in 610.03.01.E.

- G. Opening to Traffic.** Complete each application of all types of traffic stripes and allow to thoroughly dry before opening to traffic. At a minimum, delineate center lines on undivided roadways and broken lines between lanes before the traveled way is opened. The RE will determine when the traveled way can be opened to traffic.

**610.03.02 Thermoplastic Traffic Markings**

THE SUBPART HEADING AND THE ENTIRE TEXT IS CHANGED TO:

**610.03.02 Traffic Markings Lines, Traffic Markings Symbols and Traffic Markings Route Symbols**

- A. Marking Plan.** At least 20 days before beginning the work, submit to the RE for approval a marking plan that includes:

1. Schedule of operations for applying traffic markings,
2. Number and type of equipment,
3. Manufacturer's recommendations for use of the materials, including mixing ratios and application temperatures.
4. Details on the means and methods for surface preparation
5. Details on the means and methods for premarking

- B. Surface Preparation.** Immediately before marking the pavement surface, clean the surface of dirt, oil, grease, and foreign material, including curing compound on new concrete. Clean the surface 2 inches beyond the perimeter of the marking to be placed.

- C. Applying Traffic Markings.** Place preformed thermoplastic or hot extruded thermoplastic traffic markings on thoroughly dry surfaces and during dry weather conditions. Apply using equipment and procedures that produce

markings of the specified color, width, and thickness with well-defined edges, uniform retroreflectivity, and proper bonding to the pavement. Apply the thermoplastic material as follows:

1. **Preformed Thermoplastic.** Melt the preformed thermoplastic tape to bond the traffic markings permanently in position according to the manufacturer's recommendations.

Meet the minimum initial retroreflectance value, as specified in 610.03.01.D for thermoplastic tape, by applying additional glass beads to the hot-wet material in a uniform pattern as necessary.

2. **Extruded Thermoplastic.** Uniformly heat the thermoplastic material. When the ambient and surface temperatures are at least 50 °F, apply the melted material at a temperature of between 400 and 425 °F. Extrude the thermoplastic traffic markings on the HMA or concrete pavement ensuring a thickness of  $90 \pm 1$  mils.

Immediately after, or in conjunction with the thermoplastic extrusion, uniformly apply glass beads to the wet material at a minimum rate of 10 pounds per 100 square feet of markings. Apply glass beads by mechanical means only.

- D. **Performance.** Ensure that the traffic markings show no fading, lifting, cracking, chipping for any reason including but not limited to traffic wear, maintenance activities including snow plowing, until Acceptance. Ensure that 60 days after application, traffic markings have a minimum retroreflectance value of:

375 millicandelas per square meter per lux for white traffic markings

250 millicandelas per square meter per lux for yellow traffic markings

- E. **Defective work.**

THE FIRST SENTENCE IN THE FOURTH PARAGRAPH IS CHANGED TO:

Replace thermoplastic traffic markings that are determined by the RE before Acceptance to be defective or that are damaged during construction. Remove defective markings as specified in 610.03.08.

Replace the entire area of thermoplastic traffic markings determined to be less than the required thickness, to have incorrect color or width, to have failed to bond to the pavement, or to have chipped or cracked. The minimum replacement area is an individual word or symbol, or for longitudinal lines the entire length from where the deficiency first occurs to where it no longer exists.

The RE will determine initial retroreflectance as follows:

Provide the RE with a Reflectometer that meets a 30 meter geometry as specified in ASTM E 1710, capable of measuring wet and dry conditions as specified in ASTM E 2176 and ASTM E 2177, and that has been certified by the manufacturer as being calibrated within the last two years. The RE will test the retroreflectance of traffic markings. Replace traffic markings that do not meet the retroreflectance values indicated in 610.03.02.D.

- F. **Opening to Traffic.** Complete each application of thermoplastic traffic markings and allow to thoroughly dry before opening to traffic. The RE will determine when the traveled way can be opened to traffic.

#### **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.

#### **610.03.07 Rumble Strip**

THE ENTIRE SUBPART IS CHANGED TO:

At least 20 days before constructing rumble strips, submit a plan for cutting rumble strips and debris collection/removal to the RE for approval.

Construct rumble strips on newly constructed pavement after it has cooled sufficiently to allow the cutting to be done cleanly without causing damage to the adjacent pavement.

Clean the area where rumble strips are to be constructed. Construct rumble strips by cutting indentations into the pavement perpendicular to the traveled way without disturbing the surrounding pavement. Collect cuttings and reuse or dispose of as specified in 202.03.07.

Ensure that the centerline rumble strips are constructed before placing TRAFFIC STRIPES. After cutting centerline rumble strips and collecting the debris, apply Fog Seal over the centerline rumble strip as specified in 422.03.02.

Do not construct rumble strips 200 feet linear feet before and after the approximate midpoint of Weigh-in-Motion (WIM) systems in the roadway as listed in the Special Provisions.

**610.04 MEASUREMENT AND PAYMENT**

THE FOLLOWING ITEMS ARE DELETED:

<i>Item</i>	<i>Pay Unit</i>
RPM, BI-DIRECTIONAL, WHITE LENS	UNIT
TRAFFIC STRIPES, LONG-LIFE, EPOXY RESIN ___"	LINEAR FOOT
TRAFFIC MARKINGS, THERMOPLASTIC	SQUARE FOOT

THE FOLLOWING ITEMS ARE ADDED:

<i>Item</i>	<i>Pay Unit</i>
TRAFFIC STRIPES, ___"	LINEAR FOOT
TRAFFIC MARKINGS LINES, ___"	LINEAR FOOT
TRAFFIC MARKINGS SYMBOLS	SQUARE FOOT
TRAFFIC MARKINGS ROUTE SYMBOLS	SQUARE FOOT

THE SECOND PARAGRAPH IS CHANGED TO:

The Department will measure TRAFFIC STRIPES and TRAFFIC MARKINGS LINES by the linear foot for each specified width of stripe. The Department will not measure gaps in striping.

THE FOLLOWING IS ADDED AT THE END OF THE SUBSECTION:

The Department will measure rumble strip by the linear foot measured in the longitudinal direction of the rumble strip without deducting the interval spacing between rumble strips and the gaps for RPM placement and make payment under the Item RUMBLE STRIP.

The Department will not include payment for traffic stripes in RUMBLE STRIP. The Department will make payment for traffic stripes placed in conjunction with constructing a centerline rumble strip under TRAFFIC STRIPES as specified in 610.04.

The Department will not include payment for fog seal in RUMBLE STRIP. The Department will measure and make payment for FOG SEAL STRIP as specified in 422.04.

The Department will not measure the gaps such as WIM locations in the Rumble Strip.

**SECTION 612 – SIGNS**

**612.02 MATERIALS**

THE FOLLOWING IS DELETED FROM THE MATERIALS LIST.

Non-Breakaway Sign Supports .....	911.02.03
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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.

**612.04 MEASUREMENT AND PAYMENT**

THE FOLLOWING ITEM IS DELETED:

<i>Item</i>	<i>Pay Unit</i>
GUIDE SIGN, TYPE GA, NON-BREAKAWAY SUPPORTS	SQUARE FOOT

THE FOLLOWING SECTION IS ADDED:

**SECTION 615 - CONTRACT ALLOWANCE**

**615.01 DESCRIPTION**

The allowance contained is intended to address unforeseen conditions, which may become apparent during construction. Nothing herein shall constitute a guarantee that the Contractor is entitled to payment of the full allowance. If no work is done under this item, the full amount shall not be paid by the owner to the Contractor. To qualify for payment under this item, work must be ordered by the Engineer in writing.

**615.02 MATERIALS**

Materials used in the performance of Contract Allowance shall comply with the 2007 NJDOT Standard Specifications unless otherwise directed by the project engineer.

**615.03 METHOD OF CONSTRUCTION**

Construction methods used in the performance of Contract Allowance shall comply with the 2007 NJDOT Standard Specifications unless otherwise directed by the project engineer.

#### **615.04 MEASUREMENT AND PAYMENT**

The actual charges made will be the contractor's costs calculated in accordance with the Bid Items or if not included in these items, costs shall be agreed to in writing prior to the initiation of services under the item "CONTRACT ALLOWANCE" in the Proposal.

*This item is intended to be utilized to compensate the contractor for the unknown areas of the work or other facilities not specified, but necessary to complete the work not called for or shown on the plans.*

*The contractor will be paid from the allowance based on a mutually agreeable price between the contractor and the Engineer prior to commencing modifications for those items as ordered by the Engineer in writing.*

*To qualify for payment, work must be ordered by the Engineer in writing.*

# DIVISION 900 – MATERIALS

## SECTION 902 – ASPHALT

### 902.01.01 Asphalt Binder

THE SECOND PARAGRAPH IS CHANGED TO:

When specified, use PG 64E-22 asphalt binder that is a storage-stable and conforms to AASHTO MP 19 (AASHTO M 332), including compliance with the elastic response requirement in Appendix 1.

THE FOLLOWING SUBPART IS ADDED:

### 902.02.01 Mix Designations

THE ENTIRE SUBPART IS CHANGED TO:

The requirements for specific HMA mixtures are identified by the abbreviated fields in the Item description as defined as follows:

#### HOT MIX ASPHALT 12.5ME SURFACE COURSE

1. **“HOT MIX ASPHALT”** “Hot Mix Asphalt” is located in the first field in the Item description for the purpose of identifying the mixture requirements.
2. **“12.5”** The second field in the Item description designates the nominal maximum size aggregate (in millimeters) for the job mix formula (sizes are 4.75, 9.5, 12.5, 19, 25, and 37.5 mm).
3. **“M”** The third field in the Item description designates the design compaction level for the job mix formula based on traffic forecasts as listed in Table 902.02.03-2 (levels are L=low and M=medium).
4. **“E”** The fourth field in the Item description designates the high temperature designation of the performance-graded binder. Options are “64” for PG 64-22 and “E” for PG 64E-22.
5. **“SURFACE COURSE”** The last field in the Item description designates the intended use and location within the pavement structure (options are surface, intermediate, or base course).

### 902.02.02 Composition of Mixtures

THE ENTIRE SUBPART IS CHANGED TO:

Provide materials as specified:

Aggregates for Hot Mix Asphalt .....	901.05
Asphalt Binder.....	902.01.01
Warm Mix Additives and Processes (optional) .....	902.01.05

If a WMA additive is pre-blended in the asphalt binder, ensure that the asphalt binder meets the requirements of the specified grade after the addition of the WMA additive. If a WMA additive is added at the HMA plant, ensure that the addition of the additive will not negatively impact the grade of asphalt binder. Follow the manufacturer’s recommendations for percentage of WMA additive needed.

Mix HMA in a plant that is listed on the QPL and conforms to the requirements for HMA Plants as specified in 1009.01.

Composition of the mixture for HMA surface course is coarse aggregate, fine aggregate, and asphalt binder, and may also include mineral filler, WMA additive, and up to 15 percent Reclaimed Asphalt Pavement (RAP). For controlled asphalt foaming system WMA, the Department may require an anti-stripping additive. Ensure that the finished mix does not contain more than a total of 1 percent by weight contamination from Crushed Recycled Container Glass (CRCG).

The composition of the mixture for HMA base or intermediate course is coarse aggregate, fine aggregate, and asphalt binder, and may also include mineral filler, WMA additive and up to 35 percent of recycled materials. For controlled asphalt foaming system WMA, the Department may require an anti-stripping additive. The 35 percent of recycled materials may consist of a combination of RAP, CRCG, Ground Bituminous Shingle Material (GBSM), and RPCSA, with the following individual limits:



**Table 902.02.02-1 Use of Recycled Materials in HMA Base or Intermediate Course**

Recycled Material	Maximum Percentage
RAP	25
CRCG	10
GBSM	5
RPCSA	20

Combine the aggregates to ensure that the resulting mixture meets the grading requirements specified in Table 902.02.03-1. In determining the percentage of aggregates of the various sizes necessary to meet gradation requirements, exclude the asphalt binder.

Ensure that the combined coarse aggregate, when tested according to ASTM D 4791, has less than 10 percent flat and elongated pieces retained on the No. 4 sieve and larger. Measure aggregate using the ratio of 5:1, comparing the length (longest dimension) to the thickness (smallest dimension) of the aggregate particles.

Ensure that the combined fine aggregate in the mixture conforms to the requirements specified in Table 902.02.02-2. Ensure that the material passing the No. 40 sieve is non-plastic when tested according to AASHTO T 90.

**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

**902.02.03 Mix Design**

TABLES 902.02.03-2, AND 902.02.03-3 ARE CHANGED TO:

**Table 902.02.03-2 Gyrotory Compaction Effort for HMA Mixtures**

Compaction Level	ESALs <sup>1</sup> (millions)	N <sub>des</sub>	N <sub>max</sub>
<b>L</b>	< 0.3	50	75
<b>M</b>	≥ 0.3	75	115

1. Design ESALs (Equivalent (80kN) Single-Axle Loads) refer to the anticipated traffic level expected on the design lane over a 20-year period.

**Table 902.02.03-3 HMA Requirements for Design**

Compaction Levels	Required Density (% of Theoretical Max. Specific Gravity)		Voids in Mineral Aggregate (VMA), % (minimum)						Voids Filled With Asphalt (VFA) <sup>1</sup> %	Dust-to-Binder Ratio
	@N <sub>des</sub> <sup>2</sup>	@N <sub>max</sub>	Nominal Max. Aggregate Size, mm							
			37.5	25.0	19.0	12.5	9.5	4.75		
<b>L</b>	96.0	≤ 98.0	11.0	12.0	13.0	14.0	15.0	16.0	70 - 80	0.6 - 1.2
<b>M</b>	96.0	≤ 98.0	11.0	12.0	13.0	14.0	15.0	16.0	65 - 78	0.6 - 1.2

1. For 37.5-mm nominal maximum size mixtures, the specified lower limit of the VFA is 64 percent for all design traffic levels.
2. As determined from the values for the maximum specific gravity of the mix and the bulk specific gravity of the compacted mixture. Maximum specific gravity of the mix is determined according to AASHTO T 209. Bulk specific gravity of the compacted mixture is determined according to AASHTO T 166. For verification, specimens must be between 95.0 and 97.0 percent of maximum specific gravity at N<sub>des</sub>.

THE FOURTH PARAGRAPH IS CHANGED TO:

At the ME's request, test the mix design to ensure that it meets a minimum tensile strength ratio of 80 percent, when tested according to AASHTO T 283. The ME will require tensile strength ratio testing for new aggregate sources and for aggregates or mixes suspected of stripping susceptibility.

**902.02.03 MIX DESIGN**

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

UNLESS OTHERWISE APPROVED BY THE ENGINEER, ONLY ONE SOURCE OF SUPPLY FOR HOT MIX ASPHALT SURFACE COURSE MAY BE USED ON THE PROJECT.

**902.02.04 Sampling and Testing**

THE ENTIRE TEXT IS CHANGED TO:

DETERMINATION OF CONFORMANCE TO THE VOLUMETRIC PROPERTIES BY SAMPLING AND TESTING AT THE HMA PLANT BY AN INDEPENDENT TESTING AGENCY AND/OR LABORATORY IS PREFERRED; HOWEVER, THE FOLLOWING CHANGES TO SUBSECTION 902.02.04 MAY BE USED AS AN ALTERNATE TO THE SAMPLING AND TESTING PROVISIONS LISTED IN SUBSECTION 902.02.04 TO DETERMINE CONFORMANCE TO THE SPECIFICATION REQUIREMENTS.

**ADD THE FOLLOWING TO 902.02.04:**

- F. Acceptance of HMA.** The Department may accept the HMA as specified in 902.02.04.A through 902.02.04.E by employing staff or an independent testing agency at the HMA plant during production. The inspector who performs the quality assurance sampling shall be certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Plant Technologist, Level 2.

ALTERNATIVELY, THE DEPARTMENT MAY ACCEPT THE HMA BY CERTIFICATION OF COMPLIANCE ACCORDING TO 106.07

## SECTION 903 – CONCRETE

**903.02.04 Viscosity Modifying Admixture**

THE FIRST SENTENCE IS CHANGED TO:

Use a viscosity modifying admixture that is listed on the QPL and that, when evaluated according to the test methods and mix design proportions in AASHTO M 194, conforms to the following physical requirements:

**903.03.05 Control and Acceptance Testing Requirements**

**E. Acceptance Testing for Strength for Pay-Adjustment Items.**

**4. Compute Percent Pay Adjustment (PPA).**

THE FIFTH PARAGRAPH IS CHANGED TO:

If the Department elects not to core, the Contractor may accept the PPA calculated by Equation 1 or 2, as appropriate, or, when approved by the Department, the Contractor may take cores as specified in Table 903.03.06-4. Take the cores within 90 days from the date of concrete placement. The Department will not award a positive pay adjustment based on core samples taken more than 90 days from the date of concrete placement. If electing to core, perform the coring as directed by the ME, and provide the cores to the ME for testing.

**F. Acceptance Testing for Strength for Non-Pay-Adjustment Items.**

THE FIFTH PARAGRAPH IS CHANGED TO:

If cores are taken, the Department will use the core results to determine the final disposition of the lot. If, based on the core results, the lot is determined to be at a quality level of  $PD < 75$ , the Department will compute the pay-adjustment as specified in 903.03.05.E. The Department will not award positive pay adjustment for non-pay-adjustment Items. If the lot is confirmed to be at a quality level of  $PD \geq 75$ , the ME will reject the lot and the RE may do one of the following:

1. Require the Contractor to remove and replace the defective lot
2. Allow the Contractor to leave the defective lot in place and receive a PPA computed by Equation 2.
3. Allow the Contractor to submit a plan, for approval, for corrective action.

### 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 <sup>1</sup> (inches)	Percent Air Entrainment for Coarse Aggregate <sup>1</sup>	
			No. 57 & No. 67	No. 8
Decks, Sidewalks, Curbs, Parapets, Concrete Patch	A	3 ± 1	6.0 ± 1.5	7.0 ± 1.5

## SECTION 905 – REINFORCEMENT METALS

### 905.01 REINFORCEMENT STEEL

THE ENTIRE SUBPART IS CHANGED TO:

Provide reinforcement steel manufactured at an AASHTO NTPEP (National Transportation Product Evaluation Program) certified mill. For a list of NTPEP certified mills, see the following webpage: <https://data.ntpep.org/REBAR/Audits>.

For reinforcement steel, submit a certification of compliance as specified in 106.07. Attach copies of the mill certifications for each heat of reinforcement steel. The ME will randomly sample and test heats of reinforcement steel for quality assurance. The ME will randomly inspect and sample galvanized and epoxy coated reinforcement steel for quality assurance.

#### 905.01.03 Welded Wire Reinforcement

THE FIRST PARAGRAPH IS CHANGED TO:

Use plain or deformed steel welded wire reinforcement according to ASTM A1064. When used for concrete pavement, use welded wire reinforcement mats at least 5 feet in width.

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.

## SECTION 908 – BOLTS AND BOLTING MATERIAL

### 908.02.01 Material Requirements

THE FIRST PARAGRAPH IS CHANGED TO:

For structural steel erection and for steel to steel chord splices of sign structures, using high-strength steel bolts, including nuts and plain hardened washers according to ASTM F 3125, Grade A 325 or Grade A 490.

THE THIRD PARAGRAPH IS CHANGED TO:

Use ASTM F 3125, Grade A 325, Type 3 high-strength steel bolts for bolting unpainted corrosion resistant (weathering) steel.

#### 908.02.02 Sampling and Testing Requirements for Bolt Assemblies

##### B. Tensile, Proof Load, Hardness, and Coating Thickness Tests.

THE FIRST PARAGRAPH IS CHANGED TO:

For each lot, the manufacturer shall perform tensile, proof load, and hardness tests and shall measure galvanized coating according to ASTM F 3125, Grade A 325.

**908.03 DIRECT TENSION INDICATORS (DTI)**

THE ENTIRE SUBSECTION IS CHANGED TO:

Use direct tension indicators conforming to ASTM F 959. If galvanizing of the bolt assembly is required, mechanically galvanize DTIs according to ASTM B 695, Class 50. Test DTIs according to ASTM F 959 and verify according to NJDOT S-3.

Provide manufacturer's certification and attach test results.

**SECTION 909 – DRAINAGE**

**909.02.01 Reinforced Concrete Pipe**

THE FOLLOWING IS ADDED BEFORE THE FIRST SENTENCE:

Manufacture reinforced concrete pipe at a plant listed on the QPL.

THE LAST PARAGRAPH IS CHANGED TO:

Follow the Department approved Buy America Compliance Plan. Provide documentation of compliance when requested by the ME.

For concrete pipe that is less than 60 inches in diameter, submit a certification of compliance as specified in 106.07. The ME will randomly inspect and test small-diameter concrete pipe for quality assurance.

For concrete pipe that is 60 inches or more in diameter, notify the ME at least 2 weeks before shipping pipe to the Project. The ME will inspect and approve large-diameter pipe in the supplier's yard after manufacture. Perform 3-point loading in the supplier's yard as directed by the ME. If the ME does not inspect the concrete pipe, submit certifications of compliance as specified in 106.07.

**909.02.02 HDPE Pipe**

THE SECOND PARAGRAPH IS CHANGED TO:

Use HDPE pipe from a manufacturer who is an AASHTO NTPEP (National Transportation Product Evaluation Program) certified manufacturer. For a list of NTPEP certified manufacturer, see the following webpage: <http://data.ntpep.org/Module/PIPE/Overview.aspx>.

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**

<b>Item</b>	<b>Test Method</b>	<b>Type or Grade</b>	<b>Galvanizing</b>
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		
Anchor Ferrule	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

**SECTION 912 – PAINTS, COATINGS, TRAFFIC STRIPES, AND TRAFFIC MARKINGS**

**912.03.01 Epoxy Traffic Stripes**

THE SUBPART HEADING IS CHANGED TO:

**912.03.01 Traffic Stripes**

**A. Epoxy Resin.**

THE FIRST SENTENCE IS CHANGED TO:

For pavement striping, use an epoxy resin that is a 2 component, 100 percent solids formulation conforming to the following requirements:

**B. Glass Beads.**

THE FIRST PARAGRAPH IS CHANGED TO:

Submit certifications of compliance as specified in 106.07 for each lot of glass beads used on the Contract. For each lot of glass beads, submit test results indicating the parts per million of lead, antimony and arsenic as determined by testing according to Environmental Protection Agency testing method 3052 and testing method 6010B or 6010C. Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 100 ppm of arsenic.

**912.03.02 Thermoplastic Traffic Markings**

THE SUBPART HEADING IS CHANGED TO:

**912.03.02 Traffic Markings**

THE ENTIRE SUBPART TEXT IS CHANGED TO:

For traffic markings, use either preformed or hot extruded thermoplastic conforming to AASHTO M 249, except that for preformed thermoplastic, the minimum thickness requirement is 90 mils. Use beads conforming to AASHTO M 247, Type 1, with a moisture resistant coating. Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 100 ppm of arsenic.

Submit certifications of compliance, as specified in 106.07, for each batch of materials used on the Contract. For each lot of glass beads, submit test results indicating the parts per million of lead, antimony and arsenic as determined by testing according to Environmental Protection Agency testing method 3052 and testing method 6010B or 6010C.

#### **912.04.01 Latex Paint**

THE ENTIRE SUBPART TEXT IS CHANGED TO:

Use latex traffic paint that is a fast-drying white, or non-lead yellow, ready-mixed pigmented binder emulsified in water and capable of anchoring reflective glass beads that are separately applied. Ensure that the color matches FED-STD-595B color chip No. 33538 for yellow and No. 37886 for white. Ensure that the paint has a maximum no-track time of 120 seconds when applied in a wet film. In addition, ensure that the finished product meets the following:

1. Volume of solids is a minimum 61 percent.
2. Total solids are a minimum of 77.5 percent total non-volatiles by weight, when tested according to ASTM D 2369.
3. Weight per gallon is a minimum  $14 \pm 0.2$  pounds per gallon for each color.
4. Hegman Grind is a minimum of 2 Hegman when tested according to ASTM D 1210.
5. Viscosity is between 70 and 95 Krebs Units at 77 °F, when tested according to ASTM D 562.

Use glass beads conforming to AASHTO M247, Type 1, with a moisture resistance coating. Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 100 ppm of arsenic.

Submit a certification of compliance, as specified in 106.07, for latex and glass beads. For each lot of glass beads, submit test results indicating the parts per million of lead, antimony and arsenic as determined by testing according to Environmental Protection Agency testing method 3052 and testing method 6010B or 6010C.

## **DIVISION 1000 – EQUIPMENT**

### **SECTION 1009 – HMA PLANT EQUIPMENT**

#### **1009.01 HMA PLANT**

##### **A. Requirements for HMA Mixing Plants.**

THE FOLLOWING IS ADDED AFTER THE SECOND PARAGRAPH:

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.

## NJDOT TEST METHODS

### NJDOT B-3 – SELECTING CORES FOR MAXIMUM SPECIFIC GRAVITY TESTING IN AIR VOIDS DETERMINATION

#### B. Procedure.

THE FOLLOWING NOTE IS ADDED AFTER STEP 3:

NOTE: For Recore Lots and Statistical Outlier Lots, do not randomly select a core for maximum specific gravity testing. The entire core lot must be tested for maximum specific gravity.

THE FOLLOWING STEP IS ADDED AFTER STEP 9:

10. If the lot has an outlier or is a recore lot, the entire lot must be tested for maximum specific gravity. Calculate air voids using each individual core maximum specific and bulk specific gravity.

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 °F (0 to 35 °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 marker 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 C-2 – QUICK-SETTING PATCH MATERIALS

**C. Procedure.**

- 2. Tests.** Test materials according to the following:  
 THE B. IS CHANGED TO:

- b. **Strength Development.** For Type 1 and 2, test 2 cubes per test according to AASHTO T 106. For Type 1A and 1B, make two 4 × 8-inch cylinders per test according to AASHTO R 39. Cure specimens covered with a plastic cover over the cylinder for 3 hours and then cure without the plastic cover at 70.4 to 76.4 °F and 50 percent relative humidity until testing. Test according to AASHTO T 22.

## 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.

## **NJDOT R-1 – DETERMINING RIDE QUALITY OF PAVEMENT SURFACES**

**A. Scope.** This test method is used to determine the ride quality of a pavement surface using a Class 1 Inertial Profiler System (IPS). If any part of this test procedure is in conflict with the referenced documents, such as ASTM or AASHTO standards, this test procedure takes precedence for its purpose.

**B. Apparatus.** Use the following apparatus:

1. Class 1 IPS that meets the requirements of ASTM E 950, Sections 4.0, 5.0 and 6.0 of AASHTO M 328, and the following:
  - a. Valid certification approved by the Department.
  - b. The data system provides the raw profile data in an ASCII format acceptable to the Department.
  - c. Current version of *ROADRUF*, *ProVal*, or other Department approved pavement profile analysis software installed on the IPS computer to compute the IRI.
2. Base plate and gauge blocks, of 1 inch and 2 inch thickness, provided by the manufacturer to verify daily vertical calibration.
3. Retro-reflective traffic marking tape or other approved mechanism to automatically trigger the start and stop of profile measurements.

**C. Procedure.** Perform the following steps:

1. Turn on the inertial profiler and warm up all electronic equipment in accordance with the manufacturer recommendations in advance of testing.
2. Perform Block and Bounce tests each day prior to collecting data. Record the results in the calibration log. Ensure tolerances are within the certified limits.
3. Ensure retro-reflective traffic marking tape or other approved mechanism is placed at the beginning and end of each direction of travel lane.

4. Enter project information in the system.
  5. Make provisions to start and stop recording profile at the beginning and end of testing. If automatic trigger mechanism is not install, make provision to initiate start and end data recording manually by pressing a specific key on the computer.
  6. Ensure that the required speed is achieved and system is collecting profile data prior to recording profile.
  7. For each test section, perform three test runs to collect data of both wheel paths 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. Save data from each run separately prior to subsequent run or lane testing, clearly identifying each test section, lane identification, and run number.
- D. Report.** Generate an electronic report in excel format, compatible with the Department's version, of continuous IRI for each 0.01 mile lot after applying 300 feet high-pass filter. The report shall contain the following information:
1. Date of testing, IPS identification number used for testing, and name of operator.
  2. Route, milepost location, direction, lane identification, run number, IRI of each wheel path, and average speed.

## SECTION 340000 – BRIDGES

### 000101 - INDEX

- A. Specifications for this Project are arranged in accordance with the Construction Specifications Institute numbering system and format. Section numbering is discontinuous and all numbers not appearing in the Index are not used for the Project.
- B. DOCUMENTS BOUND HEREWITH:

Specifications:  
TITLE PAGE

### BIDDING AND CONTRACT REQUIREMENTS

Subsection 000101            -Index

### GENERAL REQUIREMENTS

Subsection 024113            -Clearing Site, Clearing Bridge Superstructure  
Subsection 024119            -Selective Demolition

### CONCRETE

Subsection 030140.61        -Epoxy Injection Crack Repair  
Subsection 0301500        -Supplemental Concrete Accessories  
Subsection 033100            -Cast-In-Place Concrete  
Subsection 034133            -Precast and Prestressed Structural Concrete  
Subsection 036300            -Epoxy Grouting

### MASONRY

Subsection 044300            -Stone Masonry

### METALS

Subsection 055000            -Metal Fabrications

### THERMAL AND MOISTURE PROTECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

Subsection 071000        -Damp Proofing and Waterproofing  
Subsection 076200        -Copper Sheet Metal Flashing  
Subsection 079000        -Joint Sealers

COFFERDAMS

~~Subsection 315200        -Temporary Cofferdams and Dewatering~~

C. DOCUMENTS BOUND SEPARATELY

The Drawings listed below and accompanying these Specifications constitute the Drawing portion of the Contract Documents.

<u>Drawing No.</u>	<u>Title</u>
KEY	Key Plan
B0	Bridge Plan, Elevation and Sections
B1	Estimate of Quantities
B2	Demolition Plan No. 1
B3	Demolition Plan No. 2
B4	Superstructure Replacement Plan No.1
B5	Superstructure Replacement Plan No.2
B6	Superstructure Replacement Plan No.3
B7	Superstructure Replacement Plan No.4
B8	Parapet and Railing Details No.1
B9	Parapet and Railing Details No.2
B10	Parapet and Guide Rail Connection Details
B11	Substructure Repair Plan
B12	Substructure Repair Details
B13	Water Main Support Plan

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

PASSAIC STREET BRIDGE OVER PASSAIC RIVER

340000.000101-2

## **SUBSECTION 024113 – CLEARING SITE, CLEARING BRIDGE SUPERSTRUCTURE**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Site clearing for this project includes the following:
  - 1. Clearing brush and debris within work area.
  - 2. Clearing of bridge superstructure.
- B. Temporary shielding is required to contain debris within work area and to maintain/protect environmentally sensitive areas.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Clearing land: Do not remove trees, shrubs, and other landscape features that do not interfere with the Work or are designated for preservation. Prevent damage or injury to existing trees, plants, and other vegetation that is to remain within or adjacent to the Project Limits.
- B. Clearing of bridge superstructure: Remove the existing structures to the extent shown on the bridge plans.

#### 1.3 SUBMITTALS

- A. Clearing of bridge superstructure: Submit a demolition plan detailing the methods and equipment to be used to the RE for approval 30 days before demolition operations.
- B. Temporary shielding: Include with the working drawings a plan for removing material, dust, or debris that has fallen into active traffic lanes, railroads, and environmentally sensitive areas.
- ~~C. Dewatering: Submit a dewatering plan including the method of dewatering and controlling sediment and contaminants from entering adjacent waterbodies, wetlands and environmentally sensitive areas. Dewater areas according to the dewatering plan.~~
- D. Pollution Prevention and Control (PPC) Plan: submit a plan describing the methods of preventing discharge of regulated stormwater, ground water,

sediments, and free product during stormwater control, excavation, and dewatering operations.

## PART 2 - PRODUCTS

## PART 3 - EXECUTION

### A. Clearing land:

1. Preparation: Construct SESC measures, as specified in civil drawings, before clearing site. Clear the site within the limits of construction. Clear the ground surface of designated trees, brush, weeds, roots, matted leaves, small structures, debris, and other objectionable material, vegetation, and growth.
2. At locations adjacent to operations performed by motorized equipment, erect and maintain a 4-foot high caution fence around trees (at drip line), shrubs, and areas containing vegetation to be preserved.
3. ~~Dewater areas according to the dewatering plan and pollution protection and control plan.~~
4. Dispose of cleared material and construction debris according to Solid Waste Management Act (N.J.S.A. 13:1E-1) AND N.J.A.C. 7:26. Submit proper documentation from the disposal facility to the RE and the county of origin within 15 days of acceptance at the disposal facility.

### B. Clearing Bridge Superstructure:

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

BRIDGE SUPERSTRUCTURE REPLACEMENT

340000.024113-2



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 equipment data to the RE for Department's analysis.
4. **Hydraulic Splitters.** Hydraulic Splitters.
5. **Other Equipment.** Obtain RE approval before use.

C. Temporary Shielding:

1. Submit working drawings for certification for a system to protect vehicular, pedestrian, or railroad traffic or environmentally sensitive areas from falling debris, construction materials, or other objects. Temporary shielding requirements are in addition to forms and falsework required for construction. Design the temporary shielding system to conform to the following:
  - a. Withstands loads of at least 0.8 pounds per square inch, or greater if heavier loads are anticipated or if required by railroads.
  - b. Prevents small particles and dust from escaping the shield.
  - c. Seals the underside of the deck and extends outside of the deck and outside of the fascia stringers to enclose the soffits and parapets.
  - d. If parapet removal or parapet construction is required, provide an outrigging to enclose the soffits and parapets.
  - e. Does not bolt or weld the temporary shielding system to the beams.
  - f. Does not reduce the under-clearance of the bridges to less than 14.75 feet over roadways and 22 feet over railroads or as specified in the Contract. If existing under-clearance is less than these values, does not further reduce the under-clearance. Show elements of the temporary shielding system, including design calculations, and the sequence of operations, and, when applicable, bonding and grounding over electrified rail lines.
2. Install the temporary shielding according to the certified working drawings before performing any construction operations over vehicular,

pedestrian, or railroad traffic or ecologically sensitive areas. The RE will not allow the installation of temporary shielding over active traffic lanes and pedestrian areas. When applicable, comply with the railroad's maintenance of traffic requirements, rules and regulations. Remove and reinstall the temporary shielding as required by construction staging. Do not allow dropped materials to accumulate on the temporary shielding, and remove dropped materials promptly. If debris falls from the shielding, promptly clean it up and repair the damage. Do not remove any portion of the shielding without the approval of the RE.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Clearing Brush and Debris within Work Area will be paid on a lump sum basis and the cost thereof shall be included in the item: **CLEARING SITE** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Clearing of Bridge Superstructure will be paid on a lump sum basis and the cost thereof included in the item: **CLEARING SITE, BRIDGE (BRIDGE NO. NE-60)** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- C. Payment for the item Temporary Shielding will be paid on a lump sum basis and the cost thereof included in the item: **TEMPORARY SHIELDING** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

## **SUBSECTION 024119 - SELECTIVE DEMOLITION**

### **PART 1 – GENERAL**

#### **1.1 SUMMARY**

- A. Cutting and removal indicated on the Drawings are general indications only and do not necessarily show the full extent of cutting and removal which may be required by job conditions.
- B. Inspect and assess each space and fulfill the intent of the work required by the Contract Documents. Deviations from the Contract Documents required by field conditions shall be brought to the attention of the Engineer before proceeding.
- C. Verify or establish all existing conditions and dimensions before proceeding with any portion of the work.
- D. Provide and maintain all bracing and shoring required to maintain structural integrity at all times.

#### **1.2 DEFINITIONS**

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain on the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Re-install items in the same locations or in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

#### **1.3 MATERIALS OWNERSHIP**

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further

disposition at the Contractor's option, subject to legal means.

#### 1.4 SUBMITTALS

- A. Submit a drawing, prepared by a professional engineer, indicating the method and materials proposed to brace and shore existing work during removal operations.
- B. Submit a schedule of removal operations, and the proposed manner of blocking off removal areas.
- C. Submit photographs or videotape, sufficiently detailed, of existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's representative prior to start of work.

#### 1.5 PROJECT CONDITIONS

- A. Provide minimum of 72 hours' advance notice to Owner of demolition activities.
- B. Owner assumes no responsibility for actual condition of items or structures to be demolished. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable.
- C. Items deemed by the Contractor to be salvageable, but not identified herein or on the Drawings to be handed over to the Owner shall be transported from the site as they are removed. Storage or sale of removed items on site will not be permitted.

#### 1.6 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed selective demolition Work similar to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

#### 1.7 STORAGE

- A. Store and protect materials salvaged for reuse in the new construction in a location designated by the Owner's representative.

#### 1.8 PROTECTION

- A. Protect all areas of structure not designated to be removed.

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- B. Perform all work required to protect the public and utilities.
- C. Flame Cutting: Do not use cutting torches for removal until work area is cleared of flammable materials. At concealed spaces, such as interior of ducts and pipe spaces, verify condition of hidden space before starting flame-cutting operations. Maintain portable fire suppression devices during flame-cutting operations.

## 1.9 EXISTING SERVICES

- A. Disconnect or reroute existing soil, drain, water service, gas pipes, electrical conduits and wires, telephone conduits and wires, sprinkler lines, and similar utilities in the way of demolition, before proceeding with the work.
- B. Do not remove any of the existing utility services described above until it has been determined that the line is no longer in service. Maintain continuity of service of all utilities in use.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Carefully remove materials indicated for reuse or delivery to the Owner.
- B. Salvageable materials not claimed by the Owner shall be the property of the Contractor. On site sale of materials will not be permitted.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Survey the condition of the structure to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.
- B. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- C. Erect guard rails, dust proof enclosures, chutes, catch platforms, shoring and bracing required for human safety and property protection and to keep dust and dirt to a minimum.
- D. Install soil erosion control measures, cofferdams, stream diversion system,

turbidity barriers, and dewatering measures.

### 3.2 FACILITIES

- A. Existing road must be closed and start of work approved by owner.

### 3.3 DEMOLITION

- A. Do not use explosives in demolition or removal of work.
- B. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
- C. Hold dust and dirt to a minimum by wetting down, as required. Do not allow debris to accumulate. Conduct loading and hauling in a careful manner to keep the route to disposal area free of debris. On-site burning of materials will not be permitted.
- D. Adopt a method for controlling and scheduling loud noises.
- E. Demolish masonry in small sections. Cut masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
- F. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- G. Repair any damage to existing materials, finishes or surfaces caused by demolition work at no additional cost to the Owner. Match finishes in material, color, texture, sheen, and workmanship.

### 3.4 REMOVAL

- A. Supervision of the removal of materials designated for reuse shall be conducted by the trade required to install each material.
- B. Perform all cutting and removal required for alteration work carefully, causing no damage to existing materials left in place.
- C. Perform all removal work in small portions, using bars, chisels, etc.
- D. Lower debris from areas above grade level through hoists or chutes.

- E. Lightly sprinkle all debris as it is being piled and loaded.
- F. Removed equipment and materials not desired by the Owner shall become the property of the Contractor and shall be promptly removed from the site. Equipment and materials desired by the Owner shall be delivered by the Contractor to an on-site location designated by the Owner. Review and coordinate with the Owner and Engineer.

### 3.5 PATCHING AND INSTALLATION

- A. When in-filling existing openings, the in-fill materials shall be finished to match existing adjacent surfaces, unless otherwise noted. Work shall be as specified herein or, if not specified, installation shall be by mechanics who are trained in installation of such materials and materials shall match existing in texture, strength, color, sheen, construction, make-up and all other appearances.
- B. Pipe, duct and conduit holes, either existing or resulting from the work requirements, shall be filled in to match adjacent existing work.

### 3.6 DISPOSAL

- A. Remove all materials as a result of demolition from the site and dispose of by legal means. Debris shall not be permitted to accumulate on the job-site.

### 3.7 CLEANING

- A. At completion of the work, clean the entire area involved, including exterior areas where debris was removed and loaded, and leave it in a neat condition, free of rubbish and debris.
- B. At completion of repair work power wash lower level using a medium-pressure water spray at 400 to 800 psi; 4 to 6 gpm.

## PART 4 – METHOD OF PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Selective Demolition will be paid on a lump sum basis and the cost thereof included in the item: **CLEARING SITE, BRIDGE (BRIDGE NO. NE-60)** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

- B. Payment for the item Pressure Washing will be paid on a lump sum basis and the cost thereof included in the item: **PRESSURE WASHING OF SUBSTRUCTURE** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## **SUBSECTION 030140.61 – EPOXY INJECTION CRACK REPAIR**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Work includes repairs to cracks in existing concrete walls as indicated on the Drawings.

#### 1.2 DEFINITIONS

- A. Crack: Complete or incomplete separation of concrete into two or more parts produced by breaking or fracturing.
- B. Crack Injection: Method of sealing or repairing cracks by injecting a polymer.
- C. Large Cracks: Wider than 0.015 inch.
- D. Small Cracks: Width equal to 0.015 inch or less.

#### 1.3 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
  - 1. American Association of State Highway and Transportation Officials (AASHTO): T237, Standard Method of Test for Testing Epoxy Resin Adhesive.
  - 2. American National Standards Institute (ANSI).
  - 3. ASTM International (ASTM):
    - a. C 882, Standard Specification for Test Method for Bond Strength of Epoxy-Resin System Used with Concrete by Slant Shear.
    - b. D 570, Standard Test Method for Water Absorption of Plastics.

- c. D 638, Standard Test Method for Tensile Properties of Plastics.
- d. D 648, Standard Test Method for Deflection Temperature of Plastics under Flexural Load in the Edgewise Position.
- e. D 695, Standard Test Method for Compressive Properties of Rigid Plastics.
- f. D 790, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

4. ACI 503.7-07 Specification for Crack Repair by Epoxy Injection.

#### 1.4 SUBMITTALS

A. Action Submittals:

- 1. Physical and chemical properties for epoxy adhesives.
- 2. Technical data for metering, mixing, and injection equipment.
- 3. Description of proposed repair including location, material, and procedures.

B. Informational Submittals:

- 1. Manufacturers recommended surface preparation procedures and application instructions for epoxy adhesives.
- 2. Installation instructions for repairing core holes with epoxy grout.
- 3. Statements of Qualification for Epoxy Adhesive:
  - a. Manufacturer's Site representative.
  - b. Injection applicator.
  - c. Injection pump operating technician.

4. Epoxy adhesive two component ratio and injection pressure test records for crack repair work.

## 1.5 QUALITY ASSURANCE

### A. Qualifications for Epoxy Injection Staff:

1. Manufacturer's Site Representative:
  - a. Capable of instructing successful methods for restoring concrete structures utilizing epoxy injection process.
  - b. Understands and is capable of explaining technical aspects of correct material selection and use.
  - c. Experienced in the operation, maintenance, and troubleshooting of application equipment.
2. Injection crew and job foreman shall provide written and verifiable evidence showing compliance with the following requirements:
  - a. Licensed and certified by epoxy manufacturer.
  - b. Minimum 3 years' experience in successful epoxy injection for at least 10,000 linear feet of successful crack injection including 2,000 linear feet of wet crack injection to stop water leakage.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- ### A. Packing and Shipping: Package adhesive material in new sealed containers and label with following information:
1. Manufacturer's name.
  2. Product name and lot number.
  3. ANSI Hazard Classification.
  4. ANSI recommended precautions for handling.

5. Mix ratio by volume.

B. Storage and Protection: Store adhesive containers at ambient temperatures below 110 degrees F and above 45 degrees F.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

- Adhesive Technology, Pompano Beach, FL: SCB Crackbond Series.
- Sika Corp., Lyndhurst, NJ. Sikadur series
- Euclid Chemical Co., Cleveland, OH: Dural 452 LV
- Simpson Strongtie Anchor Systems, Columbus, OH: ETI-SLV, Crack-Pac system
- Spec Chem, Kansas City, MO: Specpoxy 1000

2.2 EPOXY ADHESIVE

A. Two-component A and B structural epoxy adhesive for injection into cracks or other voids in concrete or masonry structures for bonding or grouting.

B. Adhesive Properties:

	Test Method		Criteria
7-day, Tensile Strength, psi	ASTM	D 638	5,000 min.
Tensile Elongation @ Break, percent	ASTM	D 638	1.0% min.
Compressive Yield Strength, 7 days @73deg F, psi	ASTM	D 695	8,000 min.
Compressive Modulus, psi	ASTM	D 695	1.5x10 <sup>5</sup> min.
Heat Deflection Temperature, deg F	ASTM	D 648	120 min.
Water absorption @ 24 hours, Maximum %	ASTM	D 570	1.0
Bond Strength @ 2 days psi	ASTM	C 882	1,000 min.

Bond Strength @ 14 days psi

ASTM C 882 1,500 min.

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Slant Shear Strength: (5,000 psi)  
Compressive Strength Conc.

AASHTO T237

Where test results are available psi.

Cured 3 days @ 40 deg F	Wet Concrete	3,500 min.
Cured 1 day @ 77 deg F	Dry Concrete	5,000 min.
Cured 3 days @ 77 deg +/- 3 deg F		5,000 min.

Cure test specimens so that peak exothermic temperature of adhesive does not exceed 100 degrees F.

### 2.3 SURFACE SEAL

- A. Material with sufficient strength and adhesion for holding injection fittings firmly in place, and to resist pressures preventing leakage during injection as recommended by epoxy manufacturer.
- B. Material shall be capable of removal after injection adhesive has cured.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Free cracks from loose matter, dirt, laitance, oil, grease, salt, and other contaminants.
- B. Clean cracks in accordance with epoxy adhesive manufacturer's instructions.
- C. Clean surfaces adjacent to cracks from dirt, dust, grease, oil, efflorescence, and other foreign matter detrimental to bond of surface seal system.
- D. Do not use acids and corrosives for cleaning, unless neutralized prior to injecting epoxy.

### 3.2 APPLICATION

- A. Sealing: Apply surface seal in accordance with manufacturer's

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instructions to designated crack face prior to injection. Seal surface of crack to prevent escape of injection epoxy.

B. Entry Ports:

1. Establish openings for epoxy entry in surface seal along crack.
2. Determine space between entry ports equal to thickness of member to allow epoxy to penetrate to the full thickness of the wall.
3. Provide a means to prevent concrete dusts and fines from contaminating the crack or ports when drilling.
4. Space entry ports closer together to allow adjustment of injection pressure to obtain minimum loss of epoxy to soil at locations where:
  - a. Cracks extend entirely through wall.
  - b. Backfill of walls on one side.
  - c. Difficult to excavate behind wall to seal both crack surfaces.
5. Core drill to verify epoxy depth where only one side of wall is exposed.

C. Epoxy Injection:

1. Store epoxy at minimum of 70 degrees F.
2. Start injection into each crack at lowest elevation entry port.
3. Continue injection at first port until adhesive begins to flow out of port at next highest elevation.
4. Plug first port and start injection at second port until adhesive

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flows from next port.

5. Inject entire crack with same sequence.

D. Finishing:

1. Cure epoxy adhesive after cracks have been completely filled to allow surface seal removal without draining or runback of epoxy material from cracks.
2. Remove surface seal from cured injection adhesive.
3. Finish crack face flush with adjacent concrete.
4. Indentations or protrusions caused by placement of entry ports are not acceptable.
5. Remove surface seal material and injection adhesive runs and spills from concrete surfaces.

### 3.3 EQUIPMENT

- A. Portable, positive displacement type pumps with in-line metering to meter and mix two adhesive components, and inject mixture into crack.
- B. Pumps:
  1. Electric or air powered with interlocks providing positive ratio control of proportions for the two components at nozzle.
  2. Primary injection pumps for each material of different mix ratio, including a standby backup pump of similar ratio.
  3. Capable of immediate compensation for changes in resins.
  4. Do not use batch mix pumps.
- C. Discharge Pressure: Automatic pressure controls capable of discharging

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mixed adhesive at pressures up to 200 psi, plus or minus 5 percent, and able to maintain pressure.

- D. Automatic Shutoff Control: Provide sensors on both Component A and B reservoirs for stopping machine automatically when only one component is being pumped to mixing head.
- E. Proportioning Ratio Tolerance: Maintain epoxy adhesive manufacturer's prescribed mix ratio within a tolerance of plus or minus 5 percent by volume at discharge pressure up to 160 psi.
- F. Ratio/Pressure Check Device:
  - 1. Two independent valve nozzles capable of controlling flow rate and pressure by opening or closing valve to restrict material flow.
  - 2. Pressure gauge capable of sensing pressure behind each valve.

### 3.4 FIELD QUALITY CONTROL

- A. Epoxy Adhesive Two Component Ratio Tests:
  - 1. Disconnect mixing head and pump two adhesive components simultaneously through ratio check device.
  - 2. Adjust discharge pressure to 160 psi for both adhesive components.
  - 3. Simultaneously discharge both adhesive components into separate calibrated containers.
  - 4. Compare amounts simultaneously discharged into calibrated containers during same time period to determine mix ratio.
  - 5. Complete test at 160 psi discharge pressure and repeat procedure for 0 psi discharge pressure.
  - 6. Run ratio test for each injection unit at beginning and end of each injection work day, and when injection work has stopped for more

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than 1 hour.

7. Document and maintain complete accurate records of ratios and pressure checks.

B. Injection Pressure Test:

1. Disconnect mixing head of injection equipment and connect two adhesive component delivery lines to pressure check device.
2. Pressure Check Device:
  - a. Two independent valve nozzles capable of controlling flow rate and pressure by opening or closing of valve.
  - b. Pressure gauge capable of sensing pressure build-up behind each valve.
  - c. Close valves on pressure check device and operate equipment until gauge pressure on each line reads 160 psi.
3. Stop pumps and observe pressure: do not allow pressure gauge to drop below 150 psi within 3 minutes.
4. Run pressure test for each injection equipment unit:
  - a. Beginning and end of each injection work day.
  - b. When injection work as stop for more than 45 minutes.
5. Check tolerance to verify equipment capable of meeting specified ratio tolerance.

C. Crack Injection Tests:

1. Initial Cores:
  - a. 4-inch diameter for full crack depth taken from Engineer selected locations.

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- b. Take three cores in first 100 linear feet of crack repaired and one core sample for each 500 linear feet thereafter.
2. Provide suitable containers for storage, curing, and transportation of test specimens.
3. Methods of Testing Cores:
  - a. Penetration: Visual examination.
  - b. Bond Strength/Compression Test: Concrete failure prior to adhesive failure.
4. Test Requirements:
  - a. Penetration: Minimum of 90 percent of crack shall be full of epoxy adhesive.
  - b. Bond Strength/Compression Test: Concrete failure before adhesive failure or 6,500 psi with no failure of either concrete or adhesive.
5. Evaluation and Acceptance of Tests:
  - a. If initial cores pass tests as specified, epoxy adhesive injection Work at area represented by cores will be accepted.
  - b. If initial cores fail either by lack of penetration or bond strength, crack repair Work shall not proceed further until areas represented by cores are re-injected or repaired and retested for acceptance.
  - c. Obtain verifying core samples, number and location as selected by Engineer, after rework of areas represented by failed initial cores is complete.
6. Core Hole Repair:

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- a. Correct Work as result of testing upon notification from Engineer.
- b. Refill initial and verifying core holes with an epoxy grout tamped and rodded in-place to form a dense fill.
- c. Finish surface to blend with adjacent concrete.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Epoxy Injection Crack Repair will be paid on a lineal foot basis and the cost thereof included in the item: **PRESSURE INJECTION, CONCRETE CRACKS** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## **SUBSECTION 031500 – SUPPLEMENTAL CONCRETE & BRIDGE ACCESSORIES**

### PART 1 – GENERAL

#### 1.1 SUMMARY

A. Types of work in this section include accessories for concrete as follows:

1. Bridge Bearing Pads
2. Waterstops for construction joints
3. Patching Cement for substructure concrete repair.
4. Non-shrink Grout for filling abandoned drill holes.

#### 1.2 SUBMITTALS

A. Submit manufacturer's product data for each type of concrete accessory and other manufactured products, including certifications that each type complies with specific requirements and in compliance with NJDOT. Include material test reports as applicable.

#### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project in undamaged condition.
- B. Store materials off the ground, under cover and in dry locations.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

A. Bridge Bearing Pads

Provide plain elastomeric pads consisting of polychloroprene / neoprene molded or cut to size from larger sheets. Thickness and width to meet the requirements shown on the Plans. Provide pads with standard AASHTO durometer hardness of 60. Ensure that the materials and fabrication of bridge bearing pads conform to Section 18.2 of the *AASHTO LRFD Bridge Construction Specifications*.

Materials, equipment, and accessories specified in this section shall be

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products of one of the following or approved equal:

Voss Engineering, Inc., Lincolnwood, IL: Neosorb

B. Waterstop

Provide hydrophilic strip waterstop designed to stop water infiltration through construction joints in cast-in-place concrete elements. Waterstop is to consist of an active bentonite/butyl rubber based continuous self-adhering strip, applicable to both vertical and horizontal surfaces.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

Cetco, Inc., Hoffman Estates, IL: Waterstop-RX

C. Patching Cement

Provide Quick Setting Patch, Type 1 cement to repair voids and surface damage to concrete surfaces where required to install bearing pads and waterstop.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

BASF Building Systems, Shakopee, MN: Rapid Mortar 10-60

Euclid Chemical Co., Cleveland, OH: Speedcrete 2028

Five Star Products, Fairfield, CT: Five Star Fast Set Cement

D. Non-shrink grout

Provide non-shrink cementitious grout to fill abandoned drill holes in concrete elements.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

ChemMasters, Madison, OH: Conset Grout

CTS Cement Manufacturing Corp., Manasquan, NJ: Rapid Set Cement-All

Euclid Chemical Co., Cleveland, OH: Euclid NS Grout

H.B. Fuller Construction Products, Aurora, IL: Slab Dowel Grout, Prospec

High Strength Precision Grout

Dayton Superior, Dayton, OH: 1107 Advantage Grout

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## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Bearing Pads
  - 1. Repair and patch any damage to existing concrete surfaces. Fill any voids with patching cement and strike level with existing bearing surface. Grind any high spots or uneven areas to provide a smooth flat surface for pads.
- B. Waterstop
  - 1. Fill any voids with patching cement and strike level to provide a smooth flat surface. Grind any high spots or uneven areas. Follow manufacturer's preparation guidelines.
- C. Patching Cement & Non-shrink grout
  - 1. Ensure that substrate is clean and free of any loose debris, dirt or other material that could affect proper bond. Follow manufacturer's preparation guidelines.

### 3.2 INSTALLATION

- A. Bearing Pads: Install bearing pads in accordance with Plans. Provide tapered material where bearing seat slope exceeds 1.4%, notify RE if slope exceeds 5.5%. Provide holes of size noted on Plans and in coordination with anchor locations.
- B. Waterstop: Surfaces should be clean and dry. Remove all dirt, rocks, rust or other debris. Do not install in standing water or on an iced substrate. Apply a continuous bead of CETSEAL adhesive along the substrate where waterstop will be installed. Assure proper concrete coverage will be provided. Keep the nozzle tip pressed against the concrete at a 45 degree angle during application. After applying a continuous bead of adhesive, remove release paper, then firmly press the entire length of waterstop onto the adhesive within the working time of the adhesive. For vertical and overhead applications, firmly press a minimum of 15 seconds to assure adhesion. Tightly butt coil ends together, do not overlap coil ends. There should not be any air gap between the waterstop and the substrate. Place waterstop inside the outermost reinforcement or as otherwise noted on plans.
- C. Patching Cement & Non-shrink grout

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1. Follow manufacturer's installation guidelines.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Bridge Bearing Pads shall be included in the item: **PRESTRESSED CONCRETE BOX BEAM** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Waterstop shall be included in the item: **CONCRETE BRIDGE DECK, HPC** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- C. Payment for the item Patching Cement shall be included in the item: **SUBSTRUCTURE CONCRETE REPAIR** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- D. Payment for the item Non-Shrink Grout shall be included in the item: **PRESTRESSED CONCRETE BOX BEAM** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT



## **SUBSECTION 033100 - CAST-IN-PLACE CONCRETE**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The Drawings contain additional specifications. Comply with requirements of both the Drawing Specifications and this Section. Where conflict occurs, notify the Engineer immediately and for bidding purposes, the Drawing Specifications shall apply.
- B. The work consists of all labor, materials, and equipment required in the installation of all cast-in-place concrete and related materials for bridge construction.

#### 1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, ground granulated blast- furnace slag, and silica fume.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, curing compounds, and others as requested by Engineer.
- B. Design Mixes: At least 4 weeks before the start of concrete placement submit each mix design on concrete mix design forms. Identify the sources of materials and test data on the forms. For each concrete mix include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

If the Contractor submits written verification that the same source and character

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of materials are to be used, the RE may waive the requirement for the design and verification of previously approved mixes.

- C. Indicate amounts of mix water to be withheld for later addition at Project site.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork. Design and engineering of formwork are Contractor's responsibility.
- E. Shoring and Re-shoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing re-shoring.
- F. Welding Certificates: Copies of certificates for welding procedures and personnel.
- G. Submit delivery ticket for each truckload discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, amount of water introduced, and admixtures used. Tickets shall be transmitted to Engineer within 24 hours of concrete delivery. Engineer reserves the right to have the concrete tested and/or reject concrete which does not meet specifications.

#### 1.4 QUALITY ASSURANCE

- A. Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:
  - 1. NJDOT "Standard Specifications for Road and Bridge Construction", 2007.
  - 2. NJDOT "Design Manual for Bridges & Structures", 2016, 6<sup>th</sup> edition.
  - 3. AASHTO "LRFD Bridge Design Specifications, 2014, 7<sup>th</sup> Edition".
  - 4. ACI 347 "Recommended Practice for Concrete Formwork", latest edition
  - 5. Concrete Reinforcing Steel Institute, "Manual of Standard Practice", latest edition.

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- B. The Contractor shall engage the services of an AASHTO accredited testing laboratory to perform material evaluation test and to design concrete mixes. Fully cooperate with testing agency and allow free access to the job site at all times. Testing laboratory will perform following tests and submit test reports during construction. Test reports shall be submitted to the Engineer and County within 24 hours of actual test:
1. Sampling fresh concrete; ASTM C 172, except modified for slump to comply with ASTM C 94.
  2. Slump; ASTM C 143; one test for each concrete load at point of discharge and one test for each set of compressive strength test specimens.
  3. Air content; ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure for normal weight concrete; one for each set of compressive strength test specimens.
  4. Concrete temperature; test hourly when air temperature is 40<sup>0</sup> F and below, and when 80<sup>0</sup>F, and above; and each time a set of compression test specimens made.
  5. Compression test specimen; ASTM C 31; one set of 5 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field cure test specimens are required.
  6. Compressive strength tests; ASTM C 39; one set for each 100 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 5,000 sq. ft. of surface area placed; 2 specimens tested at 7 days and 2 specimens tested at 28 days.
- C. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
- D. When strength of field cured cylinders is less than 85% of companion laboratory

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cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

- E. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
- F. Test results shall be reported in writing to Engineer and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength and type of break for both 7-day tests and 28-day tests.
- G. The testing service shall make additional tests of in- place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods, as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.
- H. Materials and installed work may require testing and retesting, as directed by Engineer, at any time during progress of work. Allow free access to materials stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including retesting of rejected materials and installed work, shall be done at Contractor's expense.
- I. All admixtures and coatings shall comply with the requirements of New Jersey Administrative Code; Title 7, Chapter 27, Subchapter 23 Volatile Organic Substances in Consumer Products, including labeling requirements.
- J. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering

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services are defined as those performed for formwork and shoring and reshoring installations that are similar to those indicated for this Project in material, design, and extent.

- K. **Manufacturer Qualifications:** A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment and listed on QPL. Manufacturer must be certified according to the National Ready Mixed Concrete Association's Certification of Ready Mixed Concrete Production Facilities.
- L. **Source Limitations:** Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- M. **Welding:** Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code-Reinforcing Steel."

#### 1.5 DELIVERY, STORAGE, AND HANDLING

##### A. Concrete Mixing and Transiting

1. Mix concrete at a concrete plant that is listed on the QPL.
2. Ensure that the plant's location, layout, equipment, and provisions for transporting material will ensure a continuous supply of concrete to the work.
3. Do not allow the elapsed time from batching to the discharge of all the concrete from the mixer to exceed 90 minutes, except that under conditions contributing to quick stiffening of the concrete or when the temperature of the concrete is above 85 °F, the time limit is changed to 60 minutes. Under very severe conditions, the RE may further reduce the time limits. Measure batching time from the time cement is introduced to the mixer.

If the concrete cannot be entirely discharged within 10 minutes, keep the concrete in the drum plastic and workable by revolving the truck drum at the manufacturer's designated speed for agitation for at least 2 minutes in

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each 10 minute period.

B. Steel Reinforcement

1. Deliver, store, and handle steel reinforcement to prevent bending and damage.
2. Avoid damaging coatings on steel reinforcement.
3. Repair damaged epoxy coatings on steel reinforcement according to ASTM D 3963/D 3963M.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal framed plywood faced or other acceptable panel type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without bow or deflection.
- B. Use overlaid plywood complying with U.S. Product Standard PS-1 "B-B High Density Overlaid Concrete Form", Class I.
- C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- D. Form Release Agent: Provide commercial formulation form coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.
- E. Form ties, unexposed surfaces: adjustable length, removable or snap off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal. Unless otherwise indicated, provide ties so portion

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remaining within concrete after removal is at least 1-1/2" inside concrete. Unless otherwise shown, provide form ties which will not leave holes larger than 1" diameter in concrete surface.

## 2.2 REINFORCING MATERIALS

- A. Epoxy-Coated Reinforcing Bars: ASTM A 775, and as follows:
  - 1. Steel Reinforcement: ASTM A 615, Grade 60, deformed.
  - 2. Epoxy-Coated Wire: ASTM A 884, Class A coated, deformed-steel wire.
  - 3. Epoxy-Coated Welded Wire Fabric: ASTM A 884, Class A, deformed steel.

## 2.3 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete. For epoxy-coated reinforcement, use epoxy-coated or other dielectric- polymer-coated wire bar supports.
- B. Epoxy-Coated Joint Dowel Bars: ASTM A 775; with ASTM A 615, Grade 60, plain-steel bars.
- C. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775.

## 2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I/II.
- B. Blended Hydraulic Cement: ASTM C 595, Type IS and IP.
- C. Normal-Weight Aggregate: ASTM C 33-03, uniformly graded, washed, single

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source.

## 2.5 CHEMICAL ADMIXTURES

- A. Air Entraining Admixture: ASTM C 260 and AASHTO M154, certified by manufacturer to be compatible with other required admixtures. Subject to compliance with requirements, provide one of the following or approved equal:

Air-Mix 200, AeA-92; Euclid Chemical Co., Cleveland, OH  
MasterAir AE 200; BASF Construction Chemicals, LLC, Cleveland, OH  
Sika Air, Air 360; Sika Chemical Corp., Lyndhurst, NJ  
Setcon 6A; Great Eastern Technologies, Yardville, NJ.  
Daravair AT30; or Daravair 1000; W.R. Grace & Co., Cambridge, MA

- B. Mid-Range Water Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1% chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

Eucon WR-75; Euclid Chemical Co., Cleveland, OH  
MasterPozzolith 200, MasterPolyheed 997; BASF Construction Chemicals, LLC, Cleveland, OH  
Daracem 55, Adva 140M; GCP Applied Technologies, Cambridge, MA  
Plastocrete 100, SikaPlast 200; Sika Chemical Corp., Lyndhurst, NJ  
Eucon WR-91; Euclid Chemical Co., Cleveland, OH

- C. High-Range Water Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1% chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

Eucon 37; Euclid Chemical Co., Cleveland, OH  
MasterGlenium 3030, MasterGlenium 3040; BASF Construction Chemicals, LLC, Cleveland, OH  
Adva 405; GCP Applied Technologies, Cambridge, MA  
Viscocrete 4100; Sika Chemical Corp., Lyndhurst, NJ  
Polystrong HP; Great Eastern Technologies., Yardville, NJ

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- D. Water Reducing, Accelerator Admixture, Non-Chloride: ASTM C 494, Type E & Type C, and containing not more than 0.1%chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

Accelguard 80; Euclid Chemical Co., Cleveland, OH  
Chemstrong CF; Great Eastern Technologies, Yardville, NJ.  
Daraccel; GCP Applied Technologies, Cambridge, MA  
Sika Set NC; Sika Chemical Corp., Lyndhurst, NJ  
MasterSet FP20; BASF Construction Chemicals, LLC, Cleveland, OH

- E. Retarding Admixture, Non-Chloride: ASTM C 494, Type B, and containing not more than 0.1%chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

SikaTard 440; Sika Chemical Corp., Lyndhurst, NJ  
MasterSet R122, MasterSet R961; BASF Construction Chemicals, LLC, Cleveland, OH

- F. Corrosion Inhibitor Admixture, Non-Chloride: ASTM C 494, Type C, and containing not more than 0.1% chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

Eucon CIA; Euclid Chemical Co., Cleveland, OH  
Chemstrong CI; Great Eastern Technologies, Yardville, NJ.  
DCI; GCP Applied Technologies, Cambridge, MA  
Sika CNI; Sika Chemical Corp., Lyndhurst, NJ  
Rheocrete CNI; BASF Construction Chemicals, LLC, Cleveland, OH

- G. Provide admixture manufacturer's written certification that chloride ion content complies with specified requirements.

- H. Calcium chloride will not be permitted.

## 2.6 MINERAL ADMIXTURES

- A. Fly Ash: Ensure that fly ash for use as a pozzolan in concrete is listed on the

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QPL and conforms to ASTM C 618, Class C or Class F, except that the loss on ignition shall not exceed 3 percent. Use Class F fly ash to control alkali-silica reactivity. The supplier shall determine conformance to the requirements for loss on ignition and fineness for each truck load of fly ash delivered to the mixing site and shall include the test values on the delivery ticket. Submit certificate of compliance as specified in 106.07.

- B. Slag: Slag for use as a cementitious material is ground, granulated blast furnace slag. Use slag that is listed on the QPL and conforms to the requirements of AASHTO M 302, Grade 120. The Contractor may use Grade 100 with the written permission of the ME. The Contractor may use slag as a replacement for cement as specified in 903.01, up to a maximum replacement level of 50 percent by weight of the total cementitious material. If more than 30 percent of cement is replaced, test the concrete mix design for scaling as specified in ASTM C 672, and ensure that it complies with a visual rating less than 3. Submit certificate of compliance, as specified in 106.07, indicating that the slag conforms to the requirements of AASHTO M 302, Grade 120.
- C. Silica Fume Admixture: Ensure that silica fume admixture for use in concrete is listed on the QPL and conforms to AASHTO M 307. Use only 1 brand of silica fume admixture for the entire duration of the Contract. The Contractor may supply silica fume admixture either in dry or in slurry form. If the slurry form is used, ensure that it is homogeneous and agitated to prevent separation. Submit certificate of compliance as specified in 106.07.
- D. Use the combined weight of fly ash, slag, silica fume, and cement content to determine compliance with the minimum cement content and water-cement ratio requirements specified in Table 903.03.06-3. Include free water from the aggregates and the water in the admixtures and additives along with the mixing water when calculating the water-cement ratio.

## 2.7 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 4, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.
- B. Moisture-Retaining Cover: ASTM C 171, AASHTO M171 for white opaque polyethylene film or white burlap-polyethylene sheet.

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C. Liquid Membrane-Forming Compound: Use liquid membrane-forming compounds conforming to AASHTO M 148, Type 1-D, clear or translucent with fugitive dye. The ME may sample 1 quart of liquid membrane-forming compound from each lot for testing. If requested by the RE, submit a certification of compliance as specified in 106.07.

D. Water: Potable.

## 2.8 RELATED MATERIALS

A. Premolded Filler: In joints without sealant indicated or specified provide premolded, nonextruding, resilient type conforming to ASTM D 1751. In joints with sealant indicated or specified provide sponge rubber or cork conforming to ASTM D 1752. Sealant shall be as specified in Section 07900 - Joint Sealers.

## 2.9 CONCRETE MIXES

A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases. Design mixes are to equal or exceed the required verification strengths specified for each class of concrete. Set up the designs according to ACI Standard 211.1 or 211.3 as applicable. See Drawings for various requirements.

B. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
2. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

## 2.10 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

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## 2.11 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.
- B. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

## PART 3 - EXECUTION

### 3.1 FORMS

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.
- B. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.
- C. Construct forms to sizes, shapes, lines and dimensions required, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages, sleeves, and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back up at joints to prevent leakage of cement paste.
- D. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to

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prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

- E. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- F. Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- G. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement if required to eliminate mortar leaks and maintain proper alignment.

### 3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 1. Install anchor bolts, accurately located, to elevations required.

### 3.3 REMOVING AND REUSING FORMS

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the Work, that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete provided concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained.
- B. Leave formwork, for beam soffits, joists, slabs, and other structural elements, that supports weight of concrete in place until concrete has achieved
  - 1. At least 75 percent of 28-day design compressive strength and at least 14

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days.

2. Determine compressive strength of in-place concrete by testing representative field- or laboratory-cured test specimens according to ACI 301.
  3. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Engineer.

#### 3.4 SHORES AND RESHORES

- A. Comply with ACI 318, ACI 301, and recommendations in ACI 347R for design, installation, and removal of shoring and reshoring.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

#### 3.5 DECK PLACEMENT PLAN

- A. At least 15 days before the start of placing bridge deck concrete, submit to the RE for approval a plan of operation that includes the following:
  1. SIP form cut and fill grade sheets.
  2. A screed and rail erection plan.
  3. Deck grades.
  4. Sequence and rate of placing concrete.
  5. Number and type of personnel performing the work.
  6. Number, type, and model of equipment to be used in handling, placing, and finishing the concrete including the weight of the finishing machine.

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7. Request for a change in the number, location, or configuration of construction joints.
  8. Method of maintaining the evaporation rate below 0.15 pounds per square foot per hour.
  9. Type of fog misting equipment if used.
- B. Meeting. Within 10 days before the start of deck placement, conduct a meeting with the RE, the ME, and the concrete supplier to discuss the plan of operation and to coordinate the deck placement.
- C. Limitations of Placing Concrete. Comply with the limitations of placing specified in 504.03.02.C, except do not place concrete when the ambient temperature is above 85 °F. If within the 12 hours before the concrete placement the National Weather Service <http://www.nws.noaa.gov/> locally forecasts a 40 percent chance or greater of precipitation during the scheduled concrete placement, postpone the placement of bridge decks and pavement.

Do not place concrete when the atmospheric evaporation rate is greater than 0.15 pounds per square foot per hour. The Contractor may use fog misting, wind shields, or other methods approved by the RE to keep the evaporation rate below 0.15 pounds per square foot per hour. If using fog misting, ensure that the fog misting equipment is capable of delivering 2 to 3 gallons of water per minute at 2000 to 2500 pounds per square inch using a 40 degree to 50 degree wide-angle nozzle. Position the fog nozzle 6 feet above the concrete surface. Do not use fog misting to apply water for finishing purposes. Immediately cease fog misting if water accumulates on the surface.

The ME will measure air temperature, relative humidity, and wind speed at the location of the deck placement. The ME will measure concrete temperatures from the sample used for slump and air content tests. The ME will perform measurements and calculations at least once every 2 hours beginning 1 hour before concrete placement.

- D. Performing the Dry Run. Perform a dry run with the finishing machine over the full length of the bridge segment. Ensure that the screed rail supports are spaced no more than 3 feet apart. Adjust the screed to its finishing position before performing the dry run. During the dry run, check the height and deflection of screed rails, the cover for reinforcement steel, and forms. Make necessary

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corrections before notifying the RE for inspection.

If the supports for the rails are located in the deck concrete, ensure that the supports can be removed without disturbing the concrete, or partially removed so that no part remains less than 2 1/2 inches below the finished concrete surface.

The RE will not inspect the dry run until it is evident that the placement and finishing operation can be completed within the scheduled time, that any required weather protective materials are in place, and that all necessary finishing tools and equipment are on hand at the work site.

The RE will check to ensure that elevations are within  $\pm 1/4$  inch of the specified elevations. The RE will check elevations longitudinally every 10 feet and transversely at the edges of breaklines, joint assemblies, gutter grades, and the center of each lane and shoulder. The RE may direct placement of additional grade stakes in areas with rapid changes in grade so that intermediate longitudinal checks can be made.

Once the RE has approved the dry run, do not make adjustments to the operation without RE approval.

- E. Placing Deck Concrete. Provide work bridges or other RE approved means of access to the surface of the deck for the purpose of finishing, straightedging, making corrections, and for other operations requiring access to the surface of the deck after the passing of the screed. Before placing deck concrete, construct bulkheads in the shape of the required deck cross-section.

When multiple concrete placements are required within a deck structure, follow the numbered sequence shown on the Plans, beginning with the lowest number. The Contractor may submit a written request to the RE for approval to have this requirement waived if the succeeding sections can be completed within 4 hours after the start of the initial section placement. The RE will not allow these requirements to be waived for deck slabs on prestressed concrete beams that are continuous for live load.

Do not place a deck section until the previously placed concrete within the unit has cured for 72 hours.

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Coordinate concrete placement and initial strike-off by a transverse finishing machine so that initial strike-off is between 6 and 8 feet behind the concrete placement.

Deliver, place, and consolidate the concrete, as specified in 504.03.02.D, at a uniform rate in a continuous operation. Ensure that stoppages of concrete placement do not exceed 30 minutes. If there is a stoppage of more than 30 minutes, the RE may direct the deck segment be removed and replaced. When placing concrete, maintain a minimum rate of 30 cubic yards per hour for deck slabs of 180 cubic yards or less. Maintain a minimum rate of 40 cubic yards per hour for deck slabs of more than 180 cubic yards of concrete.

Make as few passes of the machine as are necessary to obtain a smooth, dense surface of the required contour. Maintain a small uniform quantity of concrete ahead of the screed on each pass. Ensure that the quantity of concrete carried ahead of the screed is not great enough to cause slipping or lifting of the finishing machine on the rails at any time.

If improper adjustment or operation of the finishing machine results in unsatisfactory consolidation, reinforcement cover, or surface requirement, immediately correct the unsatisfactory condition.

If the supports for the rails are located in the deck concrete, remove them before initial set has taken. Fill the resulting holes with deck concrete. If the concrete has hardened, fill the holes with non-shrink grout.

Ensure that all deck concrete is placed before placing sidewalks, curb, and parapet.

### 3.6 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign

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materials.

- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Shop- or field-weld reinforcement according to AWS D1.4, where indicated.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- F. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.
- G. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963.
- H. Handling. Store reinforcement steel above ground level. When unloading coated reinforcement steel, minimize scraping of the bundles, bar-to-bar abrasion, and sags in the bundles. For coated reinforcement steel, do not skid the bundles from the truck bed to the ground. Ensure that equipment used for handling the bars is equipped with nylon slings. Do not use wire rope slings or chains. Lift bundles of bars to ensure that sagging does not occur. Ensure that coated bars or bundles of coated bars are not dropped or dragged during handling.
- I. Storing. Coordinate deliveries of coated reinforcement bars to the work site with the placing of the bars in the structure. Store reinforcement steel as close as possible to the area where it will be placed to minimize handling. Store the bars above the ground on timbers or other suitable protective cribbing and space the dunnage to prevent sags in the bundles. When storing a large quantity of bars in a small area, stack bundles of straight bars with adequate blocking placed between the layers of bundles to provide stability and prevent sagging.

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Do not store reinforcement bars at the work site for more than 60 days unless approved by the RE. If long term storage is approved, protect non-metallic tags on the bundles or attach additional galvanized metal tags on all bundles of bars to maintain identification. If long term storage is approved, cover the bars with white polyethylene sheeting or other suitable protective material. For stacked bundles, drape the white polyethylene sheeting over the sides of the bundles around the perimeter of the stack. Secure the covering and provide air circulation around the bars to prevent condensation under the polyethylene sheeting.

- J. Field Cutting. Obtain RE approval before field cutting reinforcement steel. Do not flame cut epoxy-coated reinforcement steel. If coated reinforcement bars are cut in the field, coat the cut ends and repair damage to the coating as specified in 504.03.01.G.
- K. Field Bending. Obtain RE approval before field bending reinforcement steel. Use the cold method to make minor adjustments to reinforcement steel bars in the field. Do not bend galvanized reinforcement steel more than 10 degrees. With the approval of the RE, the Contractor may use the heat method to perform minor adjustments to uncoated bars. Preheat the bar to between 1000 and 1200 °F, and then gently bend in a gradual arc. For bars partially embedded in concrete, ensure that the concrete is not damaged by heating the bars.
- L. Placing and Fastening. When placing, ensure that reinforcement steel is free of dirt, detrimental scale, paint, oil, or other foreign substances. Tie bars at all intersections except where spacing is less than 12 inches in each direction, in which case tie alternate intersections. Use stays, blocks, ties, hangers or chairs, to maintain the specified concrete cover. If using blocks, ensure that the blocks are precast concrete. Ensure that blocks are not used where they are exposed in a finished surface.

When using galvanized reinforcement steel, ensure that all miscellaneous hardware that comes in contact with or is used to support, position, or fasten the reinforcement steel are also galvanized according to AASHTO M 232. When using epoxy-coated reinforcement steel, use only plastic-coated or epoxy-coated tie wires and ensure that all miscellaneous hardware used to support, position, or fasten the reinforcement are dielectric, plastic-coated, or epoxy-coated.

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If using welded wire reinforcement, overlap sheets at least 1 grid in width. Fasten overlaps securely at the ends and edges.

Repair damage to epoxy-coating or galvanized coating as specified in 504.03.01.G. Do not place concrete before inspection and approval of the reinforcement steel.

- M. Splices. When splicing is not specified, submit a plan for splicing to the RE for approval. Include size, location, and splicing method. The Contractor may use mechanical coupling devices listed on the QPL. When using galvanized reinforcement steel, ensure that mechanical coupling devices are galvanized according to AASHTO M 232. When using epoxy coated reinforcement steel, ensure that mechanical coupling devices are epoxy coated according to AASHTO M 284.

### 3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by RE.
  - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated.

### 3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement, unless approved by Engineer.
- C. Before placing concrete, water may be added at Project site, subject to limitations of ACI301.

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- D. Do not add water to concrete after adding high-range water-reducing admixtures to mix.
- E. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- F. Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.
  - 1. Consolidate placed concrete with mechanical vibrating equipment. Use equipment and procedures for consolidating concrete recommended by ACI309R.
  - 2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix constituents to segregate.
- G. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
  - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  - 2. Maintain reinforcement in position on chairs during concrete placement.
  - 3. Screed slab surfaces with a straightedge and strike off to correct

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elevations.

4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleed water appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- H. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- I. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot- weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in

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concrete.

3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### 3.9 FINISHING FORMED SURFACES

- A. Finish the surface of the concrete immediately after removing the forms. Apply a Class 1 finish to surfaces not exposed to view. Apply a Class 2 finish to all surfaces exposed to view. Do not begin finishing a surface until the entire face of the structure is completed to ensure a uniform texture and color. For barrier curb and parapet, apply a Class 2 finish within 48 hours of placing concrete. The classes of concrete finish are as follows:

1. Class 1, Surface Finish. Remove projecting wire or metal devices that have been used for holding the forms in place. If the wire or metal device cannot be removed, cut the wire or metal device at least 1 inch below the surface of the concrete. Remove lips of mortar and irregularities caused by form joints. Ensure that all construction and expansion joints are tooled and free of mortar and concrete.

Patch holes, depressions, voids, and honeycombs by chipping away coarse or broken material until a dense uniform surface of concrete exposing solid coarse aggregate is obtained. Cut away feathered edges to form faces perpendicular to the surface. Saturate the surfaces of the deficient area with water, then fill the deficient area with stiff mortar. Finish the surface of the mortar with a wooden float before initial set takes place.

When patching large or deep areas as determined by the RE, patch the area using the same mix design concrete as the surrounding concrete. Chip away coarse or broken material until a dense uniform surface of concrete exposing solid coarse aggregate is obtained. Cut away feathered edges to form faces perpendicular to the surface. Saturate the surface of the area with water, then apply a layer of bonding compound to the area. Fill the area with the concrete. Finish the surface of the concrete with a wooden float before initial set takes place.

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The Department may reject a structure for having areas of excessive honeycombs as directed by the RE.

2. Class 2, Rubbed Finish. "Structural concrete: Finishing concrete surface: Class 2, rubbed finish" After performing a Class 1 finish, rub surfaces with a wetted wooden block or a medium coarse carborundum stone, using a small amount of mortar on its face. Do not use the carborundum stone until the concrete has hardened to the state where the sand grinds rather than ravel or rolls. Continue rubbing until form marks, projections, and irregularities have been removed, voids are filled, and a uniform surface has been obtained. Leave the paste produced by this rubbing in place. After the entire surface of the structure has been rubbed and the paste has dried, obtain the final finish by rubbing with a fine carborundum stone and water until the entire surface is of a smooth texture and uniform color.

### 3.10 FINISHING SLABS

- A. Deck Slab Surface Texture Finish. Texture concrete bridge deck slabs using a broom or burlap drag immediately after final strike-off. When using burlap drag, attach a single, full width strip to the finishing machine. Texture the concrete deck slab in a transverse direction. Clean the broom or burlap as necessary to provide a uniform texture. Provide a smooth finish within 1 foot of curbs and drainage structures. Provide a final finish on sidewalks and top of curbs with a fine-bristle broom.
- B. Curing. Within 30 minutes of texturing, apply wet burlap and white polyethylene sheeting as specified in 504.03.02.F, and maintain for at least 14 days. Ensure that the water used for curing does not leave the bridge deck. Do not allow anything on the deck during the 14-day curing period except for personnel necessary to maintain curing materials and protective measures. Post warning tape around flatwork during the curing period

### 3.11 CONCRETE PROTECTION AND CURING

- A. Post warning tape around flatwork such as bridge decks, pavement, sidewalks,

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driveways, and islands during the curing period. Provide wet burlap or polyethylene sheeting to protect the edges and surface of the plastic concrete from precipitation. Do not drive piles within 200 feet of concrete that is being placed or has been placed within the previous 24 hours unless approved by the RE. Ensure that salt or brackish water does not come in contact with the concrete for a period of 28 days after being placed.

- B. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing by one or a combination of the following methods:
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover

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material and waterproof tape.

- a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
  - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
  - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.
- E. Do not allow anything other than the curing materials on concrete surfaces for 24 hours after placing the concrete. The Contractor may begin constructing forms for subsequent concrete placements after the forms from the underlying concrete can be removed as specified in 504.03.02.G. After the forms have been constructed and at least 3 days after the underlying concrete has been placed, the Contractor may perform subsequent concrete placements. The Contractor may begin storing materials, backfilling, or other loading on the concrete surface 3 days after the concrete has been placed if the forms can be removed as specified in 504.03.02.G.

### 3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Engineer. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

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1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Engineer.

### 3.13 MISCELLANEOUS CONCRETE ITEMS

- A. Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.
- B. Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.

### 3.14 REDESIGNS

- A. If the Contractor makes, or causes to be made, any substantial change in the type, form system or details of construction from those shown or indicated on the project documents, he shall pay for all costs arising from such changes.
- B. The Contractor shall pay for all engineering fees required to check and evaluate

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the adequacy of such changes on an hourly rate basis.

- C. Any changes or departures from the construction and details shown on the Drawings shall be made only after an approval is obtained in writing from the Engineer.
- D. The Engineer's decisions in these matters shall be final.

### 3.15 BRIDGE DATE PANEL

- A. Submit a sample of the date panel showing the coloring and surface finish to the RE for approval. Ensure that the date panel is cast true and straight in a single unit that includes anchors. Ensure that the material used to color the concrete is nonfading. Ensure that the arrises are clean and accurate. Install the date panel into the parapet using epoxy grout.

## PART 4 – METHOD OF PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Cast-in-Place concrete will be made on a cubic yard basis and the cost thereof shall be bid for the items: **CONCRETE BRIDGE DECK, HPC; CONCRETE BRIDGE SIDEWALKS, HPC; AND CONCRETE BRIDGE PARAPET, HPC**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Bridge Plate will be made on a unit basis and the cost thereof shall be bid for the items: **DATE PLATE**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## SECTION 034133 - PRECAST AND PRESTRESSED STRUCTURAL CONCRETE

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The Drawings contain additional specifications. Comply with requirements of both the Drawing Specifications and this Section. Where conflict occurs, notify the Engineer immediately and for bidding purposes, the Drawing Specifications shall apply.
- B. The work consists of all labor, materials, and equipment required in the production and erection of Precast Prestressed Structural Units.

#### 1.2 SUBMITTALS

- A. Working drawings for precast prestressed unit production: Contractor shall submit the following details to the RE concerning the method of manufacture:
  - 1. Class of concrete.
  - 2. Type, number, size and location of the prestressing elements and the name of the manufacturer of the prestressing elements.
  - 3. The pattern and schedule for releasing strands before detensioning.
  - 4. Detensioning concrete strength.
  - 5. Tensioning and Detensioning patterns.
  - 6. The proposed manufacturing methods, plans and design details of proposed casting beds and forms.
  - 7. Size and location of all cast-in holes for installation of deck formwork hangers and/or temporary bracing. Holes shall match approved deck formwork plans. There shall be no field-drilled holes in prestressed units.
- B. Erection Plan: submit working drawing and written procedure for certification regarding the plan of operations to the RE at least 30 days before the pre-erection meeting. Include, at a minimum, the following in the plan:
  - 1. Number and type of manpower and equipment.
  - 2. Shipping procedures.
  - 3. Lifting procedures.
  - 4. Erecting sequence.
  - 5. Temporary bracing.
  - 6. Manufacturer's recommendations.

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7. Procedures for employee safety.
  8. Traffic control and protection.
  9. Method of post-tensioning and determining friction loss.
  10. Anchorage details and design calculations, signed and sealed by a Professional Engineer.
- C. Prior to the start of production of precast prestressed units, the Contractor shall advise the ME and RE of the production schedule. Prior to casting units, the Contractor shall have possession of an approved set of working/shop drawings.
- D. Shipping and Storing: Notify the RE at least 5 days before shipping.
- E. Erection: Notify the RE to schedule a pre-erection meeting at least 20 days before the start of erection.
- F. Precast concrete mix design: mix design shall be submitted for approval to the Engineer at least 4 weeks before beginning any precast concrete work. No change shall be made in the concrete mix design during the progress of the work without prior written permission of the Engineer.
- G. Prestressing steel: steel strand selected for use other than that specified in the contract drawings requires Contractor submission of NJ PE signed and sealed structural calculations along with the working drawings for approval to the RE. The yield and ultimate strength and other pertinent characteristics of this steel shall be included.
- H. Tension ties used to horizontally secure abutted units shall be as noted on the contract drawings.
1. Provide certified test reports from the manufacturer of the tension ties, nuts, and washers. Include the following:
    - a. The lot number of each of the items tested.
    - B. The date and location of testing.
    - C. The location where the bolt assembly components were manufactured.
- I. Submit manufacturer's product data for grout to be used for constructing shear keys in the precast concrete superstructure.
- J. Epoxy waterproofing: Provide a copy of the manufacturer's recommendations

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to the RE at least 5 days before applying epoxy waterproofing.

### 1.3 PROJECT CONDITIONS

- A. Inspection of bridge support surfaces: Prior to mobilizing erection equipment, the bridge support surfaces shall be checked for vertical and horizontal control, as well as flatness and level or slope. Support surfaces out of tolerance are to be corrected by grinding prior to setting bearing pads.

## PART 2 - PRODUCTS

### 2.1 PRECAST PRESTRESSED STRUCTURAL CONCRETE UNITS

- A. Materials - General: The materials used shall meet the requirements prescribed in this specification. Precast/Prestressed Structural Units whose compressive strength does not achieve design strength shall be rejected. The concrete class used in the manufacture of Precast or Precast/Prestressed Structural Units shall be as shown in the plans.
- B. Concrete Mix Design: The Contractor shall be responsible for the concrete mix design. Concrete mix designs shall be proportioned in accordance with ACI Standard 318 and the following additional requirements:
  - 1. The mix designs or change to a mix design shall be submitted for approval to the Engineer 4 weeks before beginning any concrete work.
  - 2. Concrete shall consist of Type I, Type II or Type III Portland cement, aggregate, air-entraining admixture, and water. Concrete may also contain Class C or Class F fly ash, slag cement or Silica Fume and ASTM C 494 approved Type A, Type B, Type D, and Type F admixtures.
  - 3. The minimum cement content shall be 565 lb per cubic meter
  - 4. Coarse aggregate shall have a minimum limestone content of 30 percent of the total aggregate by mass.
  - 5. Fly ash cannot exceed 15 percent of cement by mass.
  - 6. Data from at least 15 individual batches shall be collected and given to the Engineer. The data collected shall include the following:

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- a. The 28-day compressive and flexural strength test results.
  - b. The water cement ratio.
  - c. The air content between 2.0 percent and 6.0 percent inclusive.
  - d. The cement and fly ash content.
  - e. The amount of fine aggregate, coarse aggregate, and sand and gravel.
7. No change shall be made in the concrete mix design during the progress of the work without prior written permission of the Engineer.

C. Prestressing Reinforcement:

1. Sampling and Testing: The ME (engineer representative of NJDOT) will sample and test each heat of steel reinforcement prior to use for acceptance. For prestressing strand, the ME will test two 4-foot cables with flame cut ends and one 1-foot piece with sawcut ends from each heat. For high-strength alloy bars, the ME will test one 6-foot bar from each heat. For post-tensioning, the ME will test one 6-foot cable (between fittings) from each reel or one 6-foot bar (between threads) from each lot. A certification of compliance with specification is required. Attach the mill certification for each heat used with the certification of compliance.
2. High-Tensile-Strength 7-Wire Prestressing Strand: Use high-tensile-strength, low-relaxation 7-wire strand for prestressing reinforcement according to ASTM A 416, Grade 270. When specified, use grit impregnated epoxy-coated steel strands according to ASTM A 882.
3. Welding of reinforcing steel is prohibited unless specifically authorized by the Engineer.
4. Prestressed steel other than that specified in the contract may be furnished with the approval of the Engineer. The yield and ultimate strength and other pertinent characteristics of this steel shall be submitted to the Engineer.
5. The area of broken wires shall not exceed 2 percent of the cross-sectional area of the stressing strands when the number of strands is 14 or less.
6. The area of broken wire shall not exceed 1 percent of the cross-sectional area of the stressing strands when the number of strands exceeds 14.
7. No more than one broken wire will be allowed in a single strand.

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D. Camber:

1. Units are to be cambered as shown on the contract drawings.
2. Allowable differential camber between abutted units shall be limited to 1/2".

E. Dimensional Tolerance:

The units shall be fabricated as shown in the contract drawings and shall meet the dimensional tolerances listed below. However, actual acceptance or rejection will depend on how the Engineer believes a defect outside of these tolerances will affect the structure's strength or appearance.

Length (overall): +/- 1/4" per 25 feet of beam length, up to a maximum of +/- 1"

Width (flanges): + 3/8", - 1/4"

Width (narrow web section): + 3/8", - 1/4"

Girder Depth (overall): +/- 1/4"

Flange Depth (overall): + 1/4", - 1/8"

Strand Position: +/- 1/4" from the center of gravity of a strand group and of an individual strand

Longitudinal Position of the Harping Point: +/- 18"

Bearing Recess (center recess to beam end): +/- 1/4"

Beam Ends (deviation from square or designated skew): Horizontal: +/- 1/2" from web centerline to flange edge; Vertical: +/- 1/8" per foot of beam depth

Bearing Area Deviation from Plane (in length or width of bearing): +/- 1/16"

Stirrup Reinforcing Spacing: +/- 1"

Stirrup Projection from Top of Beam +/- 3/4"

Mild Steel Concrete Cover: + 3/8", -1/8"

Offset at Form Joints (deviation from a straight line extending 5 feet on each side of joint): +/- 1/4"

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Differential Camber Between Abutted Box Beams in a Span (measured in place at the job site)

For box beams: 1/2" max

Position of Inserts for Structural Connections: +/- 1/2"

Position of Lifting Loops: +/- 3" longitudinal, +/-1" transverse

## 2.2 EPOXY WATERPROOFING SEAL COAT

- A. Precast prestressed concrete beams shall be treated with an epoxy waterproofing seal coat. Use an epoxy-resin that conforms to ASTM C 881, Type 7, Grade 1, 2, or 3, Class D, E, or F, and is listed on the QPL. Ensure that the color is gray to match the color of the adjacent concrete. Submit certifications of compliance.
- B. Apply to box beam surfaces within 4 foot length at the ends of beams and at bottoms and exterior faces of fascia beams. Except omit at the bearing contact area. ~~After box beam installation and cure of grout keys, apply to entire top surface of box beams.~~
- C. Immediately before application, clean the surfaces of dirt, grease, form oil, or other foreign material that may have accumulated. Do not apply epoxy waterproofing unless the ambient temperature is between 40 and 85 °F at the time of application. Mix and apply the epoxy waterproofing according to the manufacturer's recommendations. If necessary, bushhammer bearing surfaces to their proper elevations before applying the epoxy waterproofing. Apply 2 coats of epoxy waterproofing using a brush or roller. Allow the first coat to dry before applying the second coat. Ensure that the total thickness of the coatings is 10 mils.
- D. While the second coat is still tacky, broadcast grit at uniform rate of 5 pounds per square yard over the top surfaces by hand, except on masonry plate bearing areas. After the epoxy waterproofing has set, brush off excess grit and dispose.
- E. Allow the epoxy waterproofing to completely dry before placing any material against the concrete member.

## 2.3 PLANT APPROVAL REQUIREMENTS

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- A. All precast/prestressed concrete structural units shall be produced in a Precast/Prestressed Concrete Institute (PCI) Certified Plant. The method of manufacture and quality of concrete are also subject to Department approval/inspection.
- B. The use of portable pretensioning beds for the manufacture of concrete structural units will not be allowed.
- C. Materials specified for testing shall be furnished 30 days before anticipated time of use. All materials required for testing shall be furnished by the Contractor to the ME without additional costs to the Department. The ME shall select a representative sample length for the various prestressed steel as follows:
  - a. Six feet for wires requiring heading.
  - b. For wires not requiring heading, sufficient length to make up one parallel-lay cable six feet long consisting of the same number of wires as the cable to be furnished.
  - c. Six feet between near ends of fittings for a strand furnished with fittings.
  - d. Six feet between threads at the ends of bars furnished with threaded ends.
- D. If the anchorage assemblies are not attached to prestressing steel samples, two anchorage assemblies shall be furnished for testing, complete with distribution plate of each size or type of prestressing steel to be used. Any defective material shall be rejected.
- E. Precast concrete quality control shall be the responsibility of the Contractor.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Inspection of support surfaces: Prior to mobilizing erection equipment, the support surfaces shall be checked for vertical and horizontal control, as well as flatness and level or slope. Support surfaces out of tolerance are to be corrected by grinding prior to setting bearing pads.
- B. Before erecting prestressed concrete beams, ensure that any repair work to

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substructure has properly cured as noted in the contract drawings. Place the embankment backfill behind the abutment walls to at least 50 percent of final height before erection, unless otherwise approved.

- C. Set bearing pads according to the manufacturer's recommendation. Set structural bearing assemblies or reinforced elastomeric bearing assemblies as specified in contract drawings.

### 3.2 INSTALLATION

- A. Working Drawings and Erection Plan must be present on site at all times that unit installation is being performed. Follow approved unit installation sequence.
- B. When the precast superstructure units have been erected, the Contractor shall pack the shear key openings with grout.
  - 1. Do not grout the keyway before the RE's inspection and approval. Thirty minutes prior to grouting shear keys the joint surfaces are to be wetted to achieve a saturated, surface-dry condition. The temperature of both the air and concrete should be a minimum of 40 degrees F and a maximum of 85 degrees F.
  - 2. Mix and place non-shrink grout according to the manufacturer's recommendations. Begin the grouting operation at one end of the keyway and proceed continuously to the opposite end without interruption. Fill only one keyway with grout at a time. Consolidate the grout as it is placed in the keyway, and finish the grout flush with the top of the keyway. Consolidation can be accomplished by rodding.
  - 3. A pneumatic tool can be used.
  - 4. When the ambient temperature is expected to fall below 40 °F, provide measures to maintain the concrete surface temperature between 40 and 85 °F. Provide curing blankets and place over the grout no later than 1 hour after the grout placement. Keep the curing blankets on the grouted keyways for at least 48 hours.
  - 5. Allow the grout in the keyways to cure at least 72 hours before allowing traffic or equipment on the bridge.
  - 6. Grout to be used for constructing shear keys in the precast concrete superstructure shall be composed of either Type I or Type II Portland cement, aggregate and water.

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- a. The aggregate shall be fine aggregate as specified for the class of concrete being furnished.
  - b. The Portland cement and aggregate shall be proportioned on the basis of 350 kg of dry aggregate per 100 kg of cement.
  - c. The water content of the grout shall be limited to that necessary for proper mixing and placement. In no case shall the total water content exceed 45:100 ratio of water to cement weight.
- C. No live load shall be allowed on the superstructure units until the shear keys and tie bolts have been placed and the shear key grout fully cured. After grout cure and until deck slab is poured and cured 28 days, vehicles and trucks are to be kept off the bridge unless provision is made with 1" thick steel road plates to distribute wheel loads.
1. In no case shall the live load vehicle mass exceed:
    - a. 50,000lb
    - b. 19,500 lb on any single axle
    - c. 39,000 lb on any tandem axle
- D. Stressing Requirements
1. In all methods of tensioning, the stress induced in the prestressing elements shall be measured by the Contractor both with jacking gages and by elongation of the elements, and these results shall be the same within a five-percent tolerance.
    - a. Means shall be provided for measuring the elongation of reinforcement to at least the nearest .1 inch
    - b. All steel stressing devices, whether hydraulic jacks or screw jacks, shall be equipped with accurate reading calibrated pressure gages, rings or other devices as applicable to the jack being used.
    - c. All devices shall be calibrated and, if necessary, recalibrated so as to allow the stress in the prestressing steel to be computed at all times.
    - d. A certified calibration curve shall accompany each device.
    - e. Safety measures must be taken by the Contractor to prevent accidents due to possible breaking of the prestressing steel or the slipping of the grips during prestressing process.
  2. All calibrations and tests shall be performed at no additional cost to the Department.

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3. Pressure gages, load cells, dynamometers, and any other devices used in determination of loads and/or pressures shall be accurate in their effective range within a two-percent tolerance.
  - a. Such equipment shall be calibrated by an approved testing laboratory.
  - b. The laboratory shall furnish calibration curves for each device and shall certify the curves as being accurate and verifiable. Curves are to be provided for Inspector's use.
  - c. The calibration of tensioning devices shall be accomplished in place.
  - d. The configuration of jacks, gages and other components during calibration shall be exactly the same as during the actual stressing operation.
  - e. The method of calibration shall be as approved by the Engineer.
  - f. Tensioning devices shall be calibrated at least once a year and anytime a system appears to be operating in an erratic or inaccurate manner, or gage pressure and elongation measurements fail to correlate.
4. If the strand tension indicated by the gage pressure and by elongation method fail to agree within five percent, the operation shall be carefully checked and the source of error determined before proceeding further.
5. The Contractor's elongation and jacking pressure measurements shall make appropriate allowance for friction and all possible slippage or relaxation of the anchorage.
  - a. For pretensioned members, independent references shall be established adjacent to each anchorage by the Contractor to indicate any yielding or slippage that may occur between the time of initial stressing and final release of the cables.
  - b. The Contractor may tension straight post-tensioned tendons from one end. The curved tendons shall generally be stressed by simultaneous jacking from both ends of the bar.
6. In all stressing operations, the Contractor shall keep stressing force symmetrical about the member's vertical axis.

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E. Stressing Procedure:

1. Prestressing methods are shown in the Plans. When the Contractor elects to use a method other than that shown in the Plans, the Contractor shall submit complete shop Plans for the proposed method.
  - a. Pretensioning method.
  - b. Post-tensioning method.
  - c. Combined method.
  
2. Pretensioning Method:
  - a. The amount of stress to be given each strand by the Contractor shall be as shown in the Plans.
  - b. All strands to be prestressed in a group shall be brought to a uniform initial tension before being given their full pretensioning. This uniform initial tension of approximately 1015 to 2020 lbf shall be measured by a dynamometer or other approved means so that it can be used as a check against the computed and measured elongation.
  - c. After initial tensioning, either single strand or multiple strand groups shall be stressed until the required elongation and jacking pressure are attained and reconciled within the five percent tolerance.
  - d. With the strand stressed in accordance with the Plan requirements and these Specifications, and with all other reinforcing in place, the Contractor shall cast the concrete to the lengths desired. Strand stress shall be maintained between anchorages until the concrete has reached the compressive strength specified in the Plans.
  
3. Post-tensioning Method: For all post-tensioned bars, the Contractor shall set the anchor plates exactly normal in all directions to the axis of the bar. Parallel wire anchorage cones shall be recessed within the beams. Tensioning shall not be done until the concrete has reached the compressive strength specified in the Plans.
  
4. Combined Method: In the event that the girders are manufactured with part of the reinforcement pretensioned and part post-tensioned, the applicable portions of the requirement listed above shall apply to each type.

F. Forms:

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1. Forms for precast/prestressed concrete structural units shall be steel conformING to the requirements for concrete formwork as provided by ACI 347.
2. Forms shall be accessible for the vibration and consolidation of concrete.

G. Placing Concrete:

1. The Contractor shall provide the Department a 4-week production schedule that is updated as necessary. Unscheduled production changes may delay fabrication when the Department elects not to reschedule inspectors.
2. The Engineer may observe any or all of the procedures and shall have access to all reported data anytime during fabrication. The Engineer shall report any inconsistencies to the job superintendent and note them in the plant diary.
3. Concrete shall not be placed before completing the forming and placing of reinforcement.
  - a. Concrete shall be placed continuously in each unit, take care to avoid horizontal or diagonal planes of weakness.
  - b. However, if there is a delay in delivery of concrete, or for some other reason placement is interrupted for more than 30 minutes, then the concrete shall be rejected.
4. Special care shall be exercised to work and consolidate the concrete around the reinforcement and to avoid the formation of stone pockets, honeycombs and other defects.
5. The concrete shall be consolidated by vibrating, or other means approved by the Engineer.
  - a. The forms shall be overfilled, the excess concrete screeded off, and the top surfaces finished to a uniform, even texture.
  - b. Each precast/prestressed concrete structural unit shall be stamped or marked with an identification number and its manufacture date.
6. The optimum range of concrete temperatures from the time the concrete is completely mixed until the beginning of the presteam segment of the steam curing cycle shall be 50F to 95F. Failure to operate within the optimum range shall be cause for curtailment of operations to operate consistently within the range set forth. During the preset segment of the curing cycle, the temperature of the concrete shall not exceed 100F nor fall below 50F.

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7. When placing concrete under cold weather conditions (ambient air temperature less than 36F), follow cold weather specifications.
8. Forms and reinforcing materials shall be preheated to a minimum temperature of 41F and a maximum temperature not to exceed that of the concrete at the time of placement.
9. The Contractor may preheat the drums of the mixer-trucks to the limits set for forms and reinforcing, but under no condition shall heat be applied to

H. Curing:

1. General:

- a. The Contractor shall cure the concrete with wet burlap, waterproof covers, polyethylene sheets, or liquid membrane-forming compound. Liquid membrane-forming compound shall not be used on that portion of precast/prestressed concrete girders, twin tees, or bridge beams upon which concrete will be cast later.
- b. Water spray curing, or other moist curing methods maybe used, subject to the approval of the Engineer.
- c. The period of curing shall be determined by the results of the compressive strength test on cylinders made during the progress of the work and cured to closely approximate the concrete strength of the product it represents.
- d. Side forms may be removed 12 hours after placing the concrete, provided curing is continued with one of the approved NJDOT curing procedures.

2. Steam or radiant heat will be allowed for accelerated curing provided the following procedure is adhered to:

- a. Curing chambers shall be reasonably free of leakage and shall have a minimum clearance of 3 in. between the enclosure and restricting portions of the forms in order to ensure adequate circulation of heat. The relative humidity within the curing enclosure shall be maintained between 70 and 100 percent.
- b. One approved continuous recording thermometer for each 115 feet of casting bed with a minimum of two continuous recording thermometers shall be located in each enclosure or curing chamber.
- c. Continuous temperature record charts for each casting shall be available to the Engineer for his examination and approval at any time.

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- d. If the temperature records or other temperature readings taken by the Engineer indicate that hand control of heat is producing temperature changes in excess of those specified, the Engineer may direct that automatic controls which can be activated by the recording thermometers or by separate temperature switches be installed. These automatic controls are to control the rate of temperature change and maximum curing temperature according to a preset plan.
- e. Temperature of the curing concrete shall be 50F to 86F and shall be maintained near placement temperature until the concrete has reached initial set as determined by ASTM C403 "Time of Setting of Concrete Mixture by Penetration Resistance."
- f. The temperature rate of rise shall not exceed 86F per hour.
- g. The concrete shall be completely covered with a waterproof curing chamber during accelerated curing periods.
- h. Steam jets shall not be directed at the concrete or the steel forms.
- i. When the heat has been applied for a minimum of 3 hours and the desired concrete temperature has been reached (not to exceed 175F), the heat source may be turned off. Should the temperature within the concrete rise above 175F, the concrete shall be rejected.
- j. The temperature in the concrete shall be maintained so that at any given time the difference between the highest and lowest temperature station readings will not be more than 65F.
- k. Eight hours after placing the concrete, individual sections may be uncovered to remove their forms. The curing may be discontinued during this operation. The section shall not be left uncovered longer than necessary and never longer than 30 minutes. Waterproofed covers shall be used to recover the product.
- l. After the heat source has been turned off, the curing cover shall be maintained in place during the soaking period until the release strength has been reached.
- m. Detensioning shall be accomplished before the temperatures of the units drop below 104F and while they are still moist.
- n. An automatic master slave heat curing system may be used for curing quality control cylinders.

I. Defects and Repair Procedures:

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1. After the forms are removed, stone pockets, honeycombs, or other defects may be exposed. The Engineer shall determine if these defects affect the item's structural integrity and in which case the item will be rejected.
2. Precast/prestressed concrete structural units which have chips, spall, honeycomb or otherwise defective areas which are not considered detrimental to structural integrity may be used after being repaired in the following manner:
  - a. Remove all unsound concrete.
  - b. Coat the affected area with epoxy resin binder. Care shall be taken to prevent getting epoxy on the exposed surface.
  - c. Fill the prepared area with Class "47B-XX" concrete mix (Aggregate larger than 3/8" is not allowed) with the type of cement used in placing the unit. Where the unit is exposed to view, white cement shall be added to give a uniform appearance with the concrete surrounding the patch.
  - d. Place and secure formwork to ensure all required configurations.
  - e. Cure 24 hours with wet burlap. Steam curing at 77F will be allowed.
  - f. The patch shall be ground smooth to remove all joints.

J. Surface Finish

1. The exterior face of all exterior girders or beams plus the bottoms and chamfers on all lower flanges shall be given the following finish:
  - a. All uneven form joints in excess of .1 inch shall be ground smooth.
  - b. The surface shall be steel brushed to remove scale and laitance, and to open partially obstructed holes.
  - c. Dampen surface.
  - d. The grout shall consist of 1.5 parts of fine sand, 1 part of Portland cement and sufficient water to produce a consistency of thick paint. The cement used in the grout shall be a blend of regular Type I and white Portland cement to duplicate the lighter appearance of the steam-cured units.
  - e. If necessary, an admixture which will not discolor the concrete may be used in the grout to reduce shrinkage if approved by the Engineer. Admixtures containing iron particles shall not be used.
  - f. Apply grout to the surface.

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- g. The surface shall be float finished with a cork or other suitable float. This operation shall completely fill all holes and depressions on the surface.
  - h. When the grout is of such plasticity that it will not be pulled from holes or depressions, sponge rubber or burlap shall be used to remove all excess grout.
  - i. Surface finishing during cold weather shall not be performed unless the temperature is 122F and rising. The surface shall be protected against temperature drops below 41F for a period of 12 hours after finishing.
  - j. A uniform appearance will be required. In the event the appearance produced by the above procedure is not uniform, both in texture and coloration, other methods approved by the Engineer shall be employed.
- 2. The interior face of an exterior girder or beam and all interior girders or beams shall be finished from the lower flange to the fillet of the web in accordance with subparagraphs (3), (4), (5) and (6) above.

K. Grouting for Post-Tensioned Units:

- 1. The contractor shall install steel in flexible or other approved tubes which shall be cast in the concrete and shall be pressure-grouted after the prestressing process has been completed.
- 2. Bonding grout shall be made to the consistency of thick paint and shall be mixed in the proportions as follows: Portland cement (Type I), 100 lb; Water, 45 to 60 lb (adjust at site); and admixture (Interplast B), 1 lb.
- 3. The final grouting pressure shall be at least 80 psi.
- 4. The Contractor shall make provisions to demonstrate to the Engineer that grouting material has completely filled all areas within the conduit.

L. The contractor shall paint all exposed metal, except weathering grade steel.

M. Handling, Transporting and Storing:

- 1. After precast structural units have attained a compressive strength of 2.9 ksi, the Engineer shall approve the method used to remove the units from the casting beds.

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2. Prestressed concrete structural units shall attain the “release” strength specified in the Plans before being delivered to the site. Prestressed concrete structural units will not be incorporated in the final product until the minimum age and strength specified in the Plans is attained.
3. All precast/prestressed concrete structure units shall be supported at or within 6 inches of all lifting or bearing devices. When supported at the proper positions, no part of the units shall be allowed to rest on the ground. Prestressed concrete bridge girders shall be set on a level area to prevent field bowing, and adequate supports shall be placed under their lifting or bearing devices to prevent settlement into the ground.
4. The girders shall be transported in an upright position and the points of support and direction of the reactions with respect to the girder is in its final position. If the Contractor finds it necessary to transport or store the precast girders in some other position, the Contractor should be prepared to prove no internal damage resulted.
  - a. Adequate padding shall be provided between tile chains and cables to prevent chipping of the concrete.
  - b. Live loads shall not be allowed on the superstructure units until the floor slab is placed and has attained the design strength shown in the Plans.

N. Inspection Facilities:

1. The Contractor shall arrange with the producer of precast/prestressed concrete structural units to provide an office laboratory, and a bathroom for the Department’s inspector. The areas shall meet the following requirements:
  - a. Thermostatically controlled heating and air conditioning shall be provided so that temperature can be maintained between 68F and 77F.
  - b. The floors shall be tile or a similar floor covering.
  - c. Interior and exterior walls shall be well maintained and painted.
  - d. All exterior doors shall have cylinder locks and all keys shall be turned over to the Engineer.
  - e. Ceiling lighting shall provide a minimum of 5,000 lux of light on all working surfaces.
  - f. Electrical outlets shall be spaced no more than 6.5 ft apart with no less than one outlet on any wall of the office or lab.

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- g. A single trunk telephone shall be installed in the office and the installation charges shall be paid by the Contractor. The monthly charges shall be paid by the State.
- h. A fire extinguisher and first aid kit shall be provided.
- i. A ventilated bathroom with a toilet and sink shall be provided in the structure. A fresh water supply and drain will be required in the lab area.
- j. The lab, office and bathroom shall be separate rooms with interconnecting doors.
- k. The minimum lab area is 225 ft<sup>2</sup>
- l. The minimum toilet area is 22 ft<sup>2</sup>
- m. The minimum office area is 160 ft<sup>2</sup>
- n. The contractor shall also supply for the sole use of the inspectors, all desks, work tables, chairs, files, lockers and sanitary supplies necessary and commensurate with the inspection of his/her plant. It is anticipated that the following minimum amount of office and lab equipment will be required: One desk with approximately 10ft by 22ft; one upright locker or wardrobe, with shelves, approximately 16 ft deep; two four-drawer file cabinets; one chair per instructor; 11ft<sup>2</sup> of work surface per inspector in the office area; and a 11 ft by 160 ft lab counter with storage space beneath.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Precast Prestressed Structural Concrete within Work Area shall be included in the item: **PRESTRESSED CONCRETE BOX BEAM, (TYPE BII-36), 36”X33”** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## SUBSECTION 036300– EPOXY GROUTING

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Work includes doweling of rebar in existing concrete walls as indicated on the Drawings.

#### 1.2 DEFINITIONS

- A. Post-installed anchor: An anchor installed into a concrete element after the concrete has cured a required amount of time.

#### 1.3 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
- American Association of State Highway and Transportation Officials (AASHTO): *T237, Standard Method of Test for Testing Epoxy Resin Adhesive.*
  - ASTM International (ASTM): *E 488, Standard Test Methods for Strength of Anchors in Concrete Elements*
  - International Code Council Evaluation Service: *ICC-ES AC308 Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.*
  - American Concrete Institute: *ACI 355.4-11 Qualification of Post-installed Adhesive Anchors in Concrete.*
  - American Concrete Institute: *ACI 318-08 Building Code Requirements for Structural Concrete, Appendix D.*
  - International Building Code: *IBC 2015.*

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## 1.4 SUBMITTALS

### A. Action Submittals:

- ICC-ES Reports for epoxy adhesive to be used on project. The epoxy system shall be tested in accordance with the ICC-ES Acceptance Criteria for Post-installed Epoxy Anchors in Concrete Elements (AC308), Table 3.8. Technical Data shall be published in an ICC-ES Evaluation Service Report showing compliance with IBC 2015.

### B. Informational Submittals:

- Manufacturer's written recommended preparation procedures and application instructions for epoxy adhesives.
- Statements of Qualification for Epoxy Adhesive:
  - a. Manufacturer's Site representative.
  - b. Injection applicator.

## 1.5 QUALITY ASSURANCE

### A. Qualifications for Epoxy Anchoring Staff:

- Manufacturer's Site Representative:
  - a. Understands and is capable of explaining technical aspects of preparation and installation procedures.
  - b. Experienced in the operation, maintenance, and troubleshooting of application equipment.
  - c. Provide on-site training for field personnel to ensure compliance

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with manufacturer's printed installation instructions for the system selected.

- Injection crew and job foreman shall provide written and verifiable evidence showing compliance with the following requirements:
  - a. Licensed and certified by epoxy manufacturer.
  - b. Minimum 3 years' experience in successful epoxy anchoring work.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Package adhesive material in new sealed containers and label with following information:
  - Manufacturer's name.
  - Product name and lot number.
  - ANSI Hazard Classification.
  - ANSI recommended precautions for handling.
- B. Packaged with the adhesive material shall be printed material information with manufacturer's installation guidelines.
- C. Storage and Protection: Store adhesive containers at ambient temperatures below 110 degrees F and above 45 degrees F.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

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Hilti, Inc., Tulsa, OK: HIT HY 200 Adhesive  
ITW Commercial Construction, Glendale Heights, IL: Redhead  
A7+ Adhesive.  
Simpson Strong Tie, Columbus, OH: AT-XP.

## 2.2 EPOXY ADHESIVE

- A. Two-component A and B structural epoxy adhesive for injection into drilled holes in concrete structures for bonding anchors to concrete. Anchors can include threaded rod, deformed reinforcing bars (rebar), or proprietary anchors, see plans for anchor type.

## 2.3 ANCHORS

- A. Refer to structural plans for anchor sizes, lengths, materials, coating, nut, washers and other requirements.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Demonstrate the standard method of drilling and cleaning holes for the RE's approval.
- B. Plan installation and cure during period of time when weather conditions are favorable and temperatures within acceptable range per epoxy manufacturer's recommendations.
- C. Epoxy anchors are not to be installed in unclean or water filled holes.

### 3.2 APPLICATION

- A. **Contractor shall hire and arrange** for a qualified testing company to perform Ground Penetrating Radar (GPR) or other means to locate existing reinforcement well in advance of drill hole layout for post –installed anchors.

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- B. Drill holes to diameter recommended by epoxy manufacturer to suit given anchor sizes and depth denoted on plans. Use standard rotary drill or hammer drill with carbide tipped drill bits. Core drilling is not allowed unless noted on plans or with approval of RE. Hole roughening may be required if core drilling is allowed.
- C. Clean holes with method directed by epoxy manufacturer based on type of drilling equipment used and type of anchor. Drill hole cleaning is typically done with round steel wire brushing and compressed air nozzle with extension. Other methods may include special dry drill bits with integral vacuum technology. Core holes require water cleaning and vacuuming.
- D. Epoxy Injection and Anchor Installation:
  - 1. Store epoxy at minimum of 70 degrees F.
  - 2. Start injection at bottom of drill hole. Fill hole in accordance with printed directions packaged with epoxy.
  - 3. Install anchors within working time of epoxy.
  - 4. Do not disturb anchors until full cure directed by manufacturer. Do not load anchors within 7 days beyond full cure of epoxy and minimum 28 days cure of concrete element.
- E. Finishing:
  - 1. Remove excess injection adhesive, adhesive runs and spills from concrete surfaces.

### 3.3 EQUIPMENT

- A. Wire brush: round brush with diameter and extension to suit hole size and depth, respectively.
- B. Air nozzle: including hoses, couplers and extensions to suit conditions and

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of sufficient capacity for pressure used.

- C. Dispenser: manual, electric powered or pneumatic, as recommended epoxy manufacturer. Inject with sufficient pressure to fill all voids.
- D. Piston plug to prevent air voids during epoxy injection; drip guard; wedges.

### 3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Site representative: Contractor shall arrange for site visit at first day of epoxy injection with sufficient advance notice.
- B. Contractor to notify RE at least 24 hours in advance of start of epoxy injection and provide schedule to complete.
- C. EOR to provide progress inspections. Special Inspector is required for epoxy anchors. **Contractor to include cost to hire and pay a third party Special Inspection in his bid for full-time monitoring of epoxy anchor installation.**
- D. Drill Hole Repair:
  - a. Correct Work as a result of fouled drill holes.
  - b. Refill holes with an epoxy grout tamped and rodded in-place to form a dense fill.
  - c. Finish surface to blend with adjacent concrete.
- E. Testing:
  - a. Perform proof loading on 10 percent of the installed adhesive anchors at each location where the anchors have been placed. Provide calibration certificates for the test equipment before testing. Perform all testing in the presence of the RE. **Contractor shall hire and pay for qualified testing company to perform such testing.**

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- b. Tension test the anchor system according to ASTM E 488 to 90 percent of the yield strength of the anchor. If the location of the anchors precludes the proof loading of anchor bolts according to ASTM E 488, propose an alternate testing method to the RE for approval. Repair all spalls or cracks caused by such testing.
- c. Based on satisfactory performance in proof loading, the RE will approve the adhesive anchor installation. The RE will reject the anchor installation for failure to conform to the proof loading requirements. With the approval of the RE, replace the adhesive anchor installation by using larger size anchors, increasing the embedment depth, or using another anchor bolt system.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Epoxy Grouting shall be included in the item: **CONCRETE BRIDGE PARAPET, HPC**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## **SUBSECTION 044300 – STONE MASONRY**

### PART 1 – GENERAL

#### 1.1 SUMMARY

A. This Section includes stone masonry veneer consisting of the following:

1. Stone Veneer and Coping at Bridge Parapets, Pylons and Wing Wall Parapets.

#### 1.2 SUBMITTALS

A. Samples for Verification: For the following:

1. Full-size veneer stone units, showing the full range of exposed colors, texture/finish, and dimensions to be expected in the completed construction. Upon initial approval and agreement from all parties (see item 3 below) as to type of stone to be used, mortar color and joint tooling, contractor to build a mockup wall panel 2 feet high x 6ft long at the project site. Panel shall utilize stone with similar color and texture variation as to be used in construction.
2. Bluestone cap stone unit. Showing color and texture/finish. Stone color may be all one color or varying as acceptable to the approving authorities.
3. Acceptance of samples is required by the two municipalities, the two counties and the RE prior to installation of any stone. To expedite the approval process contractor may start by submitting color photos of other completed work with similar stone and by arranging/leading a tour of a local stone supplier.
4. Stone veneer pattern: Generally an ashlar pattern is anticipated. Contractor to offer options for acceptance considering the stone selected and its sizes and color ranges.

B. Submit manufacturer's product data for each type of masonry accessory and other manufactured products, including certifications that each type complies with specific requirements.

- C. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
  - 1. Each cement product required for mortar and grout, including name of manufacturer, brand, type, and weight slips at time of delivery.

### 1.3 QUALITY ASSURANCE

- A. Single-Source Responsibility for Veneer and Cap Stone Material: Obtain unused material of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one supplier.
- B. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver stone units on pallets shrink wrapped to project in undamaged condition.
- B. Store and handle stone material to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
- C. Store cementitious materials off the ground, under cover and in dry locations.
- D. Store aggregates where grading and other required characteristics can be maintained.
- E. Store masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

### 1.5 PROJECT CONDITIONS

- A. During erection, cover work with waterproof sheeting at end of each day's work. Extend cover a minimum of 24" (600 mm) beyond work area and hold cover securely in place.
- B. Prevent grout or mortar from staining the face of masonry to be left exposed or painted. Remove immediately grout or mortar in contact with such masonry.

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- C. Protect sills, ledges and projections from droppings of mortar.

## 1.6 COLD WEATHER PROTECTION

- A. Do not lay stone which are wet or frozen.
- B. Remove ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch
- C. Remove all masonry determined to be damaged by freezing conditions.
- D. For stone material with initial rates of absorption (suction) which require them to be wetted before laying, comply with the following requirements:
  - 1. For stone with surface temperatures above 32°F, (0°C) wet with water heated to above 70°F. (21°C).
  - 2. For stone with surface temperatures below 32°F, (0°C) wet with water heated to above 130°F. (54°C).
- E. Perform the following construction procedures while masonry work is progressing. Temperature ranges indicated below apply to air temperatures existing at time of installation except for grout. For grout, temperature ranges apply to anticipated minimum night temperatures. In heating mortar and grout materials, maintain mixing temperature selected within 10°F. (5.5°C).
  - 1. 40°F to 32°F (4.4°C to 0°C) :
    - a. Mortar; heat mixing water to produce mortar temperature between 40°F and 120°F. (4.4°C and 49°C).
  - 2. 32°F to 25°F (0°C to -4°C) :
    - a. Mortar; heat mixing water and sand to produce mortar temperature between 40°F and 120°F. (4.4°C and 49°C); maintain temperature of mortar on boards above freezing.
  - 3. Below 25°F (-4°C), discontinue masonry work.
- F. Protect completed masonry and masonry not being worked on in the following manner. Temperature ranges indicated apply to mean daily air temperatures except for grouted masonry. For grouted masonry temperature ranges apply to anticipated minimum night temperatures.

### BRIDGE SUPERSTRUCTURE REPLACEMENT



1. 40°F to 32°F (4.4°C to 0°C): Protect masonry from rain or snow for at least 24 hours by covering with weather resistive membrane.
  2. 32°F (0°C) and below: Maintain masonry temperature above 40°F (4.4°C) for 24 hours using enclosures and supplementary heat, electric heating blankets, infrared lamps or other methods proven to be satisfactory. For grouted masonry maintain heated enclosure to 40°F (4.4°C) for 48 hours.
- G. Provide and clearly display thermometer at the jobsite when masonry work is performed at temperatures below 45°F. (7°C).

## 1.7 HOT WEATHER REQUIREMENTS

- A. Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required.
- B. When ambient temperature exceeds 100°F (38°C), or 90°F (32°C) with a wind velocity greater than 8 mph (13 km/h), set masonry units within one minute of spreading mortar.

## PART 2 - PRODUCTS

### 2.1 STONE

- A. Full veneer stone facing shall be quartz-based stone conforming to ASTM C616 – *Standard Specification for Quartz-Based Dimension Stone*. Quartz-based stone shall consist of sandstone containing at least 90% free silica, which has a compressive strength greater than 10,000psi. Veneer stone shall be hard and durable to withstand road salt and exposure conditions of exposed bridge. Veneer stone shall have a fine grained texture.
- B. Continuous cap stone shall be quartzitic sandstone conforming to ASTM C616.
- C. Finishes:
  1. To be determined during submittal/approval phase.

## BRIDGE SUPERSTRUCTURE REPLACEMENT

- D. Provide granite for below grade installations. Granite shall conform to the requirements of ASTM C616 – *Standard Specification for Granite Dimension Stone*.

## 2.2 MORTAR MATERIALS

- A. Type N Mortar consisting of Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207.
- B. Aggregate for Mortar: ASTM C 144; except for joints less than ¼ inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
- C. Aggregate for Grout: ASTM C 404
- D. Cold-Weather Admixture: Non-chloride, noncorrosive, accelerating admixture complying with ASTM C 494, Type C, and recommended by the manufacturer for use in masonry mortar of composition indicated. Subject to compliance with requirements, provide cold-weather admixture of one of the following or approved equal from QPL:

Euclid Accelguard 80; Euclid Chemical Co., Cleveland, OH  
Daraset 400; GCP Applied Technologies, Cambridge, MA

- E. Water: Potable

## 2.3 MORTAR MIXES

- A. Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents. Antifreeze compounds, or other admixtures, unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar or grout.
  - 2. Add cold-weather admixture (if used) at the same rate for all mortar, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specifications, for types of mortar required, unless otherwise indicated. Air entraining is prohibited. Total air content shall not exceed 8%.
  - 1. Limit cementitious materials in mortar to Portland cement and lime.

### BRIDGE SUPERSTRUCTURE REPLACEMENT

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Masonry cements are not permitted.

2. Use Type N mortar for new and repair work; and for other applications where another type is not indicated.

## 2.4 ACCESSORIES

- A. Veneer Anchors: Stainless steel wire conforming to ASTM A580, AISI Type 304. Stainless steel sheet metal conforming to ASTM A666, ASTM A480/480M, and ASTM A240/A240M – AISI 304. Anchor to backup as noted on plans. Unless otherwise noted on plans, use the following anchor tie or approved equal:

345-BT Flexible Tie; Hohmann & Barnard, Hauppauge, NY

- B. Sealants: As specified in Section 079000.
- C. Flashing: Copper flashing as specified in Section 076200.
- D. Miscellaneous Steel-Shelf Angle: As specified in Section 055000.

## 2.5 MASONRY CLEANERS

- A. Job-Mixed Detergent Solution: Solution of 1/2 cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2 cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4L) of water.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine conditions for compliance with requirements for installation tolerance and other conditions affecting performance.
- B. Scheduling: Schedule and coordinate delivery of stone with flashing work to avoid delaying the work.

### 3.2 BELOW-GRADE STONE INSTALLATION

- A. Bluestone or other porous sedimentary stone shall not be used below grade or

## BRIDGE SUPERSTRUCTURE REPLACEMENT

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in contact with ground.

- B. Provide granite for stone which extends below-grade.

### 3.3 INSTALLATION – GENERAL

- A. Bluestone and sedimentary stone shall be placed with bedding planes horizontal unless otherwise approved during submittal process. Install with approved ashlar pattern.
- B. Stonework is to be performed only by crafts persons experienced with same type of work.
- C. Coordinate location of movement joints:
  - 1. Movement joints in stone veneer are to align with those in backup.
  - 2. Provide removeable filler with sufficient stiffness to hold vertical plumb line and with proper gap for joint as stone are set.
- D. Setting:
  - 1. Do not use tools or lifting devices that could damage edges of stone.
  - 2. Pre-wet stone to saturated surface dry condition before setting.
  - 3. Set stone on full bed of mortar unless otherwise indicated on the plans.
  - 4. Set boards or other spacing device to a
  - 5. Fill vertical joints with mortar.
  - 6. Make joints 3/8", unless otherwise indicated on the drawings.
  - 7. Rake mortar joints 3/4" for pointing.
  - 8. Sponge/brush face of each stone to remove excess mortar.
  - 9. Tuck point points to approved joint profile.
- E. Sealant Joints:
  - 1. Comply with Section 07900.

### 3.4 FIELD QUALITY CONTROL

- A. Job foreman or GC Superintendent shall monitor workmanship as installation progresses.
- B. In –progress cleaning:
  - 1. Clean stone as work progresses.

## BRIDGE SUPERSTRUCTURE REPLACEMENT

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2. Remove mortar fins and smears before tooling joints.
- C. Final cleaning:
1. Clean exposed stone after mortar is thoroughly set and cured.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Stone Veneer and Coping at Bridge Parapets, Pylons and Wing Wall Parapets will be made of a square yard basis, and the cost thereof shall be bid for the item **STONE VENEER** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

## **SUBSECTION 055000 – METAL FABRICATIONS**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Metal Fabrications include items made from structural steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of reinforcing steel or other metal systems specified elsewhere.
- B. Types of work in this section include metal fabrications for:
  - 1. Bridge Railings and Anchorage
  - 2. Deck Joint Assemblies
  - 3. Angle Edge Armoring
  - 4. Shelf Angles for Stone Veneer
  - 5. Sleeves for Utility Pipes and Support System for Water Main

#### 1.2 SUBMITTALS AND TESTING

- A. Submit mill test reports and certifications of compliance for materials.
- B. At least 30 days before beginning the work, submit working drawings for certification. Indicate material specifications for adhesive, anchors, washers, and nuts on the working drawings.
- C. Sampling and Certification: Before using, submit a sample of each manufacturer's lot, size of bolt, anchor, washer and nut to the RE for testing and approval. Provide a mill certificate for each heat.
- D. Tensile, Proof Load, Hardness, and Coating Thickness Tests: For each lot, the manufacturer shall perform tensile, proof load, and hardness tests and shall measure galvanized coating according to ASTM A 153.
  - Proof load test bolts according to ASTM F 606, Method 1. Perform wedge tension testing of full size bolts according to ASTM F 606. If bolts are to be galvanized, test after galvanizing.
  - Proof load test nuts according to ASTM F 606; if galvanized, test after galvanizing, overtapping, and lubricating.
  - If galvanized washers are supplied, perform hardness testing after galvanizing; however, remove galvanized coating before taking hardness measurements.

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Report the results of all tests and submit with certifications. Also report the location and date of testing.

- E. Rotational-Capacity Test: Perform the rotational-capacity test on each lot of bolt, nut, and washer assemblies by the manufacturer or distributor before shipping and by the Contractor within the Project Limits before installation. Test high-strength steel bolt assemblies for the rotational capacity requirements according to NJDOT S-1 or NJDOT S-2 and the following:

1. Test a minimum of 2 assemblies per rotational-capacity lot.
2. Test each combination of bolt production lot, nut lot, and washer lot as an assembly. Where washers are not required by the installation procedures, they need not be included in the lot identification.
3. Assign a rotational-capacity lot number to each combination of lots tested.
4. Assemble the bolt, nut, and washer assembly in a Skidmore-Wilhelm calibrator or an acceptable equivalent device for testing as specified in NJDOT S-1.

For bolts that are too short to be assembled in the Skidmore-Wilhelm calibrator, use a steel joint and test according to NJDOT S-2.

5. After testing according to NJDOT S-1 or NJDOT S-2, loosen and remove the nut and examine the threads on the nut and bolt. If, for either assembly tested, there are any signs in the nut or bolt of thread shear failure, stripping, or torsional failure, the lot fails and is to be replaced.

- F. Test Reports and Certification:

Record the results of all tests. Also report the date and location of testing.

1. Mill Certifications. Provide mill certifications for each heat of steel used in the manufacture of the bolts, nuts, or washers. Indicate the place where the material was melted and manufactured.
2. Manufacturer Certified Test Reports. Provide manufacturer certified test reports from the manufacturer of the bolts, nuts, and washers. Include the following:
  1. The lot number of each of the items tested.
  2. The rotational-capacity lot number and test results, as specified in 908.02.02.C, if performed by the manufacturer.
  3. The results of all tests required in 908.02.02.B.
  4. The date and location of testing.
  5. The location where the bolt assembly components were manufactured.
3. Distributor Certified Test Reports. If the rotational-capacity test is

BRIDGE SUPERSTRUCTURE REPLACEMENT

performed by a distributor instead of a manufacturer, provide the test results on the distributor certified test reports. Report the rotational capacity lot number and test results as specified in 908.02.02.C and attach the manufacturer certified test reports.

G. Shipping and Handling:

Ship bolts, nuts, and washers from each rotational-capacity lot in the same container. If there is only one production lot number for each size of nut and washer, the manufacturer or distributor may ship the nuts and washers in separate containers. Permanently mark each container with the rotational-capacity lot number to allow identification at any stage before installation.

Treat galvanized bolts and nuts as an assembly and ship together.

Supply mill certifications, manufacturer certified test reports, and distributor certified test reports for each rotational- capacity lot to the RE.

- H. Submit Shop Drawings, product data and structural calculations signed by a NJ licensed PE for the continuous support of the water main relocated to hang under the downstream edge of the bridge as shown in contract documents. Support system design must consider all code prescribed loads and provide for seismic restraint, thrust restraint, thermal stresses and movement and transition from bridge support to buried condition.

### 1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing metal fabrications similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

### 1.4 PROJECT CONDITIONS

- A. Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress.

## PART 2 - PRODUCTS

### 2.1 STEEL BRIDGE RAILINGS AND HARDWARE

#### BRIDGE SUPERSTRUCTURE REPLACEMENT



- A. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
- B. Steel Bridge Railing: Fabricate steel railing from structural steel as noted on plans and as specified in Table 906.01-1. Construct welds according to the requirements of ANSI/AWS D1.1 Structural Welding Code. Use bolts and bolting materials as specified herein. Submit certifications of compliance and mill certifications.

**Table 906.01-1 Structural Steel Materials Requirements**

<b>Product</b>	<b>Test Method</b>	<b>Type/Grade/Class</b>
Structural Steel Plate for Bridges <sup>1</sup>	ASTM A 709	Grade 36, 50, 50W, or HPS70W <sup>2</sup>
Structural Steel Shapes and Plates for Railings: Series W, M, S, C, MC, L	ASTM A36	
	or	
Structural Steel Shapes and Plates for Railings: Series W, M, S, C, MC, L	ASTM A 572	Grade 50
Structural Steel Tubing for Rails	ASTM A 500	Grade B (A618 OR A501)
Transverse Tie rods (adjacent box beam transverse post tension ties)	AASHTO M275	Type I
Tie Rods, Plate washers, tie backs, turnbuckles, plates, shapes, and shims	ASTM A 709	Grade 36
	ASTM A 53	Type S, Grade B or Type E, Grade B
Steel tube and pipe for Sign Structures <sup>3, 4, 5</sup>	or ASTM A 500	Grade B or C
Steel Piles		
Steel H-piles	ASTM A 572	Grade 50
Steel sheet piles	ASTM A 572	Grade 50
Steel pipe piles	ASTM A 252	Grade 2
Casings for Drilled Shafts <sup>6</sup>	ASTM A 252	Grade 2
Flooring		
Grid Flooring	ASTM A 709	Grade 36
Formed Steel Flooring	ASTM A 1011	Grade 30
Steel Forgings	ASTM A 668	Class C
Shear Connector Studs <sup>7</sup>	ASTM A 108	Grades G1015, 1018, or 1020
Stay-In-Place (SIP) Forms <sup>8</sup>	ASTM A 653	Grades 33, 37, 40, 49, or 80

1. For steel used in tension zones, ensure that the steel conforms to Zone 2 impact testing requirements.
2. For the manufacture of Grade HPS70W, the Department will allow the use of the Thermo-Mechanical Controlled Process.
3. For sizes less than or equal to 24 inches in diameter, only use electric resistance welded single seam pipe.
4. For pipe with wall thickness greater than 1/2 inch, the fabricator may substitute API Specification 5L, Grade B.
5. ASTM A 500 Grade B or C is approved for use only with equivalent tensile and yield strengths as that specified for ASTM A 53 Grade B, Type E or S, with additional CVN testing for materials with wall thickness 1/2 inch or greater. Provide mill certs for approval by the ME prior to fabrication.
6. For casings, use smooth, non-corrugated steel pipe.
7. For shear connector studs, use cold-drawn bars that are killed or semi-killed.
8. For SIP, use a galvanized coating designation G235 or Z700.

BRIDGE SUPERSTRUCTURE REPLACEMENT

- C. Bolts: Use steel bolts conforming to ASTM A 307, Grade 36 (or ASTM F1554 – Gr. 36) as directed on plans. If galvanizing is specified, use hot-dipped method according to ASTM A 153.
- D. High Strength Bolts: use steel bolts, including nuts and plain hardened washers conforming to ASTM A325 or A490 as directed on plans. Treat galvanized bolts, washers, and nuts as an assembly. Store and ship the assembly in plastic bags placed inside wood or metal containers.
- E. Nuts and Washers: Use nuts and washers according to ASTM A 194 or ASTM A 563. Ensure that plain nuts are Grade 2H, DH, DH3, 2, C, D, or C3. Ensure that galvanized nuts are Grade 2H, DH, or DH3. Use washers with high-strength steel bolts conforming to ASTM F 436. If galvanizing is specified, use the hot-dipped method according to ASTM A 153.
- F. High Strength Anchor Bolts: For anchor bolts intended for anchoring structural supports to concrete foundations such as Rail Posts, Seismic Anchorage at Bearings, piers, columns, column supports for sign support structures, lighting fixtures, traffic signals, steel bearing plates, and similar applications, use ASTM F 1554, Grade 36, 55, or 105, anchor bolts, as shown on the Plans. If galvanizing is specified, use the hot-dipped method according to ASTM A 153.
- G. Transverse Tension Ties for lateral connection of Precast Box Beam Units: Unless otherwise noted on contract drawings, bolt material shall conform to AASHTO M275, Type 1. Heavy Hex Nut shall conform to ASTM A 194. If galvanizing is specified, use the hot-dipped method according to ASTM A 153.
- H. Touch-up Galvanized Coating: Damage to galvanized coating on structural elements or hardware shall be repaired by applying zinc rich organic coating system.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal with NJDOT approval:

OEU-37 Carboline System; Carboline Co., Maple Shade, NJ  
OEU-29 Sherwin Williams System; Sherwin Williams Co., Zelienople, PA

#### BRIDGE SUPERSTRUCTURE REPLACEMENT

## 2.2 FABRICATION

- A. Construct railing conforming to the horizontal and vertical alignment of the structure in accordance with plans. Install posts normal to grade in longitudinal direction and vertical in transverse direction.
- B. Weld end caps to the rails where applicable.
- C. Ensure that all anchor bolt holes and spaces between base plates and concrete are thoroughly caulked with cold-poured joint sealer conforming to subsection 914.02 of NJDOT standard specifications, joint material ASTM D 5893, type NS. Unless otherwise noted on plans.

## 2.3 BRIDGE RAILING ANCHORS

- A. Ensure that the railing is fabricated to allow for minor adjustments in both horizontal and vertical directions.
- B. Cast-in-Place Type. Set anchor bolts before placing concrete using a rigid template for each anchor assembly. When placing concrete, ensure that bolts do not move and spacing is maintained between the rigid templates. Ensure that exposed threaded ends of the anchor bolts remain clean and protected from concrete. Clean the anchor bolts before installing the specified hardware.

## 2.4 DECK JOINT ASSEMBLIES

- A. Metal Components
  - 1. Use two parallel steel rail sections conforming to AASHTO M 270, Grade 36. Use steel plates and concrete anchors consisting of shear studs welded to the steel rail sections. Ensure that the steel for plates, shapes, and other structural steel used in the deck joint system conforms to AASHTO M 270, Grade 36. For steel anchors, use headed shear studs conforming to ASTM A108. Weld structural steel as specified in Section 055000 and as shown on the contract drawings. After fabrication, hot-dip galvanize the entire joint system according to ASTM A 123.
  - 2. For the strip seal gland, locking lugs are required that mechanically interlock in the cavities of the 2 steel rail sections as specified in Section 079000.

### BRIDGE SUPERSTRUCTURE REPLACEMENT

3. Perform field splices according to the details and procedures included in the approved working drawings.
4. The RE will reject joint systems damaged during shipping or handling. The Contractor may repair minor damage to the galvanizing according to ASTM A 780.

## 2.5 SHELF ANGLES FOR STONE VENEER

### A. Metal Components:

1. Use steel angle ('L') sections conforming to AASHTO M 270, Grade 36. After fabrication, hot-dip galvanize components according to ASTM A 123. Continuous angles are only to be spliced in accordance with details on contract drawings.
2. Set angles with galvanized epoxy anchors unless noted otherwise on contract drawings.

## 2.6 ANGLE EDGE ARMORING

### A. Metal Components:

Use steel angle ('L') sections conforming to AASHTO M 270, Grade 36. After fabrication, hot-dip galvanize components according to ASTM A 123. Continuous angles are only to be spliced in accordance with details on contract drawings. For steel anchors, use headed shear studs conforming to ASTM A108. Weld structural steel as specified in Section 055000 and as shown on the contract drawings. After fabrication, hot-dip galvanize the entire joint system according to ASTM A 123.

## 2.7 SLEEVES FOR UTILITY PIPES AND SUPPORT OF WATER MAIN

### A. Metal Components:

1. Use sleeves and joints conforming to requirements of Utility Company and as required to meet span requirements in the case of hung utilities. Steel sleeves shall be galvanized. All sleeves shall be furnished by contractor.
2. Casing seals shall be furnished and installed by Utility Company.
3. Contractor to follow applicable Standard Bridge Construction Details of NJDOT for all sleeve connections and particulars.
4. Cut ends of sleeve square and free of burrs. Ensure that the slope of the sleeve is same as grade of utility.
5. Use standard clevis hangers of appropriate size, galvanized or stainless

## BRIDGE SUPERSTRUCTURE REPLACEMENT

steel. Submit shop drawings, product data and structural calculations signed by a NJ licensed PE for the continuous support of the water main relocated to hang under cantilevered edge of bridge as shown in contract documents.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

##### A. Quality Control and Acceptance

1. Notify the RE, in writing, at least 15 days before beginning work at the fabrication shop. The RE may reject any work done in his absence if proper notification was not received.
2. Perform at least the minimum specified number of quality control inspections according to the applicable ANSI/AASHTO/AWS specification and any other tests and inspections necessary to control the quality of the work. The ME will perform non-destructive testing quality assurance inspections following the non-destructive testing quality control (QC) inspection performed by the fabricator.
3. Ensure that all quality control inspectors are AWS Certified Welding Inspectors, qualified according to the provisions of AWS QC1.
4. Inspect and test structural steel bridge members according to ANSI/AASHTO/ AWS D1.5 Bridge Welding Code, as modified by the following:
  - a. Assembly and fabrication may not continue until completed work has been inspected and accepted by the RE.
  - b. Grind flush complete-penetration butt welds scheduled for ultrasonic testing.
  - c. Test 100 percent of complete joint penetration groove and butt welds, including butt welds in longitudinal stiffeners.
5. If applicable, proof load test the post-installed bridge railing anchors at pylons. A 3<sup>rd</sup> party testing company shall proof load 10% of the anchors and provide report to RE. Contractor shall wait for RE's approval prior to start of railing installation.

#### 3.2 INSTALLATION

### BRIDGE SUPERSTRUCTURE REPLACEMENT

- A. Install railings in accordance with approved Working Drawings. Working Drawings must be present on site at all times that installation is being performed.
- B. Install deck joint system in accordance with approved Working Drawings. Ensure that joint system remains rigidly secured during concrete placement to prevent any displacement.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Bridge Railings and Anchorage will be paid on a lineal foot basis and the cost thereof included in the item: **STEEL BAR BRIDGE RAILING** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Deck Joint Assemblies will be paid on a lineal foot basis and the cost thereof included in the item: **STRIP SEAL EXPANSION JOINT ASSEMBLY** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- C. Payment for the item Angle Edge Armoring shall be included in the item: **CONCRETE BRIDGE DECK, HPC** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- D. Payment for the item Shelf Angles for Stone Veneer shall be included in the item: **STONE VENEER** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- E. Payment for the item Sleeves for Utility Pipes and Support System for Water Main will be paid on a lump sum basis and the cost thereof included in the item: **UTILITY SERVICE CONSTRUCTION** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

BRIDGE SUPERSTRUCTURE REPLACEMENT

PASSAIC STREET BRIDGE OVER PASSAIC RIVER

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## **SUBSECTION 071000 – DAMP PROOFING & WATERPROOFING**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Sheet waterproofing for this project includes:
  - 1. Application to seal horizontal construction joints at wingwall parapets and at backwalls.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Provide waterproofing measures that establish and maintain watertight condition.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product specifications, handling, installation and curing instructions, and performance tested data sheets for each product required.
- B. Submit certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an installer who has successfully completed within the last 3 years at least 3 waterproofing applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original unopened containers or bundles with labels indicating manufacturer, product name, and expiration date as applicable.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

#### 1.6 JOB CONDITIONS

- A. Do not proceed with installation of products under the following conditions:

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1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40°F.
  2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Substrate Conditions: Do not proceed with installation of products until contaminants capable of interfering with adhesion are removed from substrates.

## PART 2 - PRODUCTS

### 2.1 SHEET WATERPROOFING

- A. Self-adhering waterproof membrane for substructures: Provide cold-applied, flexible, preformed waterproof membrane conforming to ASTM D624. Use Bituthene 3000/3000 HC or approved equal.

### 2.2 MISCELLANEOUS MATERIALS

- A. Protection board for vertical waterproofing applications. Use Bituthene Protection Board or approved equal.
- B. Protection board for horizontal waterproofing applications. Use protection course #712 as manufactured by WR Meadows or approved equal.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Installer shall inspect substrate indicated to receive waterproofing for compliance with requirements for surface preparation. Do not allow joint work to proceed until unsatisfactory conditions have been corrected.

### 3.2 SURFACE PREPARATION

- A. Clean surfaces immediately before installation to comply with recommendations of manufacturers and the following requirements:
1. Remove all foreign materials from joint substrates which could interfere with adhesion of joint sealer, including rust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and

BRIDGE SUPERSTRUCTURE REPLACEMENT

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compatibility by sealant manufacturer; old joint sealers; oil; grease; waterproofing; water repellents; water; surface dirt; and frost.

2. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond. Remove loose particles remaining from above cleaning operations by vacuuming or blowing with oil-free compressed air.
  3. Remove laitance and form release agents from concrete.
- B. Prime surfaces where indicated, and where recommended by manufacturer. Confine primer/sealer to areas of work; do not allow spillage or migration onto adjoining surfaces.

### 3.3 INSTALLATION

#### A. Sheet Waterproofing

1. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
2. Sheet waterproofing: surfaces must be smooth, regular and dry. Prime surfaces with one coat of Bituthene Primer (or approved equal) using brush or roller. Allow to dry completely before application of self-adhering sheets.
3. Where vertical surface meets footing install fillet of Bituthene Liquid Membrane (or approved equal) along joint.
4. Application of sheet to start at bottom of wall and proceed to top. Lap any joints a minimum of 6".
5. Install protection board with joints butted tight. Spot bond with Pak Adhesive or approved equal as needed to hold in place.

### 3.4 PROTECTION

- A. Install protection board at the end of each days waterproofing to both horizontal and vertical surfaces.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Damproofing and Waterproofing shall be included in the item: **CONCRETE BRIDGE PARAPET, HPC**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

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PASSAIC STREET BRIDGE OVER PASSAIC RIVER

## **SUBSECTION 076200 – COPPER SHEET METAL FLASHING**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The work of this section includes flashing of:
  - 1. Bridge Parapets (installed below capstone) to accomplish weathertight construction.
  - 2. Waterstop at joints.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Install the work without waves, warps, buckles, fastening stresses or distortion, allowing for expansion and contraction.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product specifications, handling, installation instructions, and data sheets for each product required.
- B. Shop drawings for sheet metal to include weights, gages or thickness of sheet metal, type of material, joining, expansion joint spacing, and fabrication details. Provide any additional details as may be needed in general conformance to with appropriate details of the Architectural Sheet Metal Manual of the Sheet Metal and Air Conditioning Contractors National Association.
- C. Materials shall not be delivered to the site until after the approved shop drawings have been returned to the contractor.

#### 1.4 QUALITY ASSURANCE

- A. Work to be installed by experienced sheet metal mechanics.
- B. Job foreman and or GC Superintendent to monitor quality of work as installation progresses.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall be adequately packaged and protected during shipment and inspected for damage, dampness and wet storage stains upon delivery to the jobsite. Deliver materials to project site in original packaging or bundles with labels indicating manufacturer and product name.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

## 1.6 JOB CONDITIONS

- A. Contractor shall be responsible for all dimensions required on shop drawings.
- B. Accessories: Provide accessories and other items necessary to complete the sheet metal installation, though not specifically indicated or specified.

## PART 2 - PRODUCTS

### 2.1 SEALANTS

- A. Refer to Section 079000.

### 2.2 COPPER FLASHING MATERIALS

- A. Copper sheet, strip, plate and rolled bar in accordance with ASTM B152/B152M. Sheet metal shall be light cold-rolled temper (H00) copper unless otherwise noted on plans.
- B. Solder in accordance with ASTM B32, Sn50.
- C. Flux conforming to ASTM B813.
- D. Slip sheet: Building paper meeting the requirements of ASTM C1136, Type IV, style optional.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Installer shall inspect conditions and notify RE of any discrepancies between conditions and contract drawings.
- B. Ensure that mason has provided proper surface for placement of flashing.
- C. Ensure that copper will not be in contact with any other metals.

### 3.2 INSTALLATION

- A. Install sheet metal flashing atop parapet walls (not required atop pylons). Install sheet metal atop slip sheet without waves, warps, buckles, fastening stresses or distortion, allowing for expansion and contraction.
- B. Soldering and Seaming:
  - 1. Soldering: Edges of sheet metals, except lead coated material, shall be pretinned before soldering is begun. Soldering shall be done slowly with well heated soldering irons to thoroughly heat the seams and completely sweat the solder through the full width of the seam. Edges of lead coated material to be soldered shall be scraped or wire-brushed to produce a bright surface, and seams shall have a liberal amount of flux brushed in before soldering is begun. Soldering shall follow immediately after application of the flux. Upon completion of soldering, the acid flux residue shall be thoroughly cleaned from the sheet metal with a solution of washing soda in water and rinsed with clean water.
  - 2. Seaming: Flat-lock and soldered lap seams shall finish not less than 1 inch wide. Unsoldered plain-lap seams shall lap not less than 3 inches unless otherwise specified. Flat seams shall be made in the direction of the flow.
- C. Expansion and Open Joints:
  - 1. Provide expansion joints at locations to coordinate with parapet wall control joints. Discontinue flashing at parapet wall joints noted as open joints, deck or expansion joints.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Copper Flashing shall be included in the item: **CONCRETE BRIDGE PARAPET, HPC**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

## **SUBSECTION 079000 - JOINT SEALERS**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The applications for joint sealers as work of this section include exterior joints in the following vertical surfaces:
  - 1. Control, expansion, and deflection joints in cast-in-place concrete structures and stone masonry veneer.
  - 2. Other joints as indicated.
- B. The applications for joint assemblies as work of this section also include exterior joints in the following horizontal surfaces:
  - 1. Bridge Deck Joints.
- C. The application for hot applied joint sealer as work of this section includes horizontal joints between abutment and slope protection slab.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Provide joint sealants that establish and maintain watertight and airtight continuous jointseals without staining or deteriorating jointsubstrates.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product specifications, handling, installation and curing instructions, and performance tested data sheets for each product required.
- B. With product data, submit certified test reports for sealants on aged performances as specified, including hardness, stain resistance, adhesion, cohesion or tensile strength, elongation, low temperature flexibility, compression set, modulus of elasticity, water absorption, and resistance (aging, weight loss, deterioration) to heat and exposures to ozone and ultraviolet.
- C. Submit color charts for each product exposed to view showing full range of colors

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available for color selection.

- D. Submit certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an installer who has successfully completed within the last 3 years at least 3 joint sealer applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original unopened containers or bundles with labels indicating manufacturer, product name, color, expiration date, pot life, curing time and mixing instructions.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

#### 1.6 JOB CONDITIONS

- A. Do not proceed with installation of liquid sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40<sup>o</sup>F.
  - 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Joint Width Conditions: Do not proceed with installation of joint sealers when joint widths are less than allowed by joint sealer manufacturer for application indicated.
- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

#### 1.7 WARRANTY

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- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
- C. Warranty Period: Ten years from date of Substantial Completion.
- D. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
  - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
  - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
  - 3. Mechanical damage caused by individuals, tools, or other outside agents.
  - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

## PART 2 - PRODUCTS

### 2.1 SEALANTS

- A. Elastomeric Sealant for Exterior Use: Provide one-part formulation silicone sealant conforming to ASTM C 920, Type S, Grade NS, Class 25, Dow 790, or approved equal. Colors will be selected by Engineer from manufacturer's standard colors.
- ~~B. Paving Sealant: Shall be a 2-component self-leveling polyurethane, meeting Federal Specification TT-S-00227E, THC-900 by Tremco, NR-200 by Pecora, or approved equal. Colors will be selected by Engineer from standard colors available with "Multi-Systems Color Pak".~~
- C. Hot-Poured Joint Sealer for concrete Joints: Provide sealer conforming to ASTM D 6690. Use Type II Sealer in accordance with AASHTO.

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## 2.2 CELLULAR FOAM JOINT FILLERS AND SEALANT BACKERS

- A. Expanded Polyethylene Joint Filler (Backup): Provide flexible, compressible, closed cell, polyethylene of not less than 10 psi compression deflection, 25%; except provide higher compression deflection strength as may be necessary to withstand installation forces and provide proper support for sealants; surface water absorption of not more than 0.1 lbs. per sq. ft.

## 2.3 MISCELLANEOUS MATERIALS

- A. Bond Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer to be applied to sealant contact surfaces where bond to substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape where applicable.
- B. Preformed Joint Filler: Use preformed joint fillers conforming to AASHTO M 33 or AASHTO M 213. Provide the filler for each joint in a single piece for the full depth and width required for the joint. If the RE approves the use of more than 1 piece for a joint, fasten the abutting ends securely, and hold to shape or other means of means of positive fastening.

## 2.4 JOINT ASSEMBLIES – STRIP SEAL EXPANSION JOINT ASSEMBLIES

- A. Metal Components
  - 1. Each deck joint assembly shall consist of two parallel steel rail sections with welded anchors, locking lugs and related plates and fasteners as specified in Section 055000 and on contract drawings.
- B. Neoprene Strip Seal Gland
  - 1. For the strip seal gland, use an extruded synthetic rubber consisting of polychloroprene (neoprene) as the base polymer. Manufacture the strip seal gland to have locking lugs that mechanically interlock in the cavities of the two steel rail sections.

Ensure that the material conforms to the requirements in below table:

<b>Table 914.05-1 Tests for Neoprene Strip Seal Gland</b>		
<b>Property</b>	<b>Test Method</b>	<b>Requirement</b>
Tensile strength, minimum psi	ASTM D 412	2000
Elongation at break, minimum %	ASTM D 412	250
Hardness, Type A durometer	ASTM D 2240	60 ±
5 Oven aging, 70 hours at 212 °F		
Tensile strength loss,		20
maximum % Elongation loss,	ASTM D 573	20
maximum %		
Hardness, Type A durometer, points change		0 to +10
Ozone resistance 20%		
strain, 300 ppm in air,		
70 hours at 104 °F	ASTM D 1149	No Cracks
-----		
Oil swell, ASTM oil		
No. 3 70 hours at 212	ASTM D 471	+45
°F		
Weight change,		
maximum %		

C. Adhesive.

1. For installing and bonding the neoprene strip seal gland in the cavity of the parallel steel rail sections, use an adhesive that is a one-part, moisture-curing polyurethane and hydrocarbon solvent and conforms to physical properties specified below:

**Table 914.05-2 Requirements for Strip Seal Adhesive**

<b>Property</b>	<b>Requirement</b>
Average weight per gallon	8 ± 1 pounds
Solids content by weight	65 percent (minimum)
Temperature range at which material is in fluid from	5 to 120 °F
Film strength (ASTM D 412)	2000 pounds per square inch (minimum)
Elongation	250 percent (minimum)

- D. Certification. Submit a certification of compliance for the strip seal joint assembly. With the certification, submit test results for the neoprene strip seal gland and mill certifications for the structural steel components.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Installer shall inspect joints indicated to receive joint sealers or assemblies for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint performance. Do not allow joint sealer or assembly installation to proceed until unsatisfactory conditions have been corrected.

3.2 JOINT PREPARATION

- A. Clean joint surfaces immediately before installation of sealant compounds to comply with recommendations of joint sealer manufacturers and the following requirements:
1. Remove all foreign materials from joint substrates which could interfere with adhesion of joint sealer, including rust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease; waterproofing; water repellents; water; surface dirt; and frost.

2. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
  3. Remove laitance and form release agents from concrete.
  4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- B. Prime or seal joint surfaces where indicated, and where recommended by sealant manufacturer. Confine primer/sealer to areas of sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION

- A. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
- B. Set joint filler units at proper depth or position in joint to coordinate with other work, including installation of bond breakers, backer rods and sealants. Do not leave voids or gaps between ends of joint filler units. Do not stretch, twist, puncture or tear joint fillers. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry materials.
- C. Install sealant backer rod for liquid applied sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for application indicated.
- D. Install bond breaker tape where indicated and where required by manufacturer's recommendations to ensure that liquid applied sealants will perform properly.
- E. Employ only proven installation techniques, which will ensure that sealants are

deposited in uniform, continuous ribbons without gaps or air pockets, with complete wetting of joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.

- F. Install liquid applied sealant to depths as shown, or, if not shown, as recommended by sealant manufacturer but within the following general limitations, measured at center (thin) section of bead; (not applicable to sealants in lapped joints):
  - 1. For sidewalks, pavements and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/8" deep nor less than 3/8" deep.
  - 2. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
- G. Do not allow sealants or compounds to overflow from confines of joints, or to spill onto adjoining work, or to migrate into voids of exposed finishes. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

### 3.4 CURE AND PROTECTION

- A. Cure sealant compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Advise Contractor of procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage, other than normal wear and weathering, at time of substantial completion. Cure and protect sealants in a manner which will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants which are damaged or deteriorated during construction period.
- B. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Control, Expansion, and Deflection Joints in Cast-in-Place Concrete Structures and Stone Masonry Veneer shall be included in the applicable items: **CONCRETE BRIDGE DECK, HPC and STONE VENEER**, respectively in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Neoprene Strip Seal Gland will be paid on a lineal foot basis and the cost thereof included in the item: **STRIP SEAL EXPANSION JOINT ASSEMBLY** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- C. Payment for the item Hot Applied Joint Sealer will be paid on a lineal foot basis and the cost thereof included in the item: **SUBSTRUCTURE CONCRETE REPAIR** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

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PASSAIC STREET BRIDGE OVER PASSAIC RIVER





**STATE OF NEW JERSEY**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**DIVISION OF LAND USE REGULATION**  
 Mail Code 501-02A, P.O. Box 420, Trenton, New Jersey 08625-0420  
 Telephone: (609) 777-0454 or Fax: (609) 777-3656  
 www.nj.gov/dep/landuse



## PERMIT

<p>In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.</p>		<p>Approval Date  <b>APR 18 2018</b></p>
<p>Permit Numbers:          0000-18-0004.1          FWW180001</p>		<p>Expiration Date  <b>APR 17 2023</b></p>
<p><b>Permit Numbers:</b></p>	<p><b>Type of Approvals:</b></p>	<p><b>Enabling Statutes:</b></p>
<p>0000-18-0004.1          FWW180001</p>	<p>Freshwater Wetlands General Permit No. 10A          Water Quality Certificate</p>	<p>N.J.S.A. 13:9B-1 et seq.          N.J.S.A. 58:10A-1 et seq.</p>
<p><b>Permittee:</b></p> <p>Thomas Mineo          County of Union          2325 South Avenue          Scotch Plains, New Jersey 07076</p>	<p><b>Site Location:</b></p> <p>Block: N/A Lot: N/A          Project: Passaic Street Bridge Superstructure Replacement          Location: Passaic Street over Passaic River          Municipality: Chatham Township          County: Morris          Municipality: Borough of New Providence          County: Union</p>	
<p><b>Description of Authorized Activities:</b></p> <p>This permit authorizes the temporary disturbance of 0.003 acres of freshwater wetlands, the temporary disturbance of 0.073 acres of State open waters and the temporary disturbance of 0.160 acres of transition area for the replacement of the bridge deck under a Freshwater Wetlands General Permit No. 10A as shown on the plans referenced on the last page of this permit. This authorization to conduct activities in freshwater wetlands includes the issuance of a Water Quality Certificate.</p> <p>The Division of Land Use Regulation has reviewed the referenced application for a General Permit authorization pursuant to the requirements of the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A-7. The activities allowed by this authorization shall comply with applicable conditions noted at N.J.A.C. 7:7-5.7, 7.10 and 20.2. Failure to comply with these conditions shall constitute a violation of the Freshwater Wetland Protection Act (N.J.S.A. 13:9B-1 et. seq.).</p> <p>Any additional un-permitted disturbance of freshwater wetlands, State Open Waters and/or transition areas besides that shown on the approved plans shall be considered a violation of the Freshwater Wetlands Protection Act rules unless the activity is exempt or a permit is obtained from the Department prior to the start of the proposed disturbance.</p>		
<p><b>Prepared by:</b></p> <p><i>Cathryn Schaffer</i>          Cathryn Schaffer</p>	<p><b>Received and/or Recorded by          County Clerk:</b></p>	
<p>If the permittee undertakes any regulated activity authorized under a permit, such action shall constitute the permittee's acceptance of the permit in its entirety as well as the permittee's agreement to abide by the permit and all conditions therein.</p>		
<p><b>This permit is not valid unless authorizing signature appears on the last page.</b></p>		

**FRESHWATER WETLAND SPECIAL CONDITIONS:**

1. The total amount of disturbance associated with this authorization shall not exceed 0.236 acres of freshwater wetlands, state open waters and transition area for the replacement of a bridge deck under a Freshwater Wetlands General Permit No. 10A.
2. The wetlands affected by this permit authorization are of Intermediate resource value and the standard transition area required adjacent to these wetlands is 50 feet. This general permit includes a transition area waiver, which allows encroachment only in that portion of the transition area, which has been determined by the Department to be necessary to accomplish the regulated activities. Any additional regulated activities conducted within the standard transition area on-site shall require a separate transition area waiver from the Division. Regulated activities within a transition area are defined at N.J.A.C. 7:7A-2.3. Please refer to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and implementing rules (N.J.A.C. 7:7A) for additional information.
3. In order to protect general game fishery resources within the Passaic River, no grading, excavation, or construction activities is permitted within the watercourse onsite between May 1<sup>st</sup> through July 31<sup>st</sup> of each year. In addition, any activity within the 100-year floodplain or flood hazard area of this watercourse or tributaries which would introduce sediment into said creek or which could cause more than a minimum increase in the natural level of turbidity is also prohibited anytime, but especially during this period. The Department reserves the right to require additional soil conservation measures if it becomes evident that additional soil conservation measures are required to protect State regulated resources or to suspend all regulated activities on-site should it be determined that the applicant has not taken proper precautions to ensure continuous compliance with this condition.
4. This authorization for a General Permit is valid for a term not to exceed five years from the date of this permit. If the permittee wishes to continue an activity covered by the permit after the expiration date of the permit, the permittee must apply for and obtain a permit extension or a new permit, prior to the permit's expiration. If the term of the authorization exceeds the expiration date of the general permit issued by rule, and the permit upon which the authorization is based is modified by rule to include more stringent standards or conditions, or is not reissued, the applicant must comply with the requirements of the new regulations by applying for a new GP authorization or an Individual permit.

**STANDARD CONDITIONS:**

1. The issuance of a permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction or structure(s). Neither the State nor the Department shall, in any way, be liable for any loss of life or property that may occur by virtue of the activity or project conducted as authorized under a permit.
2. The issuance of a permit does not convey any property rights or any exclusive privilege.
3. The permittee shall obtain all applicable Federal, State, and local approvals prior to commencement of regulated activities authorized under a permit.
4. The permittee will be responsible for the installation of a sediment barrier around all disturbed soils, which is sufficient to prevent the sedimentation of the remaining wetlands and transition area. In addition, a permittee conducting an activity involving soil disturbance, the creation of

drainage structures, or changes in natural contours shall obtain any required approvals from the Soil Conservation District having jurisdiction over the site.

5. The permittee shall take all reasonable steps to prevent, minimize, or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit.
6. The permittee shall immediately inform the Department by telephone at (877) 927-6337 (Warn DEP Hotline) of any noncompliance that may endanger the public health, safety, and welfare, or the environment. In addition, the permittee shall inform the Division of Land Use Regulation by telephone at (609) 777-0454 of any noncompliance within twelve hours of the time the permittee becomes aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter. The written notice shall include:
  - a. A description of the noncompliance and its cause;
  - b. The period of noncompliance, including exact dates and times;
  - c. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and
  - d. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
7. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the conditions of the permit.
8. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to:
  - a. Enter upon the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of the permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit; and
  - c. Inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. Failure to allow reasonable access under this paragraph shall be considered a violation of this chapter and subject the permittee to enforcement action under.
9. The permittee and its contractors and subcontractors shall comply with all conditions, site plans, and supporting documents approved by the permit. Any noncompliance with a permit constitutes a violation of this chapter and is grounds for enforcement action under, as well as, in the appropriate case, suspension and/or termination of the permit.
10. All conditions, site plans, and supporting documents approved by a permit shall remain in full force and effect so long as the regulated activity or project, or any portion thereof, is in existence, unless the permit is modified.
11. If any condition or permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect public health, safety, and welfare, or the environment.

12. A copy of the permit and all approved site plans and supporting documents shall be maintained at the site at all times and made available to Department representatives or their designated agents immediately upon request.
13. A permit shall be transferred to another person only in accordance with the regulations N.J.A.C. 7:7A-20.5.
14. A permit can be suspended or terminated by the Department for cause as specified at N.J.A.C. 7:7A-20.8 and 20.9.
15. The submittal of a request to modify a permit by the permittee, or a notification of planned changes or anticipated noncompliance, does not stay any condition of a permit.
16. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information.
17. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, P.O. Box 420, Mail Code 401-04C, Trenton, NJ 08625, seven days prior to the commencement of site preparation or of regulated activities, whichever comes first. The notification shall contain proof of recording of a conservation restriction or easement, if one was required as part of the permit.
18. The permittee shall not cause or allow any unreasonable interference with the free flow of a regulated water by placing or dumping any materials, equipment, debris, or structures within or adjacent to the channel while the regulated activity(ies) is being undertaken. Upon completion of the regulated activity(ies), the permittee shall remove and dispose of in a lawful manner, all excess materials, debris, equipment, and silt fences and other temporary soil erosion and sediment control devices from all regulated areas.
19. The regulated activity shall not destroy, jeopardize, or adversely modify a present or documented habitat for threatened or endangered species, and shall not jeopardize the continued existence of any local population of a threatened or endangered species.
20. Best management practices as defined at N.J.A.C. 7:7A-1.3, shall be followed whenever applicable.
21. If the permittee, before or during the work authorizes, encounters a possible historic property, as described at N.J.A.C. 7:7A-19.5(I), that is or may be eligible for listing in the New Jersey or National Register, the permittee shall preserve the resource and immediately notify the Department and proceed as directed.
22. The permittee shall record the permit, including all conditions listed therein, with the Office of the County Clerk (the Registrar of Deeds and Mortgages, if applicable) of each county in which the site is located. The permit shall be recorded within 30 calendar days of receipt by the permittee, unless the permit authorizes activities within two or more counties, in which case the permit shall be recorded within 90 calendar days of receipt. Upon completion of all recording, a copy of the recorded permit shall be forwarded to the Division of Land Use Regulation at the address set forth at N.J.A.C. 7:7A-1.4.

**APPROVED PLANS:**

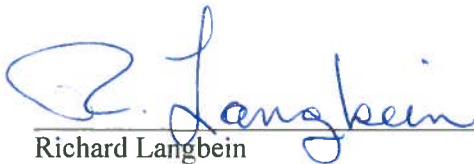
The drawing hereby approved is shown on one (1) sheet prepared by Neglia Engineering Associates, dated January 5, 2018, last revised February 27, 2018, entitled: "NJDEP WETLAND PERMITTING PLAN PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER – SUPERSTRUCTURE REPLACEMENT, BOROUGH OF NEW PROVIDENCE, UNION COUNTY, NEW JERSEY".

**APPEAL OF DECISION:**

In accordance with N.J.A.C. 7:7A-21, any person who is aggrieved by this decision may request a hearing within 30 days of the date the decision is published in the DEP Bulletin by writing to: New Jersey Department of Environmental Protection, Office of Legal Affairs, Attention: Adjudicatory Hearing Requests, Mail Code 401-04L, P.O. Box 402, 401 East State Street, 7<sup>th</sup> Floor, Trenton, NJ 08625-0402. This request must include a completed copy of the Administrative Hearing Request Checklist found at [www.nj.gov/dep/landuse/forms](http://www.nj.gov/dep/landuse/forms). Hearing requests received after 30 days of publication notice may be denied. The DEP Bulletin is available on the Department's website at [www.nj.gov/dep/bulletin](http://www.nj.gov/dep/bulletin). In addition to your hearing request, you may file a request with the Office of Dispute Resolution to engage in alternative dispute resolution. Please see the website [www.nj.gov/dep/odr](http://www.nj.gov/dep/odr) for more information on this process.

If you need clarification on any section of this permit or conditions, please contact the Division of Land Use Regulation's Technical Support Call Center at (609) 777-0454.

Approved By:

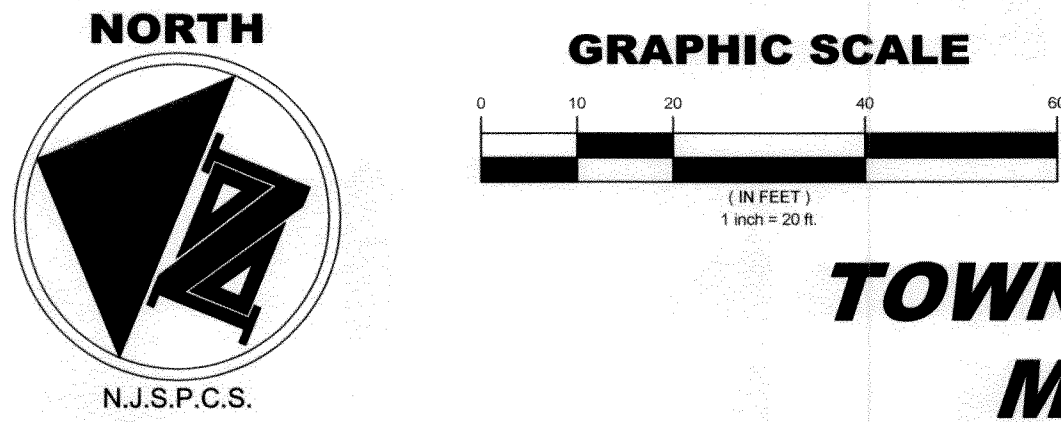
  
Richard Langbein

Division of Land Use Regulation

04.18.2018  
Date

Original sent to Agent to record

- c: Permittee
- Borough of New Providence Construction Official
- Township of Chatham Construction Official



**TOWNSHIP OF CHATHAM  
MORRIS COUNTY**

**BOROUGH OF  
NEW PROVIDENCE  
UNION COUNTY**

**PASSAIC STREET**  
**RIVER ROAD**

**COMMONWEALTH AVENUE**

**PASSAIC RIVER**

**PASSAIC STREET**

- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY PASSIC STREET BRIDGE, BOROUGH OF NEW PROVIDENCE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL INCLUDING BUT NOT LIMITED TO CONSTRUCT PHASING, TRAFFIC CONTROL, SIGNAGE, DETOURING, ETC.
  - ALL WORK SHALL BE IN ACCORDNACE WITH UNION COUNTY, MORRIS COUNTY, AND NJDOT DETAILS AND SPECIFICATIONS.
  - THE MERIDIAN OF THIS SURVEY IS BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD83 (2011) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK.
  - ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK. TO CONVERT TO NGVD'29 ADD 0.95' TO ELEVATIONS.

**FRESHWATER WETLAND TRANSITION AREA DISTURBANCE NOTE:**  
PER CONVERSATIONS WITH N.J.D.E.P. PERSONNEL, 50 FEET OF TRANSITION AREA BUFFER IS ALLOWED TO BE DISTURBED WITHOUT ADDITIONAL PERMITTING WHEN DISTURBING THE ASSOCIATED WETLAND UNDER A PERMITTED DISTURBANCE (PER NJAC 7:7A-4.2(c)).

**FRESHWATER WETLANDS AND WETLAND TRANSITION AREA DISTURBANCE CALCULATIONS:**

NJDEP WETLAND GENERAL PERMIT 10A - VERY MINOR ROAD CROSSING

SHORT CROSSING SCENARIO:  
MAXIMUM ALLOWABLE FRESHWATER WETLANDS CROSSING LENGTH = **100 FEET**  
MAXIMUM PROPOSED FRESHWATER WETLANDS CROSSING LENGTH = **77.8 FEET**

MAXIMUM ALLOWABLE CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATER = **0.25 ACRES (10,890 SQUARE FEET)**

TOTAL PERMANENT WETLAND DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
TOTAL TEMPORARY WETLAND DISTURBANCE = **0.003 ACRES (120 SQUARE FEET)**

TOTAL PERMANENT TRANSITION AREA DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
TOTAL TEMPORARY TRANSITION AREA DISTURBANCE = **0.160 ACRES (6,972 SQUARE FEET)**

TOTAL PERMANENT STATE OPEN WATER DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
TOTAL TEMPORARY STATE OPEN WATER DISTURBANCE = **0.073 ACRES (3,161 SQUARE FEET)**

TOTAL PROPOSED PERMANENT DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS, AND STATE OPEN WATER = **0 ACRES (0 SQUARE FEET)**

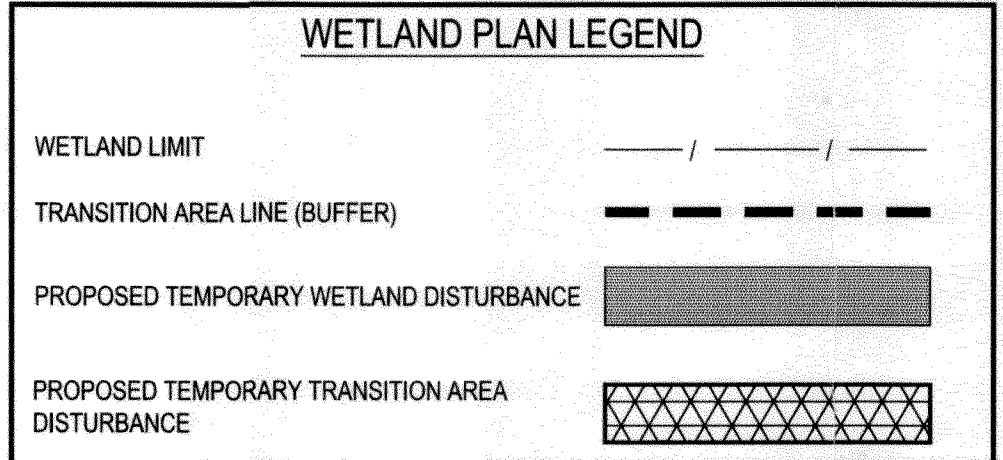
TOTAL PERMITTED DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS, AND STATE OPEN WATERS = **0.250 ACRES (10,890 SQUARE FEET)** > **0 ACRES (0 SQUARE FEET)**

\*THIS AREA REPRESENTS TEMPORARY TRANSITION AREA DISTURBANCES BEYOND THAT WHICH ARE INCLUDED UNDER NJAC 7:7A-4.2(c)  
\*\*REFER TO DRAWING 6.01 (NJDEP STATE OPEN WATER PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO STATE OPEN WATER PERMITTING.  
REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR CALCULATIONS FOR RIPARIAN PERMITTING.

**FLOOD HAZARD AREA PERMITTING:**

THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT FALL UNDER THE REGULATIONS ASSOCIATED WITH PERMIT-BY-RULE 42 WHICH PERMITS THE RECONSTRUCTION OF ALL OR PART OF A LAWFULLY EXISTING BRIDGE SUPERSTRUCTURE OVER A REGULATED WATER, PROVIDED THE CONDITIONS AT N.J.A.C. 7:13-6.7 ARE MET AND:

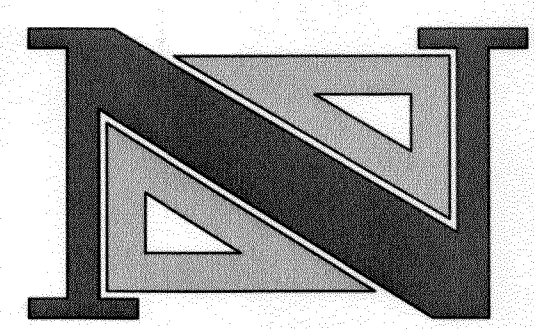
- ANY PORTION OF THE SUPERSTRUCTURE TO BE RECONSTRUCTED THAT LIES BELOW THE FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS REPLACED IN KIND; AND
- NO RIPARIAN ZONE VEGETATION IS CLEARED, CUT, AND/OR REMOVED, EXCEPT FOR VEGETATION WITHIN 20 FEET OF THE STRUCTURE, WHERE SUCH DISTURBANCE IS NECESSARY TO FACILITATE ITS RECONSTRUCTION.



REFER TO DRAWING 6.01 (NJDEP STATE OPEN WATER PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO STATE OPEN WATER PERMITTING. REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO RIPARIAN AREA PERMITTING.

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION			
1	2/27/18	REVISED TEMPORARY TRANSITION AREA DISTURBANCE AREA	ENS	ENS	D.R.A.



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PROFESSIONAL ENGINEER  
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**THOMAS R. SOLFARO, P.E., C.M.E.**  
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**PROFESSIONAL LAND SURVEYOR**  
N.J. LICENSE NO. 38604

**PROFESSIONAL PLANNER**  
N.J. LICENSE NO. 33L00569800

**NJDEP WETLAND PERMITTING PLAN**  
**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT**  
**BOROUGH OF NEW PROVIDENCE**  
**UNION COUNTY**  
**NEW JERSEY**

CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276890

PROJECT NO: UNIOCTY17.013  
SHEET NO: 6.00  
DATE: JANUARY 5, 2018

m:\union\_county\uniocty17.013 (passaic street bridge)\cadd\plan\17.013 riparian wetland permitting plan.dwg, Plotted: Tuesday, February 27, 2018 5:04:54 PM



# PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER SUPERSTRUCTURE REPLACEMENT



BOROUGH OF NEW PROVIDENCE/TOWNSHIP OF CHATHAM  
UNION COUNTY/MORRIS COUNTY, NEW JERSEY

FEBRUARY, 2018

**CONSTRUCTION NOTES:**

1. THE LOCATIONS OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES FOR THEIR EXACT LOCATIONS.
2. TRENCHES OR AREAS EXCAVATED ARE TO BE BACK FILLED WITH DENSE GRADED AGGREGATE AT THE END OF EACH WORKING DAY AND PAVED AT THE END OF THE WORK WEEK. TRENCHES LEFT OPEN OVERNIGHT ARE NOT PERMITTED.
3. THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED AND ADDED TO HEREIN, SHALL GOVERN IN THIS CONTRACT AND CONSTRUCTION, SHOULD THE SPECIFICATIONS NOT INCLUDE PARTICULAR CONSTRUCTION ITEMS.
4. ANY MATERIAL THAT MAY BE DISTURBED DURING THE REMOVAL AND REPLACEMENT TO EXISTING CURBING AND SIDEWALKS, MUST BE RETURNED TO ITS ORIGINAL CONDITION. THE COST FOR THIS SHALL BE INCLUDED IN THE UNIT PRICE BID IN THE APPROPRIATE PAY ITEM.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAPERING PROPOSED WORK TO MEET EXISTING CONDITIONS IN A UNIFORM MANNER.
6. THE CONTRACTOR SHALL RECEIVE ALL THE NECESSARY PERMITS & APPROVALS FROM ALL LOCAL, COUNTY, AND STATE GOVERNING AGENCIES, PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY ASSOCIATED FEES, AND SAME TO BE INCLUDED IN THE VARIOUS BID ITEMS.
7. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ONE CALL NUMBER (800) 272-1000 FOR MARK OUTS PRIOR TO START OF WORK. THE CONTRACTOR SHALL RECORD AND HAVE THE CONFIRMATION NUMBER ONSITE DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL VISIT THE SITE TO PERFORM HIS OWN DUE DILIGENCE, AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.

**GENERAL NOTES:**

**EXISTING CONDITIONS**

1. IT IS THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN ALL UTILITY LOCATIONS PRIOR TO BIDDING.

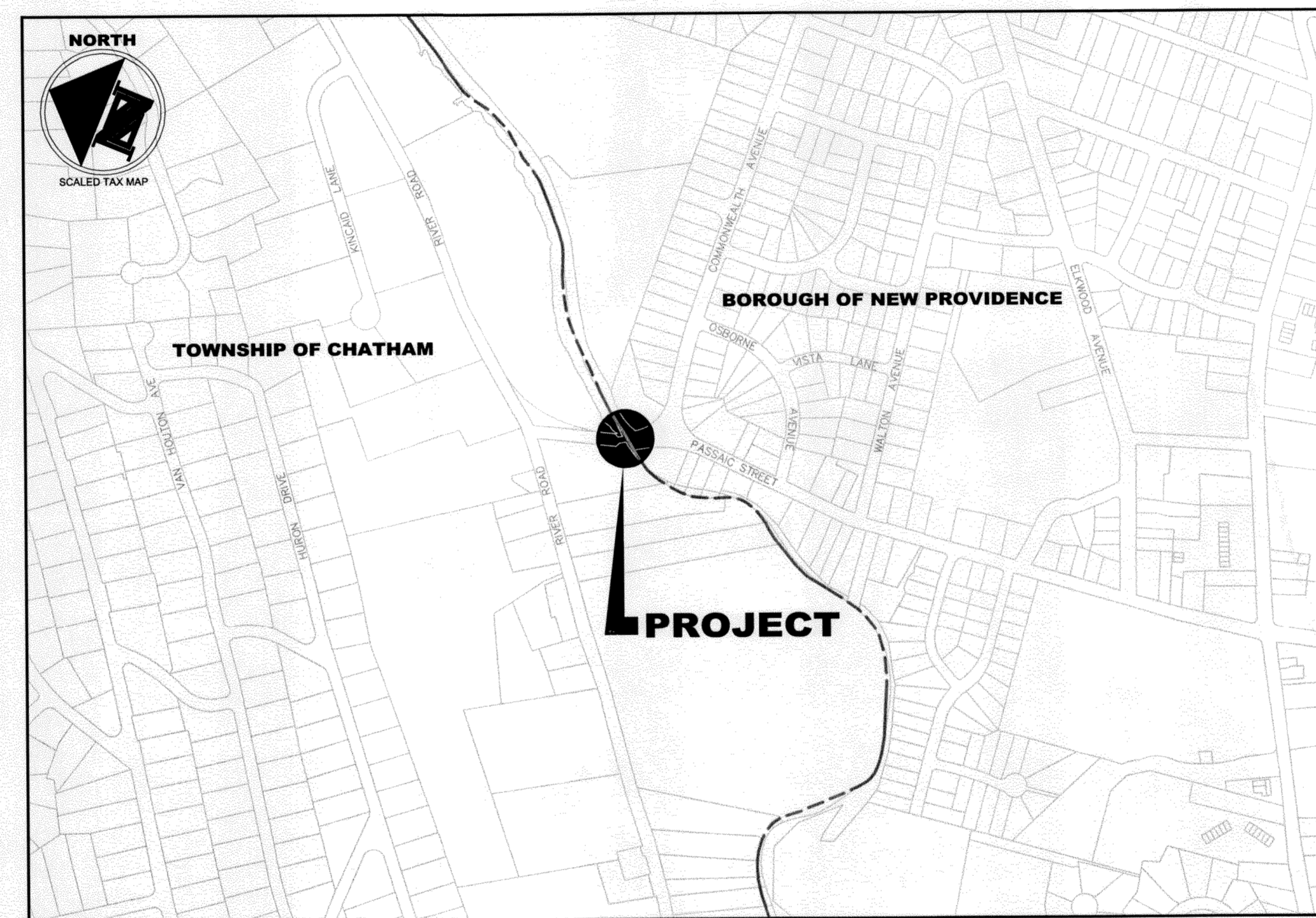
**PROPOSED WORK**

1. MAINTENANCE AND PROTECTION OF PEDESTRIAN TRAFFIC CONTROL MUST CONFORM TO NJDOT AND MUTCD STANDARDS ALONG WITH THE REQUIREMENTS OF THE MUNICIPALITY. POLICE TRAFFIC DIRECTORS SHALL BE COORDINATED WITH THE MUNICIPALITY.
2. ALL STORM DRAINS AND CATCH BASINS WILL BE PROTECTED AT ALL TIMES. ANY DAMAGE WILL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. ALL FILL REMOVED FROM THE TRENCH IS TO BE DISCARDED BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE TRENCH MUST BE OF SUITABLE WIDTH TO OBTAIN PROPER MECHANICAL COMPACTING, NOT TO EXCEED 4 FEET IN WIDTH. ALL BACKFILL IS TO BE DONE WITH QUARRY PROCESS STONE, TYPE I-S OR DGA FOR THE FULL DEPTH OF THE TRENCH. FIRST LIFT OF FILL, TWELVE (12) INCHES ABOVE THE PIPE, SHALL BE COMPACTED USING A JUMPING JACK TAMPER. SUCCESSIVE LIFTS SHALL BE COMPACTED BY MECHANICAL MEANS SUCH AS TAMPING, VIBRATING OR ROLLING. A VIBRA PLATE TAMPER IS NOT ACCEPTABLE.
4. SEE SITE PLAN FOR PROPOSED FINISHED SURFACE TREATMENTS.
5. THE CONTRACTOR SHALL KEEP THE TRENCH FILLED TO THE LEVEL OF THE SURROUNDING GRADES UNTIL SETTLEMENT HAS CEASED.
6. TRAFFIC CONTROL DEVICES AS NECESSARY TO BE INCLUDED IN THE VARIOUS BID ITEMS.
7. TRAFFIC CONTROL TO BE IN ACCORDANCE WITH MUNICIPAL, UNION COUNTY, AND MUTCD STANDARDS.

**RESTRICTIONS AND REQUIREMENTS**

1. WORKING HOURS SHALL BE IN ACCORDANCE WITH UNION COUNTY REQUIREMENTS.
2. THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION.
3. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES.
4. THE CONTRACTOR SHALL PROVIDE PRE-CONSTRUCTION PHOTOGRAPHS OR VIDEOTAPES OF THE PROJECT AREA. PHOTOGRAPHS SHALL BE LABELED WITH DESCRIPTORS AND CORRESPONDING PHOTO LOCATION MAP AND MOUNTED INTO BINDERS. AUDIO SHALL BE USED ON VIDEOTAPES TO DESIGNATE THE PHOTO LOCATIONS AND DESCRIPTORS. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS OR VIDEOTAPES PRIOR TO MOBILIZATION.
5. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ILLUSTRATED WITHIN THESE CONSTRUCTION PLANS. A STAGING AREA HAS NOT BEEN DETERMINED FOR USE BY THE CONTRACTOR AT THE TIME THESE CONTRACT DRAWINGS WERE DRAWN. WHEN A STAGING AREA IS DETERMINED, THE CONTRACTOR SHALL CALL THE UNION COUNTY SOIL CONSERVATION DISTRICT (908-231-7000) FOR INSPECTION OF THE STAGING AREA. THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AT THE STAGING AREA PRIOR TO INSPECTION. ALL COSTS TO BE INCLUDED IN THE VARIOUS ITEMS BID.

ALL WORK STATED IN THESE NOTES, PLANS AND SPECIFICATIONS SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

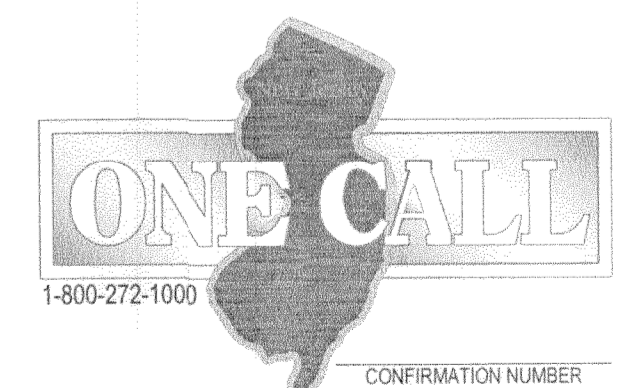


**KEY MAP (N.T.S.)**  
SOURCE: REF. TAX MAPS

ENGINEERING SITE PLAN SHEETS	
SHEET NUMBER	DRAWING NAME
1.00	COVER SHEET/KEY MAP
2.00	GENERAL NOTES & STANDARD LEGEND
3.00	SOIL EROSION AND SEDIMENT CONTROL PLAN
4.00	ROADWAY IMPROVEMENTS PLAN
5.00	EROSION CONTROL DETAILS
5.01	CONSTRUCTION DETAILS
6.00	NJDEP WETLANDS PERMITTING PLAN
6.01	NJDEP STATE OPEN WATERS PERMITTING PLAN
6.02	NJDEP RIPARIAN PERMITTING PLAN
EXHIBIT 1	DETOUR PLAN

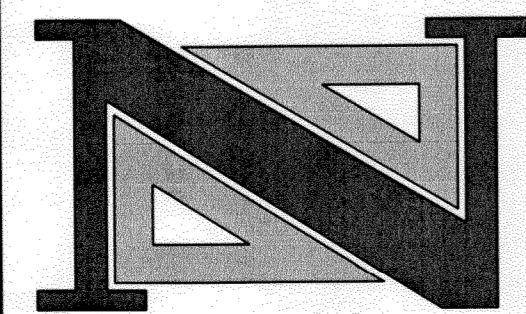
STRUCTURAL PLAN SHEETS	
SHEET NUMBER	DRAWING NAME
B0	BRIDGE PLAN, ELEVATIONS AND SECTIONS
B1	ESTIMATE OF QUANTITIES
B2	DEMOLITION PLAN No. 1
B3	DEMOLITION PLAN No. 2
B4	SUPERSTRUCTURE REPLACEMENT PLAN No. 1
B5	SUPERSTRUCTURE REPLACEMENT PLAN No. 2
B6	SUPERSTRUCTURE REPLACEMENT PLAN No. 3
B7	SUPERSTRUCTURE REPLACEMENT PLAN No. 4
B8	PARAPET AND RAILING DETAILS No. 1
B9	PARAPET AND RAILING DETAILS No. 2
B10	PARAPET AND GUIDE RAIL CONNECTION DETAILS
B11	SUBSTRUCTURE REPAIR PLAN
B12	SUBSTRUCTURE REPAIR DETAILS
B13	WATER MAIN SUPPORT PLAN

APPROVALS		
RECOMMENDED FOR APPROVAL BY:	<i>Curt Ritter</i> CURT RITTER, MAYOR OF CHATHAM TOWNSHIP	5-18-18 DATE
RECOMMENDED FOR APPROVAL BY:	<i>John Ruschke</i> JOHN RUSCHKE, P.E., CHATHAM TOWNSHIP ENGINEER	5-19-18 DATE
RECOMMENDED FOR APPROVAL BY:	<i>Al Morgan</i> AL MORGAN, MAYOR OF NEW PROVIDENCE	5-17-18 DATE
RECOMMENDED FOR APPROVAL BY:	<i>Andrew R. Hipolit</i> ANDREW R. HIPOLIT, P.E., BOROUGH OF NEW PROVIDENCE ENGINEER	5-9-18 DATE
RECOMMENDED FOR APPROVAL BY:	<i>Christopher J. Vitz</i> CHRISTOPHER VITZ, P.E., MORRIS COUNTY ENGINEER	5/3/18 DATE
RECOMMENDED FOR APPROVAL BY:	<i>Thomas U. Mineo</i> THOMAS U. MINEO, P.E., UNION COUNTY ENGINEER	6/12/18 DATE
APPROVED BY:	<i>Edward T. Oatman</i> EDWARD OATMAN, UNION COUNTY MANAGER	6/13/18 DATE



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REVISIONS				
NO.	DATE	DESCRIPTION	DRAWN	CHECKED
1	02/17/18	NJDOT RESUBMISSION	E.N.S.	D.R.A.



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*Thomas R. Solfaro*

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PROFESSIONAL PLANNER N.J. LICENSE NO. 33L00569600

**COVER SHEET / KEY MAP**  
**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT**  
**BOROUGH OF NEW PROVIDENCE**  
**UNION COUNTY**  
**NEW JERSEY**

DESIGNED BY: D.R.A. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY17.013 SHEET NO: 1.00  
SCALE: N.T.S. DATE: JANUARY 5, 2018

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## GENERAL NOTES:

### A. Legal

- A1. The most current editions of The Standard Specifications for Road and Bridge Construction, Standard Inputs, and Standard Details, as published by the New Jersey Department of Transportation (NJDOT), the Plans, Technical Specifications, Advertisement, Contractor's Proposal and including but not limited to the amendments contained hereinafter shall comprise the Contract Documents. The Contractor shall read and understand the project specifications prior to construction. The municipality is under the jurisdiction of the state central law and the government.
- A2. The Contractor shall visit the site and familiarize himself with the existing conditions prior to submitting his bid. Any discrepancies between these plans and the actual conditions at the site shall be immediately reported to the Professional Engineer.
- A3. The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to the performance of the work, the protection of adjacent property and the maintenance of passageways.
- A4. The Contractor's attention is directed to the safety requirements as outlined in the General Conditions of the Construction Specifications. Neither the Engineer nor the Owner shall be held responsible and/or liable for the safety of the work site. The Contractor is responsible for maintaining a safe work site at all times.
- A5. The Contractor is responsible to obey all the safety and health regulations. The Owner assumes no responsibility for the health and safety of the work performed.

### B. Site Clearing and Construction

- B1. The Contractor shall obtain all required local, County, State, Federal opening permits and shall bare the cost of all accompanying fees. All permits must be secured prior to the commencement of work.
- B2. Whenever a question arises regarding the specifications or drawings or any supplementary drawings or instructions of the Field Engineer, same shall be immediately brought to the attention of the Professional Engineer responsible for the design.
- B3. One copy of the approved construction plans and specifications furnished to the Contractor must be kept on the project site. All work and materials necessary for the completion of the work according to the intent and meaning of the Contract Documents, shall be furnished, performed and done in accordance with the specifications and plans. Any conflict or inconsistency between the plans and specifications, or any discrepancy between the figures and scale of drawings shall be submitted by the Contractor to the Engineer, whose decision thereon shall be final. The decision of the Engineer as to which specification will govern will be final.
- B4. The Contractor is responsible to construct the project in accordance with the contract documents. All proposed field changes must be approved in writing by the Professional Engineer existing for the design (Project Manager, PE) prior to the construction of any field changes.
- B5. All information shown or noted for existing facilities, grades, roadways and materials is approximate. The Contractor shall be responsible to verify all information which may affect his work.
- B6. All disturbed shrubs, fencing, walkways, signs, mailboxes, driveways, etc., shall be restored to their original condition and to the satisfaction of the Engineer and/or the Owner. No separate payment shall be made for this restoration work unless same is clearly specified elsewhere in the construction documents. The Contractor shall take prudent measures to protect all existing property evidence (monuments, iron pipe, pins, etc.) during construction.
- B7. All property corners or monuments removed or damaged during construction shall be replaced by a NJ Licensed Land surveyor at no additional cost to the Owner.
- B8. Reconstructed curb shall be installed to match existing curb elevations and alignment unless otherwise specified on grading plans, profiles or cross sections. Separate payment will not be made for removal of existing curb in reconstructed areas. Payment for the removal of existing curb shall be included in the unit price bid for the Curb line item.
- B9. The Contractor shall sawcut and repair the pavement adjacent to newly constructed curb prior to proceeding on to subsequent stages of work. Curb trenches will not be left open overnight in areas where the roadway is to be opened to traffic. No separate payment will be given for such said sawcutting and restoration, the cost of which shall be included in the unit price bid for the Curb line item.
- B10. All asphalt material removed from the project must be transported to an approved recycling center and the tonnage certified to the Owner. No separate payment will be made for this work but shall be included in the various items in the proposal.
- B11. The Contractor shall be responsible for the disposal of all excess materials excavated, whatever nature, at his own expense. The Owner is not obligated to supply a disposal site. The Contractor must not deposit the excess materials within the municipal limits without express permission of the Professional Engineer. Excavated material may not be stored on site and shall be removed at the end of each day.
- B12. All excavated materials are to be disposed of in accordance with approved NJDOT/NJDEP methods and means, or transported at the direction of the Owner.
- B13. All disturbed areas outside the project limits or not intended to be included in this project, shall be restored to their original condition, and to the satisfaction of the Owner. No separate payment shall be made for this restoration, unless specified elsewhere.
- B14. The Contractor must provide a smooth sawcut edge in all cases where proposed pavement of whatever nature, concrete curbs or concrete sidewalks abut existing pavements, curbs or sidewalks. No separate payment will be made for sawcutting. The cost shall be included in the various items in the proposal.
- B15. The Contractor may discover that existing roadway may contain existing concrete base or cobble stone and shall make all necessary requirements for its removal where required. The cost for this work shall be included in the cost of Roadway Excavation, Unclassified.
- B16. The replacement of any sidewalk within the project area may require that sidewalk slabs be sawcut from the surrounding concrete walk. No specific payment for saw cutting will be made and therefore shall be included under prices bid for concrete sidewalk items in the proposal.
- B17. As part of this Contract, the Contractor is required to prepare the existing pavement and seal all cracks and joints per Section 404 of the NJDOT Specifications prior to resurfacing. This work shall include, but is not limited to, all labor, materials and equipment necessary to clean cracks prior to the installation of surface course and apply a sealant as outlined in the NJDOT Specification. Prior to commencement, the Contractor shall obtain approval from the Professional Engineer as to the intended methods and materials that will be used for this project. This item shall not be measured for payment, but the cost thereof shall be included in the unit price bids for the Hot Mix Asphalt Surface Course line item.
- B18. No construction, maintenance or utility work on, under or above the project road that will obstruct, interfere with and/or detour traffic on the road, shall be performed before the hour of 9:00 AM or after 4:00 PM. The Contractor's work hours shall conform to local Ordinance requirements.
- B19. All trenches in the existing pavement shall be saw cut. No separate payment will be made for saw cutting and the cost thereof shall be included under prices bid for various items in the proposal.
- B20. The Contractor shall be responsible for restoration and maintenance of all access driveways at all times during construction at no additional cost to the Owner.
- B21. All sediment and soil erosion control practices are to be installed in conformance with Soil Conservation District standards prior to any major soil disturbances. All work shall be completed in proper sequence and all erosion control devices shall be maintained until permanent protection is established.
- B22. Contractor shall maintain access to all properties at all times during construction.
- B23. The Contractor shall take all necessary measures to maintain dust control as required or directed by the Professional Engineer. All vehicles shall be clean and all roadways shall be maintained as directed by the Field Engineer.
- B24. Contractor shall keep the site clean at all times and sweep the street at the end of each work day.

### B. Site Clearing and Construction/Cont.

- B25. All material encountered within the work zone area that must be removed to construct the project as directed by the Field Engineer, shall be included in the unit price bid for Clearing Site. This is inclusive of but not limited to the removal of all curbed edging and concrete gutter.
- B26. All trees are to be saved and protected from harm during construction with the exception of the trees marked with an X on the construction plans. If any trees are damaged during construction, the Contractor will be responsible for the removal and replacement as determined by the Municipality.
- B27. All trees to be removed shall be marked by the Contractor and approved by the Owner before any tree removal commences. Each Tree designated for removal shall be completely removed, except for stumps that cannot be removed by grubbing which shall be grinded to twelve (12) inches below the existing ground surface.
- B28. The Contractor shall install protective blocking, bracing or sheeting to support any exposed gas, water, sanitary, telecommunications, or electric utilities in accordance with the respective utility company's regulations.
- B29. The Contractor shall be responsible for tapering proposed work to meet existing conditions in a uniform manner.

### C. Utility Permits

- C1. Prior to the start of construction, the Contractor shall have all underground utilities located and physically marked out within the limits of the project (call 1-800-272-1000). The Contractor shall provide test holes in areas of possible conflict to verify the depth and location of the utility. No separate payment shall be made for delays that may be necessary to relocate utilities or the proposed location of underground utilities. No separate payment will be made for test pits but the cost shall be included in the various items in the proposal.
- C2. Location and depth of existing utilities are only indicated to bring attention to possible conflicts. Any damage to utilities shall be the sole responsibility of the Contractor and all costs for repairs shall be borne by the Contractor.
- C3. Any damage to utilities shall be the sole responsibility of the Contractor and all costs for repair shall be borne by the Contractor. All disturbed or damaged walkways, signs, curbing, trees, hydrants, utilities, paved surfaces, driveways, building facades, etc. shall be restored to their original condition and to the satisfaction of the Owner. No separate payment will be made for this restoration unless specified elsewhere in the Contract.
- C4. The locations of utilities shown are approximate. The Contractor is responsible for verifying the exact locations of the utilities prior to the start of construction.
- C5. All gas and water valves and various manholes to remain shall be reset to finish grade.
- C6. The Contractor shall coordinate his work with the public utility companies. Electric, telephone, gas & cable utility manhole castings and valve box covers shall be reset by the respective utility companies.
- C7. Private utility companies must be contacted by the Contractor so that privately owned castings will be reset as required.
- C8. Water service valve boxes, gas service valve boxes, junction boxes, electric boxes, basement vault doors and all other appurtenances located in the sidewalk area shall be reset to the new sidewalk elevation. The cost for resetting any and all of these castings shall not be paid separately but shall be included in the various concrete sidewalk line items in the proposal.
- C9. The Contractor is responsible for accurately locating existing traffic signal loop detector and leads. The Contractor will only be compensated for the replacement of loop detectors and leads which have been removed at the direction of the Professional Engineer. The Contractor shall not remove loop detectors and leads unless he is directed to do so by the Professional Engineer.
- C10. Trenches shall be backfilled without delay. Open excavations shall be kept to a minimum and made safe at all times. All trenches shall be adequately compacted by approved methods and with materials approved by the Field Engineer. Any trench settlement shall be immediately brought to grade and temporary paving shall be placed where required. No trench (including curbs) shall be left open overnight.
- C11. The Contractor shall provide and maintain temporary ramps around all exposed utility castings, both public and private which have been uncovered during construction.

### D. Drainage

- D1. The Contractor is responsible to clean and maintain all existing drainage structures prior to the start of construction within the project limits.
- D2. All existing storm sewer pipes within project limits must be cleaned by the Contractor after completion of construction. The cost for cleaning shall not be paid separately but shall be included in the various drainage items in the proposal.
- D3. All roof leaders and curb drains are to remain free flowing, during construction.
- D4. All roof drain pipes in curb/sidewalk area to be maintained and reconnected, and shall be extended under the sidewalk and through the curb.
- D5. All inlets, manholes and vault castings to be reset shall be reset to the proposed finished grade as directed by the Field Engineer. These castings must be reset flush to the proposed grade and the new pavement shall not be mounded up or feathered down to meet these castings. All castings reset to the improper grade or not to the satisfaction of the Field Engineer shall be reset to the new grade at no additional expense to the Owner.
- D6. Existing grates are the property of the Municipality or utility authority and will be delivered, at no additional cost to the Owner, to the local Department of Public Works or utility authority yard. Payment will not be made for new grates unless the existing grates are returned to the Owner.
- D7. All open drainage excavations shall be backfilled at the end of each day and protected from pedestrian and vehicular traffic.
- D8. The Contractor will be responsible for maintaining positive drainage during and after construction. If a situation arises where water will pond at a particular location, the Professional Engineer responsible for the design must be notified immediately in order to make corrective measures in writing.
- D9. The Contractor is fully responsible for verifying that all proposed storm sewer connections are to the existing storm sewer systems.

### E. Traffic Control

- E1. The Contractor shall be responsible for coordination of traffic control measures.
- E2. Maintenance and Protection of Pedestrian Traffic Control must conform to NJDOT and MUTCD standards along with the requirements of the municipality. Police Traffic Directors shall be coordinated with the municipality, as needed.
- E3. The Contractor shall be responsible to prepare a detour plan as needed or required by the Owner and/or local Police department for review and approval prior to starting work.

### F. Signs

- F1. Any signs located within the sidewalk areas should be reset/relocated in accordance with the standard NJDOT Standard Details. Separate payment will not be made for resetting objects located in the sidewalk. The cost shall be included in the unit price bid for the replacement of sidewalks, unless payment for such work is specified in the proposal.
- F2. The Contractor shall relocate/reset signs as shown on the plans or directed by the Professional Engineer. No separate payment will be made for this work but the cost shall be included in the various items in the proposal.
- F3. Signs for parking prohibition must be posted at least 48 hours in advance of construction. Contractor shall coordinate, obtain and place signs as directed by the Owner.

### G. Survey

- G1. Layout of all work shall be adjusted in the field to meet site conditions as approved in writing by the Professional Engineer responsible for the design.
- G2. The Contractor is responsible to layout all new work prior to construction for Field Engineer's approval. Any locations not approved by the Field Engineer and installed by the Contractor shall be removed and replaced as per the Field Engineer's instructions at no additional cost to the Owner.
- G3. All layout work shall be done by a New Jersey Licensed Land Surveyor.
- G4. All existing locations taken from a survey prepared by Neglia Engineering Associates.

### H. Trees

- H1. Contractor must retain a certified tree expert for tree evaluation where necessary. No additional payment will be made for tree expert, price to be included in site clearing.
- H2. All trees that have roots that encroach into the proposed curbs or pavement and are to be saved shall be evaluated by the Contractor's certified tree expert. All evaluations shall be in writing and shall accurately identify the tree in question by station and offset (left or right). All evaluations shall be submitted to the Professional Engineer for review and consultation with the Municipality's tree experts prior to cutting any roots. No separate payment will be made for this work but the cost thereof shall be included in the clearing site item.
- H3. Trees that are to be saved, where it is determined that root cutting may severely damage the tree, shall have a curb break and steel curb face plates installed as shown on the details.
- H4. The Contractor is responsible for the timely evaluation of all trees and there will not be change orders for delays resulting from root cutting.
- H5. In areas where the roots encroach into the curb line, the full pavement section shall be removed prior to removing the curb. Then the existing curb shall be removed by pulling it away from the tree towards the roadway to minimize root damage during the removal of the existing curb. No separate payment shall be made for this work but the cost thereof shall be included in the Clearing Site line item.

### J. ADA Requirements

- J1. The Contractor shall be fully responsible for complying with NJDOT and ADA requirements related to the installation of handicap accessible ramps and the associated slopes. The ramps and alignments illustrated on these plans shall be used for schematic purposes only. The Contractor shall be fully responsible for proper construction and alignment in the field.
- J2. It is the Contractor's responsibility to verify that the proposed drop curb ramps meet current NJDOT and ADA Standards. Those ramps that do not meet standards, once constructed, shall be replaced to meet said standards at no additional cost to the owner.
- J3. The Contractor is responsible for determining the extent of improvements required for those ramp locations identified and completing said work to ensure ramps are in conformance with current NJDOT and ADA Standards.
- J4. Contractor shall not begin site clearing operations on a ramp until he verifies that ramp can be constructed to comply with applicable standards. The Contractor shall be responsible for all corrections to a ramp should he proceed with demolition prior to confirmation of constructability at no additional cost to the owner.

## STANDARD PLAN LEGEND

### EXISTING CONDITIONS

	WATER VALVE		INLET
	GAS VALVE		JUNCTION BOX
	CLEAN OUT		UTILITY POLE
	MANHOLE		FIRE HYDRANT
	SANITARY MANHOLE		CURB LINE
	DRAINAGE MANHOLE		DEPRESSED CURB
	TREE		RAILROAD TIE CURB OR WALL
	SHRUB		GAS MAIN
	ROOF DRAIN AT CURB		WATER MAIN
	EDGE OF PAVEMENT		DRAINAGE PIPE
	LANDSCAPED AREA		SANITARY SEWER PIPE
			STORM PIPE

### PROPOSED CONDITIONS

	RESET VALVES & CLEANOUTS
	PROPOSED VALVES
	PROPOSED CLEAN OUT
	RESET MANHOLE CASTING
	RECONNECT ROOF DRAIN
	RESET INLET
	PROPOSED INLET
	PROPOSED DEPRESSED CURB
	PROPOSED CURB
	LIMIT OF CONSTRUCTION
	FLOW ARROW
	TREE REMOVAL
	L.O.C. LIMIT OF CONSTRUCTION
	TBR TO BE REMOVED

### PAVEMENT MARKING STANDARD

UNLESS OTHERWISE SHOWN, PAVEMENT MARKINGS SHOULD CONFORM TO THE FOLLOWING:

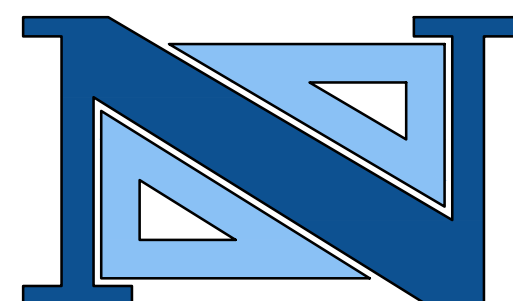
CENTER LINES	_____	4" WIDE DOUBLE YELLOW LINE
LANE LINE	_____	4" WIDE WHITE LINE
CROSSWALK LINES	_____	6" WIDE WHITE LINE
STOP LINE	_____	24" WIDE WHITE LINE
HATCHING	_____	24" WIDE WHITE LINE
PARKING STALL	_____	4" WIDE WHITE LINE
HANDICAP STALL	_____	4" WIDE BLUE LINE

**NOTE:**  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	E.N.S.	E.N.S.	D.R.A.
1	02/11/18	NJDOT RESUBMISSION			



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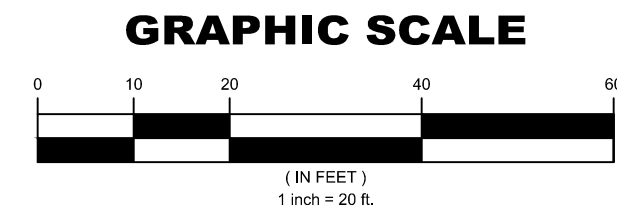
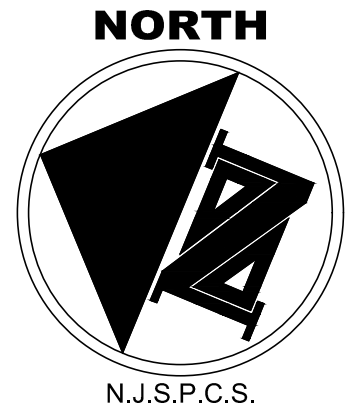
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**GENERAL NOTES AND STANDARD LEGEND  
PASSAIC STREET BRIDGE OVER THE PASSAIC  
RIVER - SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE  
UNION COUNTY  
NEW JERSEY**

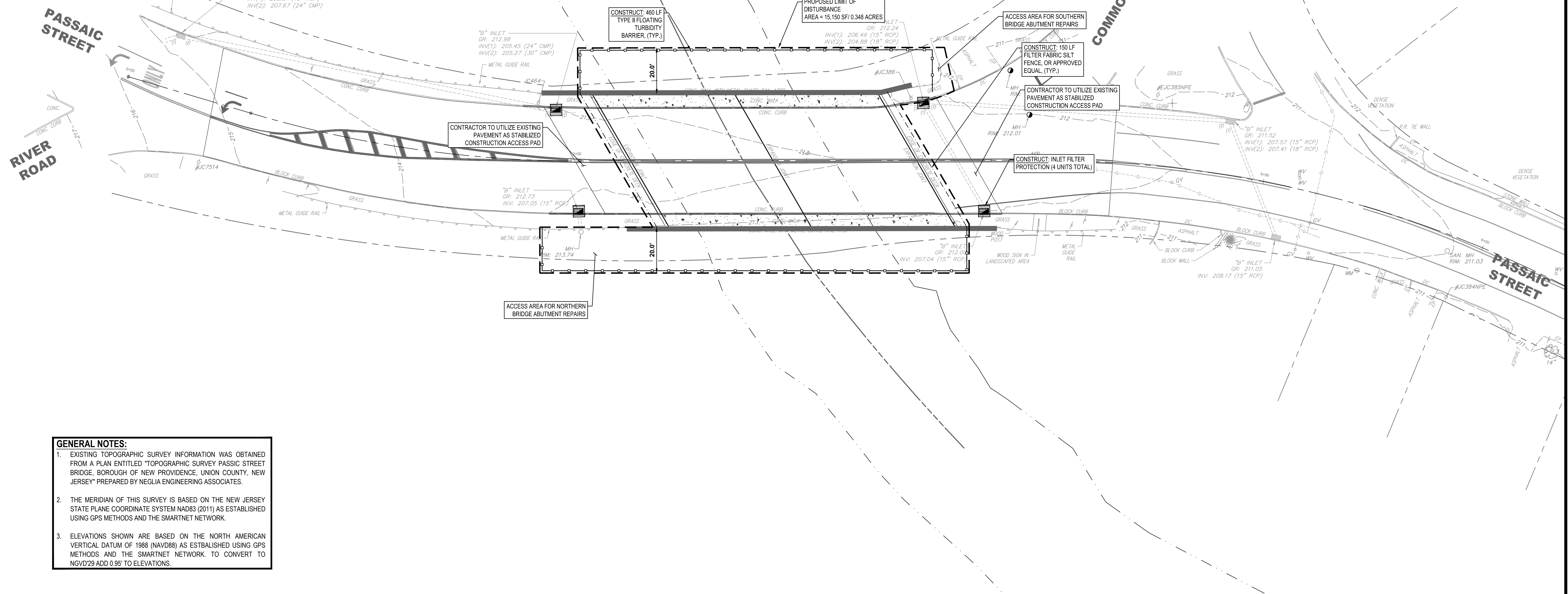
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DESIGNED BY: D.R.A.	SCALE: N.T.S.	UNIOCTY17.013	2.00
FIELD BOOK NO:	DATE: JANUARY 5, 2018		





**TOWNSHIP OF CHATHAM  
MORRIS COUNTY**

**BOROUGH OF  
NEW PROVIDENCE  
UNION COUNTY**

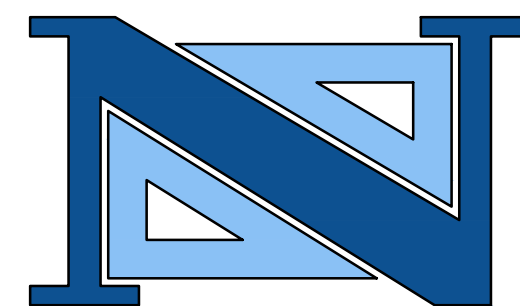


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  - THE MERIDIAN OF THIS SURVEY IS BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD83 (2011) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK.
  - ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK. TO CONVERT TO NGVD'29 ADD 0.95' TO ELEVATIONS.

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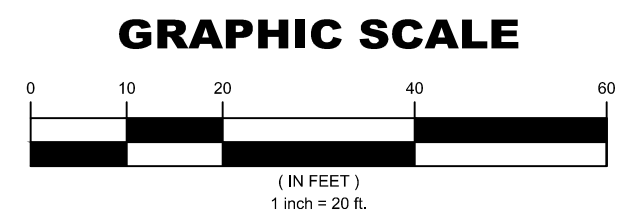
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**SOIL EROSION & SEDIMENT CONTROL PLAN  
PASSAIC STREET BRIDGE OVER THE PASSAIC  
RIVER - SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE  
UNION COUNTY  
NEW JERSEY**

DRAWN BY: E.N.S. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY17.013 SHEET NO: 3.00  
DESIGNED BY: D.R.A. SCALE: 1" = 20' DATE: JANUARY 5, 2018  
FIELD BOOK NO. PAGE

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**TOWNSHIP OF CHATHAM  
MORRIS COUNTY**

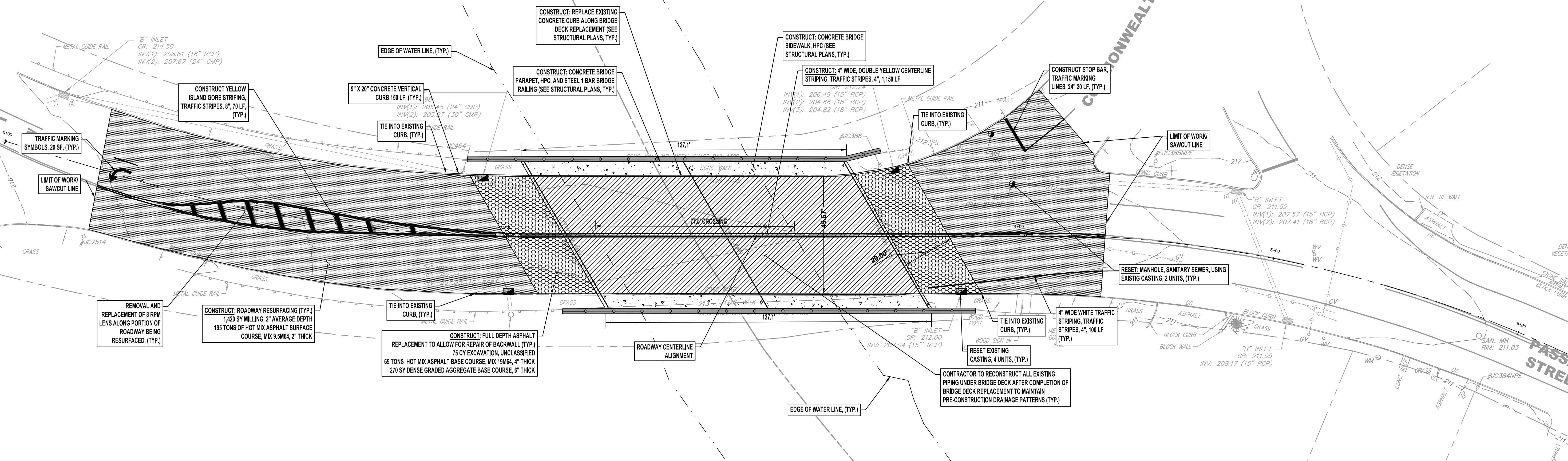
**BOROUGH OF  
NEW PROVIDENCE  
UNION COUNTY**

PASSAIC STREET  
RIVER ROAD

PASSAIC RIVER

COMMONWEALTH AVENUE

PASSAIC STREET



**CONTRACTOR IS RESPONSIBLE TO COORDINATE THE REINSTALLATION OF THE WATER MAIN TRAVERSING ACROSS THE BRIDGE AS PART OF THE PROPOSED BRIDGE REPLACEMENT PROJECT. THE CONTRACTOR SHALL INSTALL HANGER RODS AND PLATES (AS SUPPLIED BY NJ AMERICAN WATER) WITH THE PIPE INSTALLATION BEING PERFORMED BY OTHERS. THE COST THEREOF TO BE INCLUDED IN VARIOUS BRIDGE/CONCRETE CONSTRUCTION ITEMS.**

**ALL PAVEMENT MARKINGS, SIGNS, ETC. SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.**

**CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES WITHIN THE LIMITS OF WORK TO ENSURE THAT ALL SERVICES ARE MAINTAINED THROUGHOUT THE DURATION OF DEMOLITION AND CONSTRUCTION ACTIVITIES**

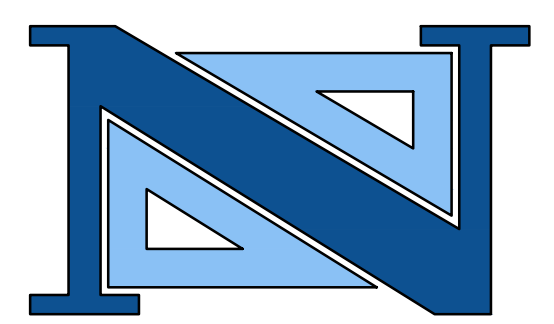
**GENERAL NOTES:**

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REVISIONS				
NO.	DATE	DESCRIPTION	DRAWN	CHECKED
1	02/1/18	NJDOT RESUBMISSION	E.A.S.	D.R.A.



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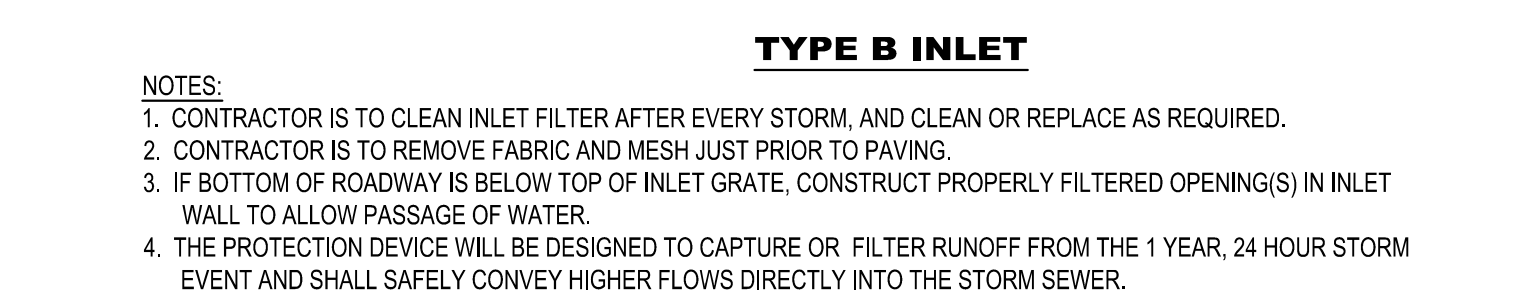
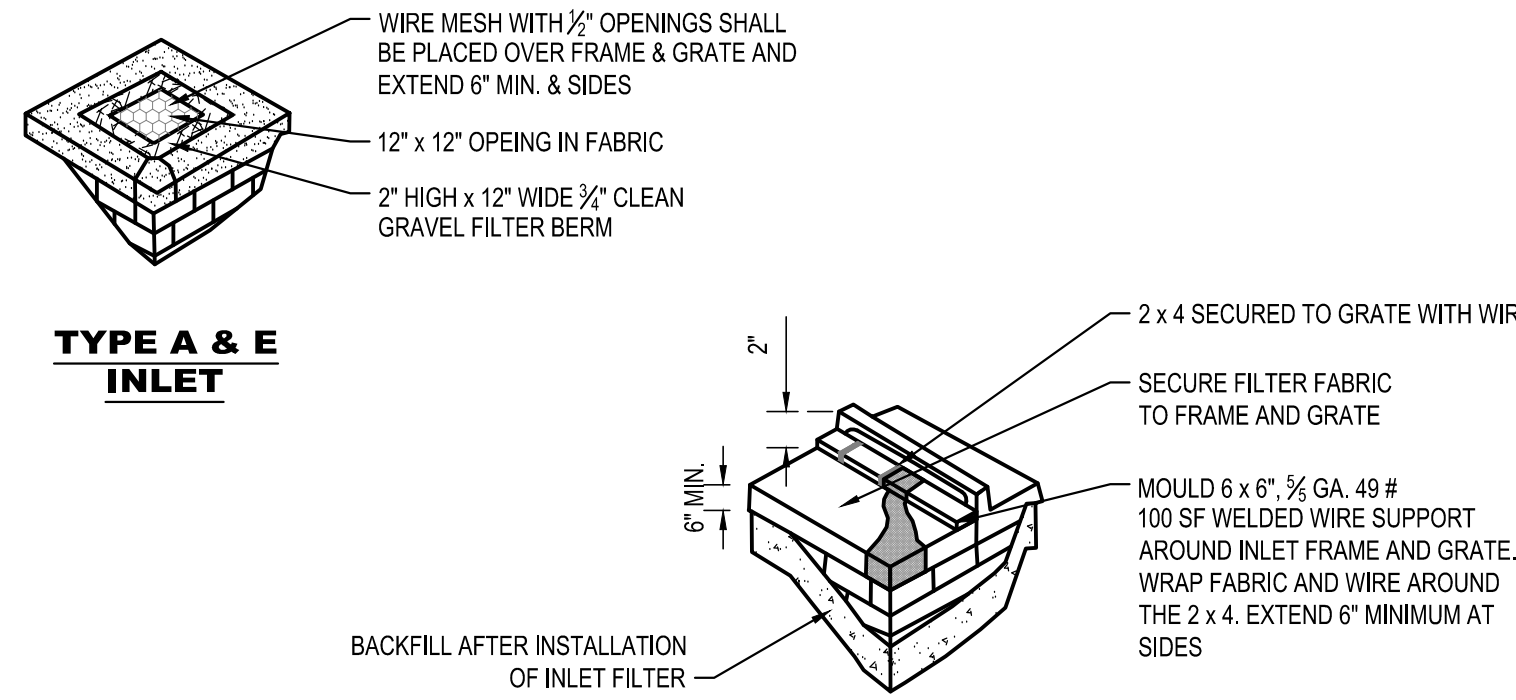
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**ROADWAY IMPROVEMENTS PLAN  
PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT  
BOROUGH OF NEW PROVIDENCE  
UNION COUNTY  
NEW JERSEY**

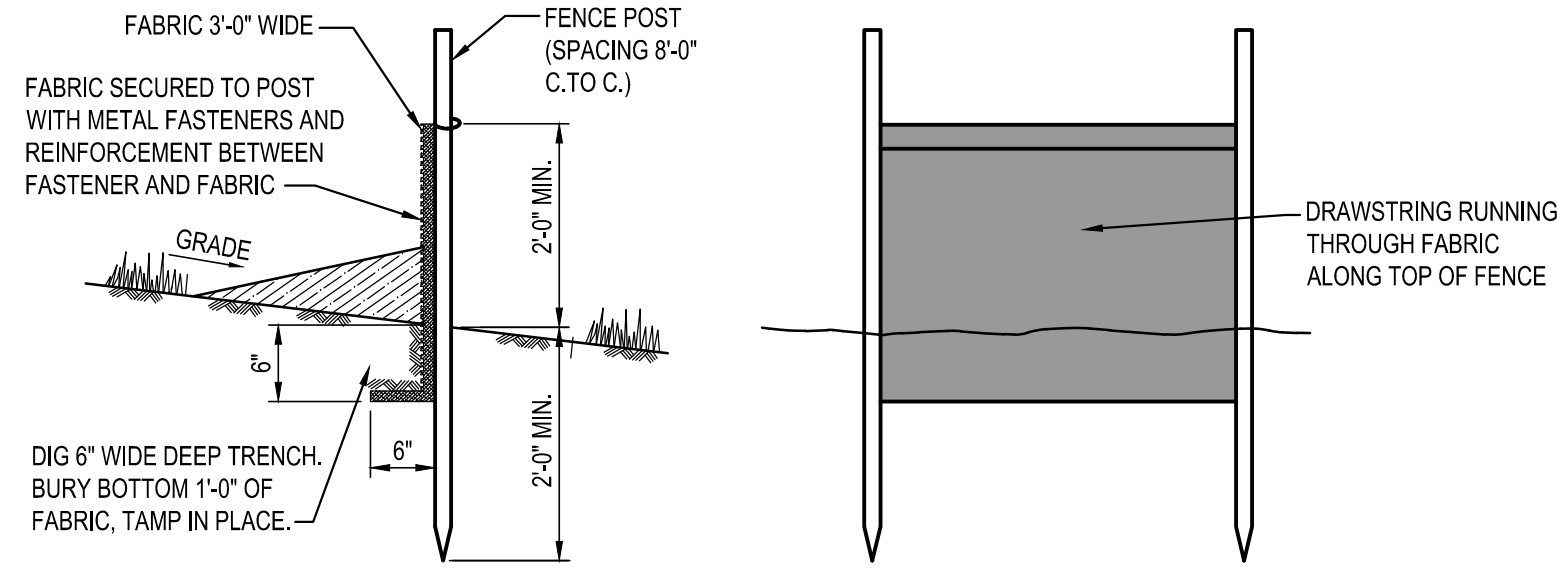
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DESIGNED BY: D.R.A. SCALE: 1" = 20' DATE: JANUARY 5, 2018  
FIELD BOOK NO. PAGE

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### INLET FILTER & PROTECTION

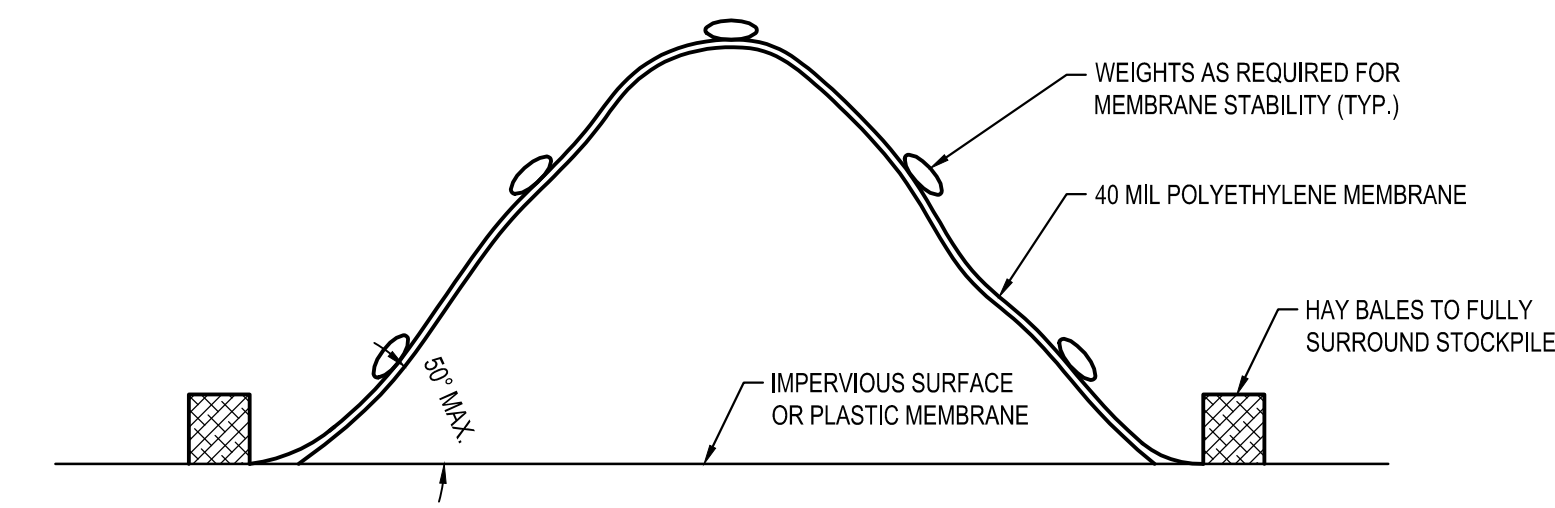
NOT TO SCALE



- FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1 1/2 INCHES.
- A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED. FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
- A GEOTEXTILE FABRIC RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS & STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

### SILT FENCE

NOT TO SCALE



- NOTES:
- FOR NON-CONTAMINATED SOIL, SURROUND STOCKPILE WITH SILT FENCE. NO COVER REQUIRED

### SOIL STOCKPILE

NOT TO SCALE

## SEQUENCE OF CONSTRUCTION

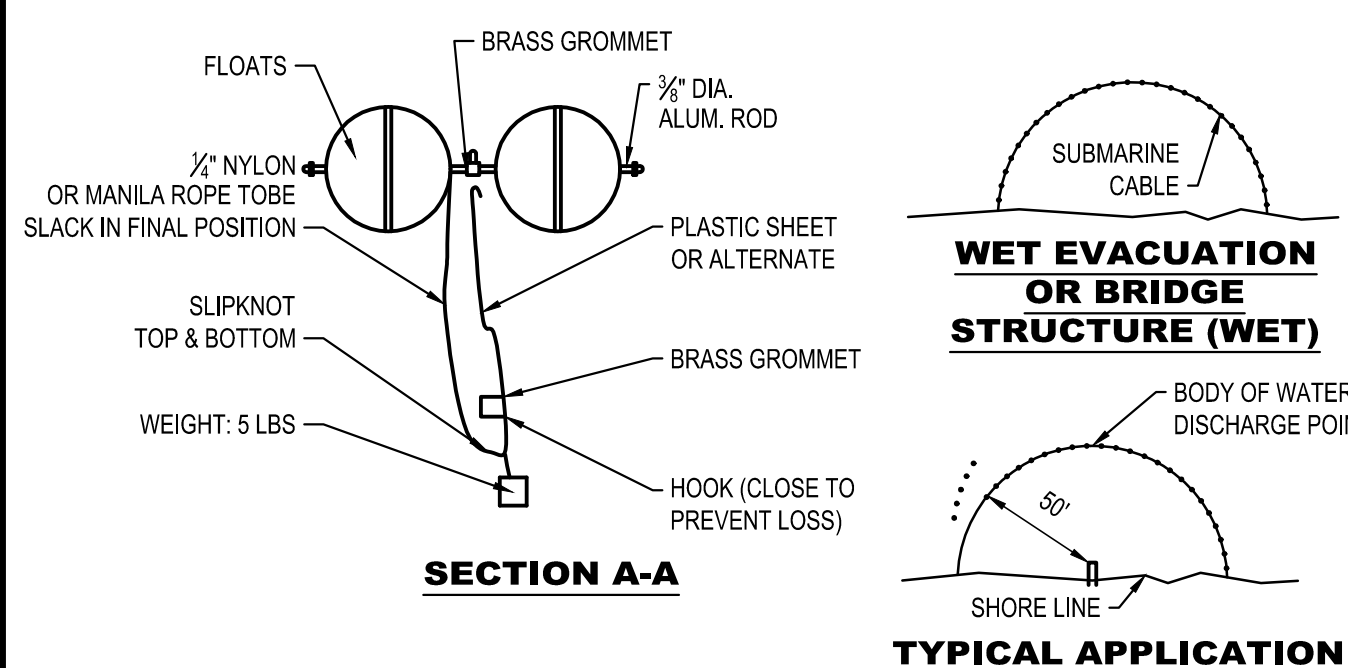
- |  |          |
|--|----------|
| 1. INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, INLET FILTERS, TURBIDITY BARRIERS, AND OTHER SOIL EROSION MEASURES          | 1 WEEK   |
| 2. MOBILIZATION, SITE CLEARING, TEMPORARY UTILITY RELOCATIONS  | 1 WEEK   |
| 3. PAVEMENT REMOVAL, REMOVAL AND REPLACEMENT OF EXISTING BRIDGE DECK   | 12 WEEKS |
| 4. FULL-DEPTH PAVEMENT REPLACE, MILLING AND REPAVING   | 2 WEEKS  |
| 5. PAVEMENT STRIPING & SITE RESTORATION  | 1 WEEK   |
| 6. LANDSCAPING, REMOVE SOIL EROSION & SEDIMENT CONTROL DEVICES, FINAL SITE CLEANUP (PROVIDE PERMANENT STABILIZATION OF ALL EXPOSED SURFACES) | 1 WEEK   |
| <b>TOTAL = 18 WEEKS</b>  |          |

### SEEDING SPECIFICATIONS

- SELECT A MIXTURE FROM TABLE 4-3 (PG. 4-7) OR USE MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
  - SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
  - WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES. GENERALLY 850 F AND ABOVE. SEE TABLE 4-3 (PG.4-7), MIXTURES 1 TO 7. PLANTING RATES FOR WARM SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
  - COOL SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85F. MANY GRASSES BECOME ACTIVE AT 65F. SEE TABLE 3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PURE LIVE SEED IS NOT REQUIRED FOR COOL SEASON GRASSES.
- CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKER SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING BELOW) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
- AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- TEMPORARY SEEDING: TEMPORARY VEGETATIVE COVER SHALL CONSIST OF PERENNIAL RYEGRASS APPLIED UNIFORMLY AT A RATE OF 1.0 POUND PER 1,000 SQ. FT. (40 lbs./Ac.), IN ACCORDANCE WITH TABLE 7-2, PAGE 7-3. LIMESTONE PULVERIZED DOLOMITIC EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDES SHALL BE APPLIED AT THE RATE OF 45 LBS./1,000 SQ. FT. (1 TON/ACRE) IN ACCORDANCE WITH TABLE 7-1, PAGE 7-2. FERTILIZER (10-20-10 OR EQUIVALENT) AT THE RATE OF 11 lbs./1,000 SQ. FT. (500 lbs./Ac.) OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN, IN ACCORDANCE WITH PARAGRAPH 2A, PAGE 7-1.
- MULCHING IS REQUIRED ON ALL SEEDING SHALL BE ACCOMPLISHED AS FOLLOWS.
  - MULCH MATERIALS SHOULD BE UNROTTED SALT HAY, HAY, OR SMALL GRAIN STRAW AT A RATE OF 1.5 TO 2.0 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1,000 SQUARE FEET. MULCH BLOWERS SHOULD NOT GRIND OR CHOP THE MATERIAL.
  - SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQUARE-FOOT SECTIONS AND DISTRIBUTE 70 TO 90 LBS. WITHIN EACH SECTION.
  - MULCH ANCHORING SHALL BE ACCOMPLISHED USING EITHER PEG AND TWINE, MULCH NETTING, MULCH-ANCHORING COURIER TOOL OR LIQUID MULCH BINDERS, PER THE ACCOMPANYING "STABILIZATION WITH MULCH ONLY" SPECIFICATION. \* OPTIMUM SEEDING DATES: 03/01 - 05/15 AND 08/15 - 10/01

### SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
- TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 100'X30'X1" PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OR PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.



NOTES:

- PLACE SILT BARRIER TO PREVENT DRIFTING OF SILT CAUSED BY DISCHARGE OF STORM SEWERS DURING CONSTRUCTION, DREDGING OR FILLING OPERATIONS.
- EXACT PLACEMENT OF SILT BARRIER SHALL BE SO AS TO EFFECTIVELY CONTROL SILT DISPERSION UNDER CONDITIONS PRESENT ON A PARTICULAR PROJECT.
- THE DETAILS SHOWN ON THIS SHEET ARE SUGGESTED METHODS ONLY ALTERNATE SOLUTION AND USAGE OF MATERIALS MAY BE USED AS APPROPRIATE.
- AT SHALLOW WATER LOCATIONS, THE PLASTIC SHEET OR SUITABLE ALTERNATE MAY BE FASTENED TO STAKES DRIVEN INTO THE BOTTOM IN LIEU OF FLOATS AND WEIGHTS.
- THE CONTRACTOR SHALL USE A TYPE II FLOATING TURBIDITY BARRIER (INTENDED FOR LOW VELOCITY WATERWAYS).

### FLOATING TURBIDITY BARRIER

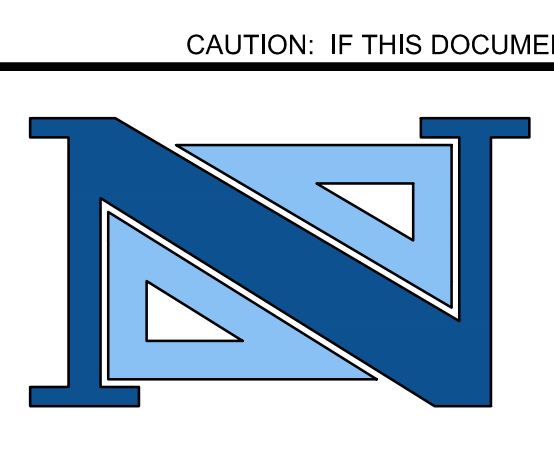
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### MORRIS COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION & SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, AND WILL BE IN PLACE PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR HAY AND TACKED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS. SEE NOTE 21 BELOW.
- PERMANENT VEGETATION IS TO BE ESTABLISHED ON EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH IS TO BE USED FOR PROTECTION UNTIL VEGETATION IS ESTABLISHED. SEE NOTE 22 BELOW.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS (STEEP SLOPES, SANDY SOILS, WET CONDITIONS) SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN ACCORDANCE WITH NOTE 21 BELOW.
- TEMPORARY DIVERSION BERMS ARE TO BE INSTALLED ON ALL CLEARED ROADWAYS AND EASEMENT AREAS. SEE THE DIVERSION DETAIL.
- PERMANENT SEEDING AND STABILIZATION TO BE IN ACCORDANCE WITH THE STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION COVER. SPECIFIED RATES AND LOCATIONS SHALL BE ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SO THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- ALL SEDIMENTATION STRUCTURES (SILT FENCE, INLET FILTERS, AND SEDIMENT BASINS) WILL BE INSPECTED AND MAINTAINED DAILY.
- STOCKPILES SHALL NOT BE LOCATED WITHIN 50' OF A FLOODPLAIN, SLOPE DRAINAGE FACILITY, OR ROADWAY. ALL STOCKPILE BASES SHALL HAVE A SILT FENCE PROPERLY ENTRENCHED AT THE TOE OF SLOPE.
- A STABILIZED CONSTRUCTION ACCESS WILL BE INSTALLED, WHENEVER AN EARTHEN ROAD INTERSECTS WITH A PAVED ROAD. SEE THE STABILIZED CONSTRUCTION ACCESS DETAIL AND CHART FOR DIMENSIONS.
- ALL NEW ROADWAYS WILL BE TREATED WITH SUITABLE SUBBASE UPON ESTABLISHMENT OF FINAL GRADE ELEVATIONS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- BEFORE DISCHARGE POINTS BECOME OPERATIONAL, ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AS REQUIRED.
- ALL DEWATERING OPERATIONS MUST BE DISCHARGED DIRECTLY INTO A SEDIMENT FILTER AREA. THE FILTER SHOULD BE COMPOSED OF A FABRIC OR APPROVED MATERIAL. SEE THE DEWATERING DETAIL.
- ALL SEDIMENT BASIN WILL BE CLEANED WHEN THE CAPACITY HAS BEEN REDUCED BY 50%. A CLEAN OUT ELEVATION WILL BE IDENTIFIED ON THE PLAN AND A MARKER INSTALLED ON THE SITE.
- DURING AND AFTER CONSTRUCTION, THE APPLICANT WILL BE RESPONSIBLE FOR THE MAINTENANCE AND UPKEEP OF THE DRAINAGE STRUCTURES, VEGETATION COVER, AND ANY OTHER MEASURES DEEMED APPROPRIATE BY THE DISTRICT. SAID RESPONSIBILITY WILL END WHEN COMPLETED WORK IS APPROVED BY THE MORRIS COUNTY SOIL CONSERVATION DISTRICT.
- ALL TREES OUTSIDE THE DISTURBANCE LIMIT INDICATED ON THE SUBJECT PLAN OR THOSE TREES WITHIN THE DISTURBANCE AREA WHICH ARE DESIGNATED TO REMAIN AFTER CONSTRUCTION ARE TO BE PROTECTED WITH TREE PROTECTION DEVICES. SEE THE TREE PROTECTION DETAIL.
- THE MORRIS COUNTY SOIL CONSERVATION DISTRICT MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE ON SITE OR OFF SITE EROSION PROBLEMS DURING CONSTRUCTION.
- THE MORRIS COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED, IN WRITING, AT LEAST 72 HOURS PRIOR TO ANY LAND DISTURBANCE, AND A PRE-CONSTRUCTION MEETING HELD.
- CONTRACTOR TO SET UP A MEETING WITH THE INSPECTOR FOR PERIODIC INSPECTIONS OF THE TEMPORARY SEDIMENT BASIN PRIOR TO AND DURING ITS CONSTRUCTION.
- TOPSOIL STOCKPILE PROTECTION
  - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS PER 1000 SQ. FT.
  - APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS. PER 1000 SQ. FT.
  - APPLY PERENNIAL RYEGRASS SEED AT 1 LB. PER 1000 SQ. FT. AND ANNUAL RYEGRASS AT 1 LB. PER 1000 SQ. FT.
  - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.
- PROPERTY ENTRENCH A SILT FENCE AT THE BOTTOM OF THE STOCKPILE.
- TEMPORARY STABILIZATION SPECIFICATIONS
  - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS PER 1000 SQ. FT.
  - APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS. PER 1000 SQ. FT.
  - APPLY PERENNIAL RYEGRASS SEED AT 1 LB. PER 1000 SQ. FT. AND ANNUAL RYEGRASS AT 1 LB. PER 1000 SQ. FT.
  - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.
- PERMANENT STABILIZATION SPECIFICATIONS
  - APPLY TOPSOIL TO A DEPTH OF 5 INCHES (UNSETTLED).
  - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS PER 1000 SQ. FT. AND WORK FOUR INCHES INTO SOIL.
  - APPLY FERTILIZER (10-20-10) AT A OF RATE 11 LBS. PER 1000 SQ. FT.
  - APPLY HARD FESCUE SEED AT 2.7 LBS. PER 1000 SQ. FT. AND CREeping RED FESCUE SEED AT 0.7 LBS PER 1000 SQ. FT. AND PERENNIAL RYEGRASS SEED AT 0.25 LBS PER 1000 SQ. FT.
  - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.

\*NOTE 72 HOURS PRIOR TO ANY SOIL DISTURBANCE, NOTICE IN WRITING, SHALL BE GIVEN TO THE MORRIS COUNTY SOIL CONSERVATION DISTRICT AND A PRE-CONSTRUCTION MEETING HELD.

REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	E.N.S.	E.N.S.	D.R.A.
1.	02/11/18	NJDOT RESUBMISSION			



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**EROSION CONTROL DETAILS**

**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT**

**BOROUGH OF NEW PROVIDENCE**

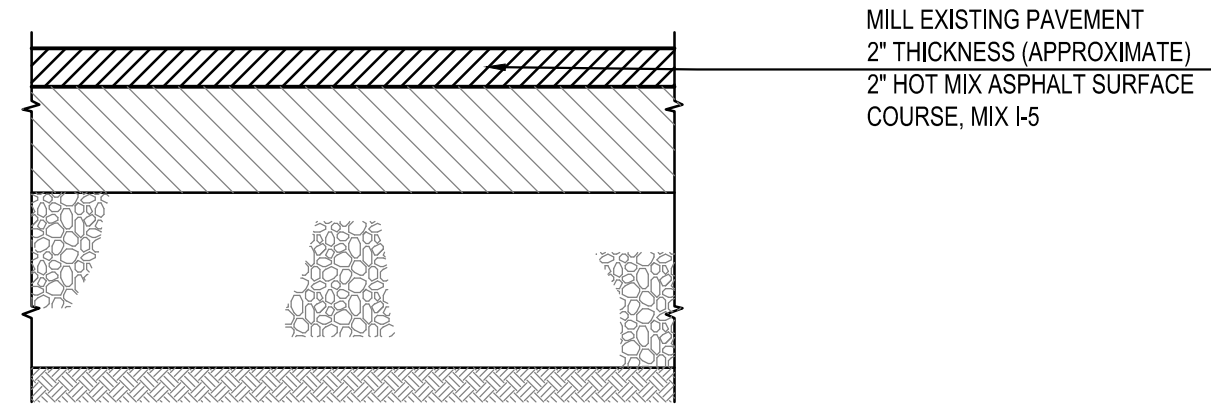
**UNION COUNTY**

**NEW JERSEY**

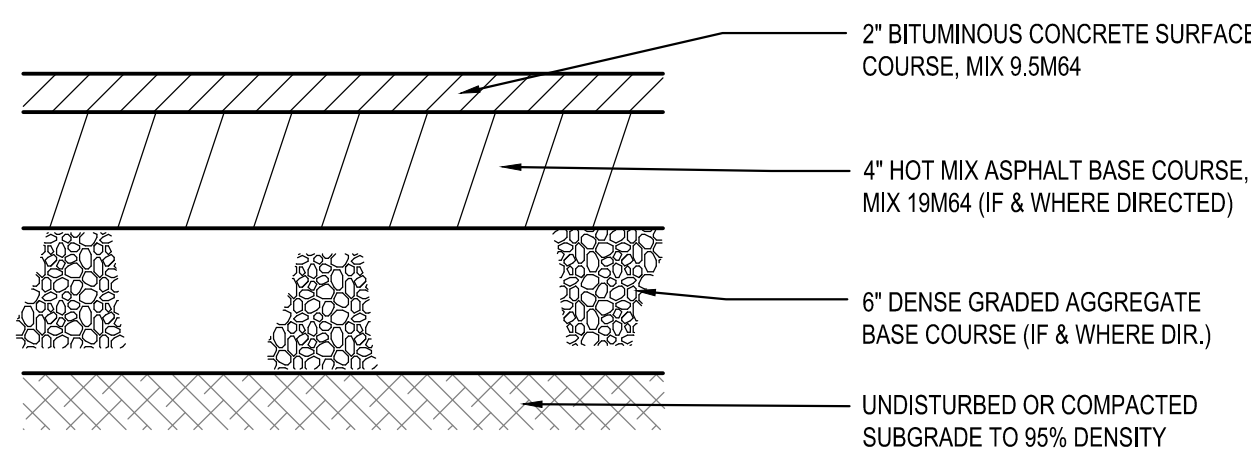
DRAWN BY: DESIGNED BY: D.R.A. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY17.013 SHEET NO: 5.00

SCALE: N.T.S. DATE: JANUARY 5, 2018

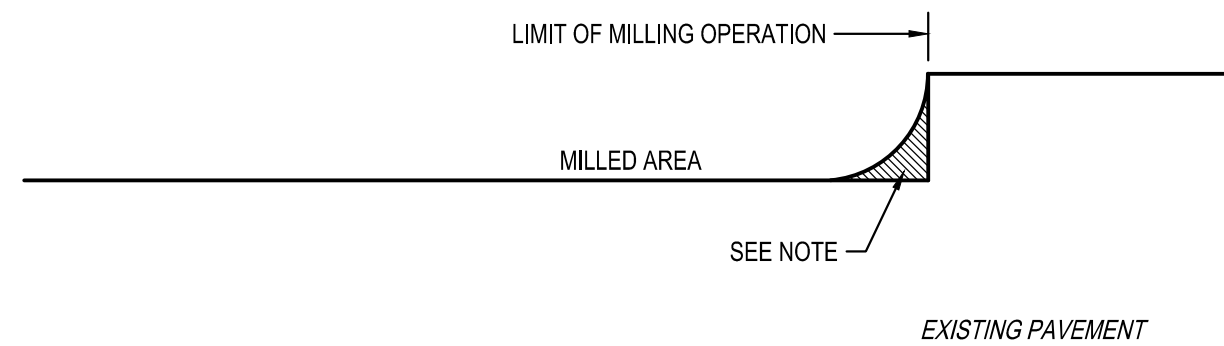
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**PAVEMENT RESURFACING SECTION**



**PAVEMENT SECTIONS**  
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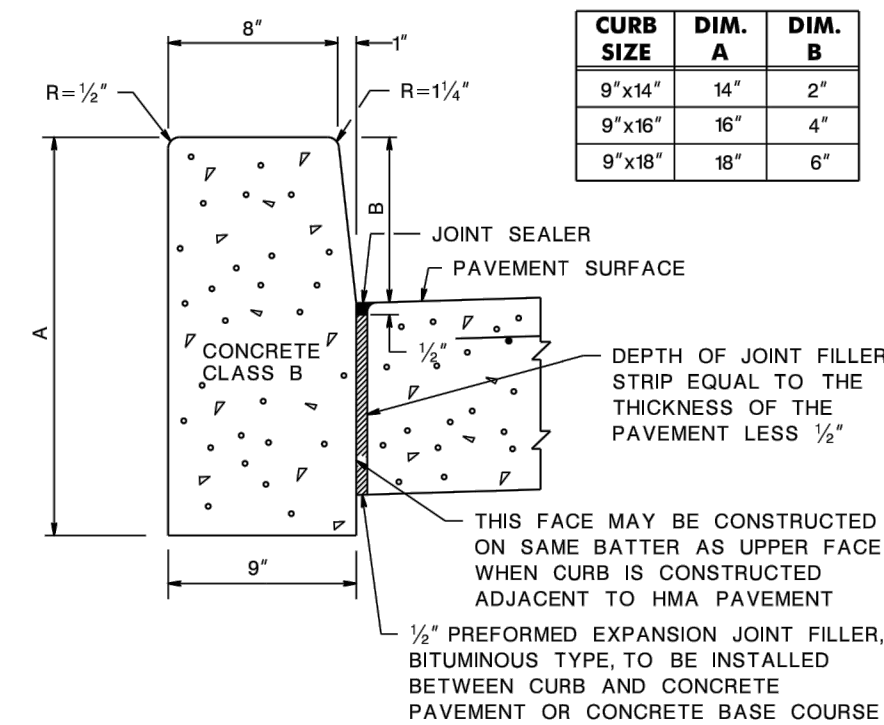


NOTE:  
REMOVE THE HMA MATERIAL LEFT BY THE DRUM RADIUS AT THE LIMITS OF THE MILLING OPERATION, ENSURE THAT THE FACE IS CLEAN AND VERTICAL BY SAWCUTTING OR TRANSVERSE MILLING. THIS END TREATMENT IS NOT APPLICABLE TO ALL AREAS WHERE THE COMPLETED MILLING OPERATION MATCHES ANY EXISTING PAVEMENT, INCLUDING BRIDGES.

CD-401-1.2

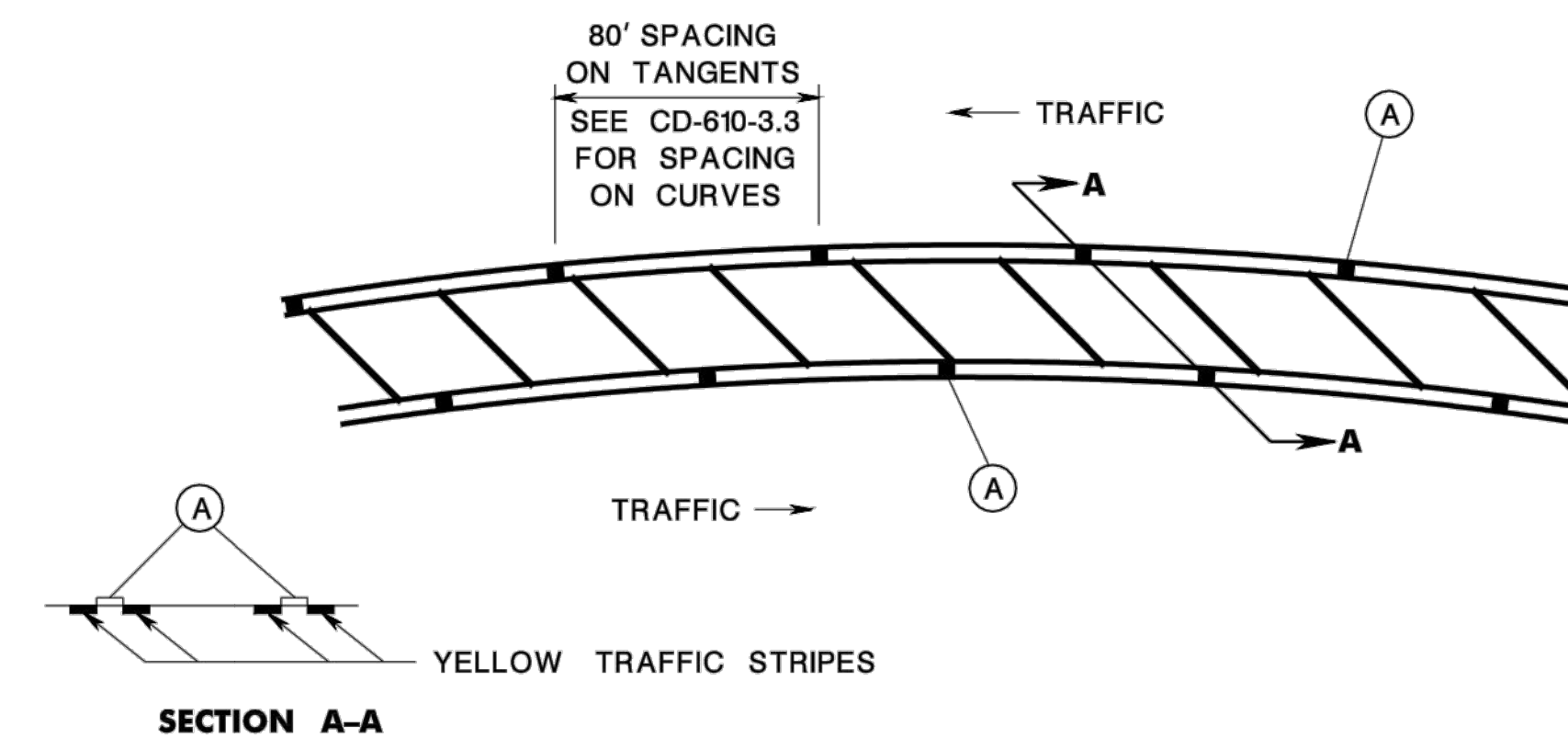
**END TREATMENT FOR MILLING OPERATION**

NOT TO SCALE



**CONCRETE VERTICAL CURB**

CD-607-1.6



**TYPICAL PAVED MEDIAN TREATMENT**

CD-610-1.4

**GENERAL NOTES FOR SIGNS:**

- DIMENSIONS, COLORS AND DETAILS OF VARIOUS SIZE SIGNS, AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGN PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
- (S) REPRESENTS A SPECIAL SIZE SIGN.
- LETTERS AND NUMERALS SHALL CONFORM TO THE CURRENT MANUAL, "STANDARD ALPHABETS FOR HIGHWAY SIGNS" U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
- THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE ENGINEER FOR THE DISTANCE TO BE USED ON THE ADVANCE WARNING SIGNS, AND FOR THE SPEED LIMIT TO BE USED ON THE R2-1 SIGN.
- DISTANCE LEGEND SIGN NUMBER FOLLOWED BY LETTER DISTANCE

**BACKING MATERIAL**

- ALUMINUM SHALL BE FLAT SHEET OF ALLOY 5052-H38 OR 6061-T6 ALLOY, 0.100" GAUGE.

**TEMPORARY SIGN SUPPORTS**

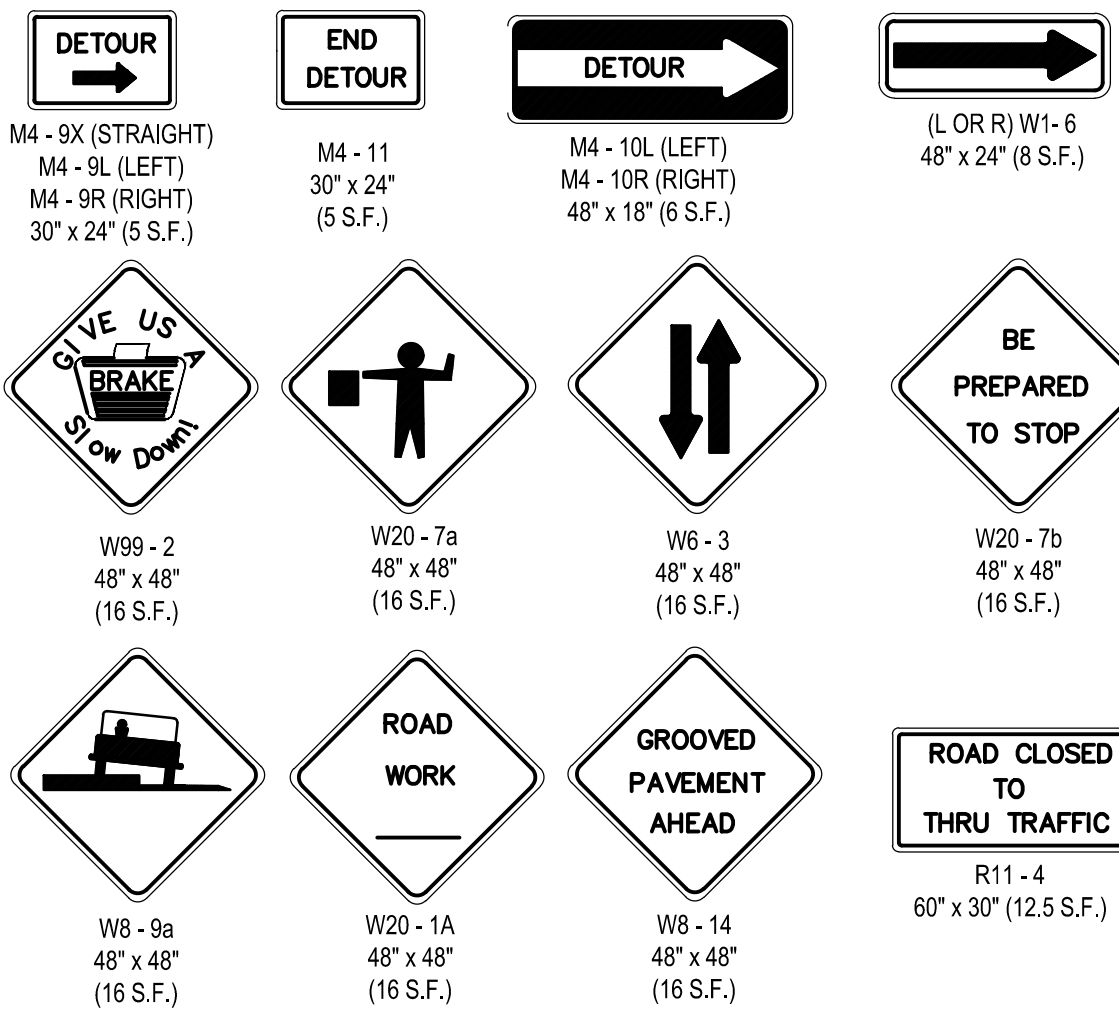
- SIGN SUPPORTS SHALL BE OF WELL SEASONED LUMBER, S4S, FREE OF SPLITS, KNOTS AND WARPS OR, OF STEEL COMPONENTS.
- WOOD POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL NOT EXCEED THE FOLLOWING DIMENSIONS FOR:  
SINGLE POST = 4" x 6"; TWO POSTS = 3" x 6" OR 4" x 5"; THREE POSTS = 3" x 5" OR 4" x 4"  
4" x 6" WOOD POSTS SHALL BE MODIFIED BY DRILLING 1 1/2" DIAMETER HOLES 4" AND 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
- NO BRACING IS PERMITTED. VERTICAL CLEARANCES FOR SIGNS MOUNTED ON WOOD SUPPORTS SHALL BE 7" MINIMUM. EMBEDMENT DEPTH FOR THE WOOD POST SHALL NOT EXCEED 3.5".
- STEEL POSTS SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL FOR U-POST SIGN SUPPORT.
- TEMPORARY SIGN SUPPORTS NOT MEETING THIS CRITERIA SHALL BE SHIELDED BY A LONGITUDINAL BARRIER OR CRASH CUSHIONS.

**SIGN FACES**

- SIGN FACES SHALL BE RETROREFLECTIVE SHEETING, TYPE II OR IIIA, EXCEPT FOR THE W20 SERIES AND W4-2 SIGN FACES WHICH SHALL BE TYPE IV-B SHEETING.

**FASTENING**

- ALL SIGNS SHALL BE SECURELY FASTENED TO THEIR SUPPORTS WITH BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH THE SPECIFICATIONS.



**CONSTRUCTION SIGNS**

NOT TO SCALE

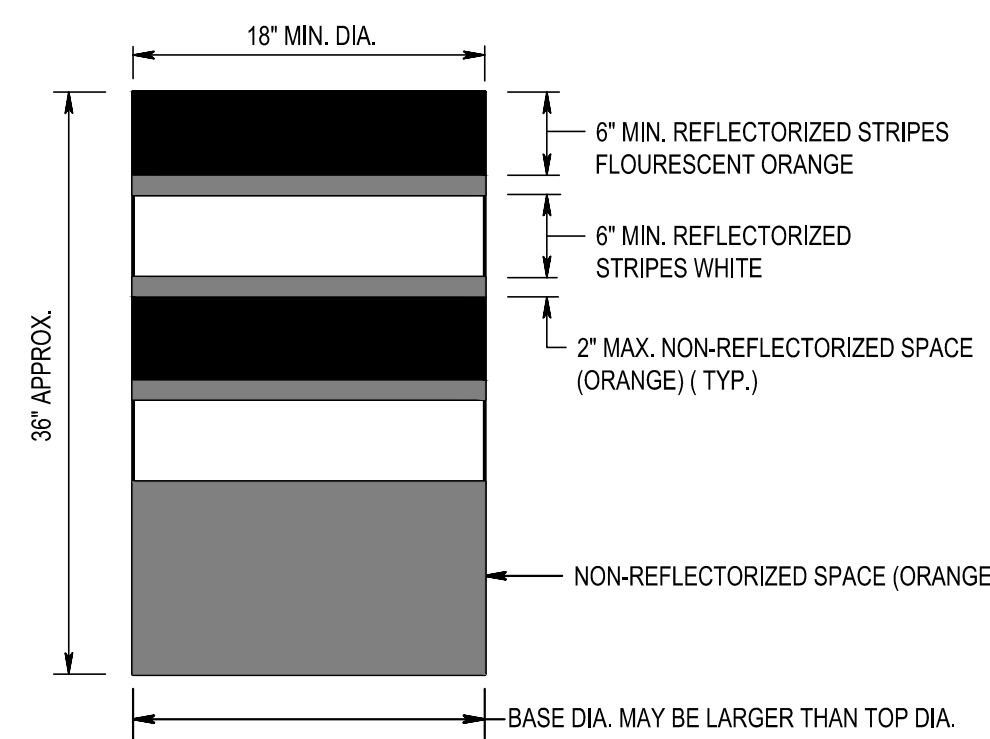
**NOTES:**

- THE 6" MIN. x 48" OR 12" MAX. x 48" BARRICADE RAILS SHALL BE FABRICATED FROM 0.125" MAX. PLASTIC SHEETING AND SHALL BE ATTACHED, 4 PER RAIL, WITH 1 INCH NO. 14 PAN HEAD METAL SCREWS OR PLASTIC RIVETS. ALL CORNERS SHALL BE ROUNDED.
- ORANGE AND SILVER (WHITE) STRIPES SHALL BE RETROREFLECTIVE SHEETING, ASTM D 4956 TYPE III, AS SHOWN FOR CONSTRUCTION SIGNS. ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.
- IF NECESSARY, THE SANDBAGS SHALL BE FABRICATED AND PLACED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
- THE FRAMING FOR BARRICADE PANELS SHALL BE NCHRP-380 CRASHED TESTED AND FHWA APPROVED.

**BREAKAWAY BARRICADES**

TYPE III BARRICADE - FRONT VIEW

NOT TO SCALE  
CD-159-1.3



**DRUMS**  
NOT TO SCALE  
CD-159-1.1

DRUMS SHALL BE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE FLUORESCENT ORANGE AND WHITE RETROREFLECTIVE STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY SHALL BE NO MORE THAN 2" WIDE. RETROREFLECTIVE SHEETING FOR STRIPES SHALL CONFORM WITH ASTM D 4956 TYPE VII OR VIII WITH S2 REQUIREMENTS.

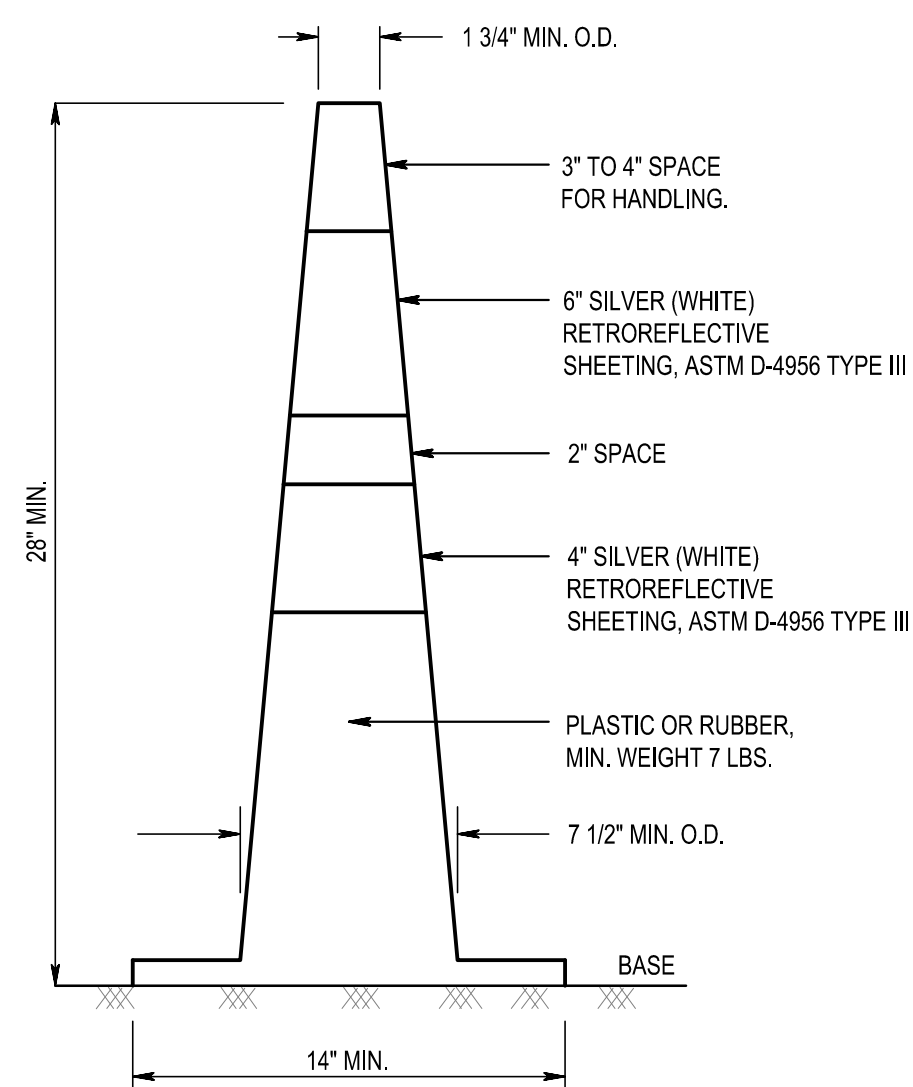
THE TOP OF THE DRUM SHALL NOT BE OPEN. DRUMS SHALL BE CONSTRUCTED TO INHIBIT ROLLING IF KNOCKED OVER.

THE REFLECTORIZED AREA OF DRUMS SHALL BE ROUND EXCEPT THAT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS AN 18 INCH DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED.

WHEN BALLAST IS REQUIRED BY THE R.E., SAND SHALL BE USED. THE MAXIMUM WEIGHT OF THE BALLAST SHALL BE 50 LBS. AND BE LOCATED APPROXIMATELY AT GROUND LEVEL. ALTERNATE TYPES OF BALLAST SHALL BE APPROVED BY THE R.E.

**GENERAL NOTES**  
MAINTENANCE AND PROTECTION OF TRAFFIC

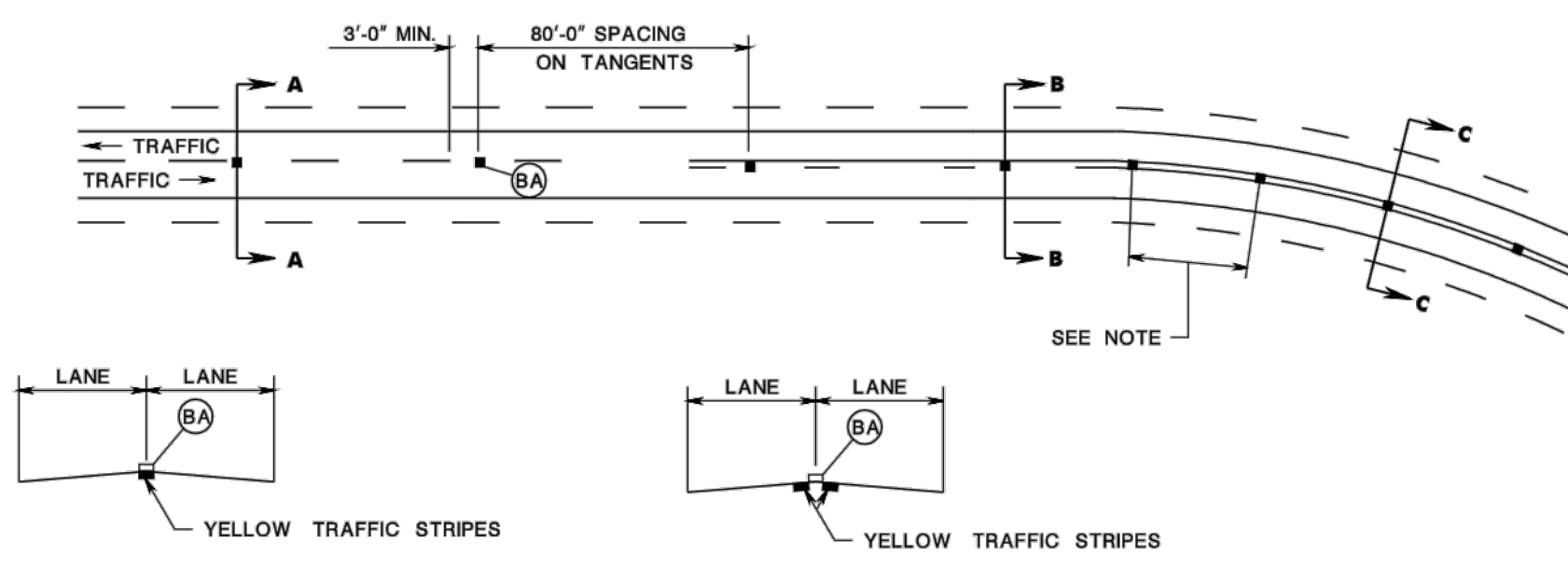
- All devices and procedures for the maintenance and protection of traffic shall be in accordance with the "Manual on Uniform Traffic Control Devices" for streets and highways. The contractor shall plan and carry out his work to provide for the convenient and safe passage of all vehicular and pedestrian traffic.
- Contractor to develop detailed maintenance and protection of traffic plan for review by the engineer prior to construction.
- The contractor shall follow the recommended traffic control procedures. If the contractor desires to change the procedure, he shall present his changes in writing to the engineer for approval. There may be utility relocations, adjustments and improvements which are necessitated by the proposed construction. The contractor shall coordinate his work with each of the utility companies located within the project limits.
- The contractor is responsible for providing maintenance and protection of traffic throughout the duration of construction. The costs for the individual devices used to maintain and protect traffic shall be included in the lump sum price bid for maintenance and protection of traffic. No separate payments will be made for relocating the devices as required, or as directed by the municipality, during the course of construction.
- The contractor will not be permitted to close down the entire street. The contractor shall provide means of access at all times for pedestrians and vehicular traffic at all private driveways and occupied buildings affected by the work of this contract. During construction, in the vicinity of a driveway, the access width at the driveway entrance shall be plainly marked by lights, barricades or other such devices approved by the municipality.
- The contractor shall maintain at least one lane of traffic at all times.
- During construction, all roads shall be properly maintained to accommodate emergency vehicles at all times.
- All barricades shall be Type III breakaway barricades.
- Fill material for escape ramps shall be on-site material. All costs for storing, placing, moving and removing fill material shall be included in the price bid for the various items in the proposal.



- NOTES:
- TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR.
  - BASES MAY BE OF BREAKAWAY BALLASTED TYPE.
  - MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.

**TRAFFIC CONES**

NOT TO SCALE  
CD-159-1.2



SECTION A-A

SECTION B-B & SECTION C-C

**TYPICAL TWO LANE SECTION**

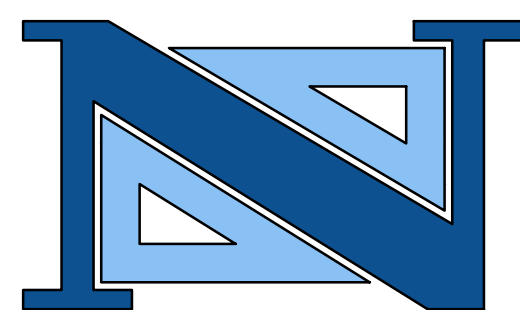
NOTE:  
FOR SPACING ON CURVES SEE CD-610-3.3

CD-610-2

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	E.N.S.	E.N.S.	D.R.A.
1.	6/21/18	NUDOT RESUBMISSION			



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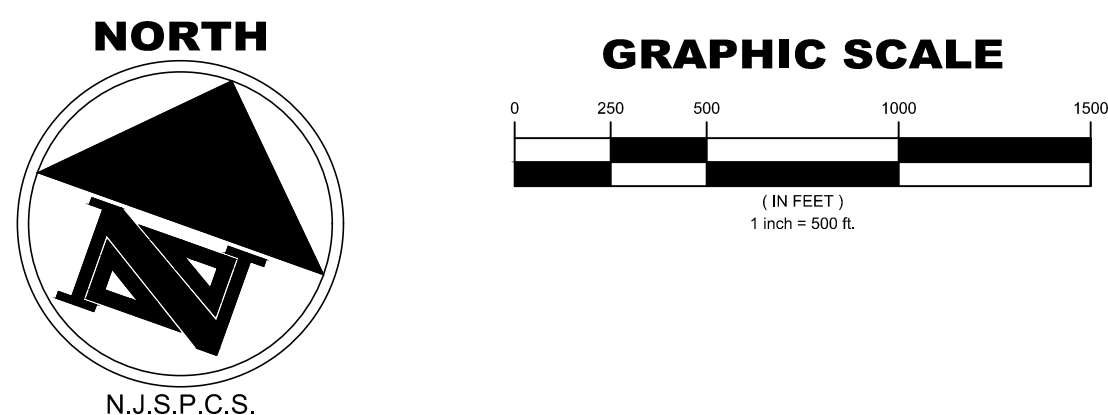
PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33LJ00569800

**CONSTRUCTION DETAILS**  
**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT**  
**BOROUGH OF NEW PROVIDENCE**  
**UNION COUNTY**  
**NEW JERSEY**

DRAWN BY: D.R.A.	CHECKED BY: D.R.A.	PROJECT NO: UNIOCTY17.013	SHEET NO: 5.01
DESIGNED BY: D.R.A.	SCALE: N.T.S.	DATE: JANUARY 5, 2018	
FIELD BOOK NO:	PAGE:		

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**DETOUR PLAN LEGEND**

DETOUR TO CENTRAL AVENUE BRIDGE (NEW PROVIDENCE TO CHATHAM)	
DETOUR TO CENTRAL AVENUE BRIDGE (CHATHAM TO NEW PROVIDENCE)	
DETOUR TO MORRIS AVENUE BRIDGE (NEW PROVIDENCE TO CHATHAM)	
DETOUR TO MORRIS AVENUE BRIDGE (CHATHAM TO NEW PROVIDENCE)	

**DETOUR**  
48" X 18"  
M4-10L  
①

**DETOUR**  
48" X 18"  
M4-10R  
②

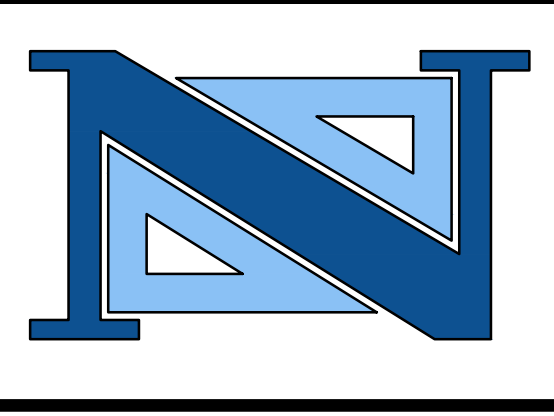
**SIGNAGE LEGEND**  
NOT TO SCALE

**GENERAL NOTES:**

- DIMENSIONS, COLORS, AND DETAILS OF VARIOUS SIZE SIGNS, SHIELDS AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGNS PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
- ALL SIGNS SHALL BE ASTM D 4956 TYPE II SHEETING.



REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION			



**DAVID R. ATKINSON,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4506

*David Atkinson*

**THOMAS R. SOLFARO,**  
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*Thomas Solfaro*

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**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604  
PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604  
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33LJ00569800

**DETOUR PLAN**  
**PASSAIC STREET BRIDGE OVER THE PASSAIC RIVER - SUPERSTRUCTURE REPLACEMENT**  
**BOROUGH OF NEW PROVIDENCE**  
**UNION COUNTY**  
**NEW JERSEY**

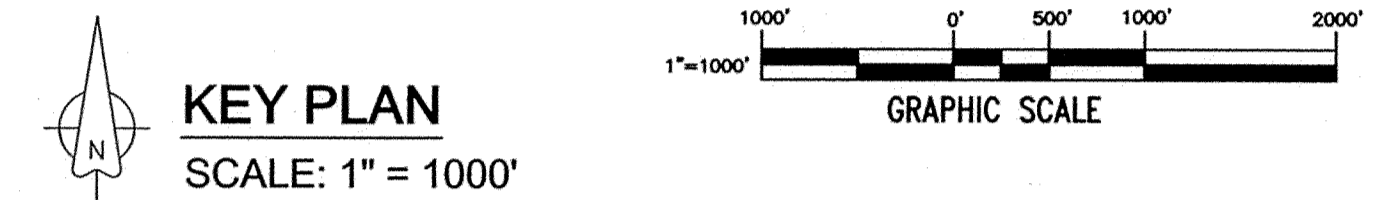
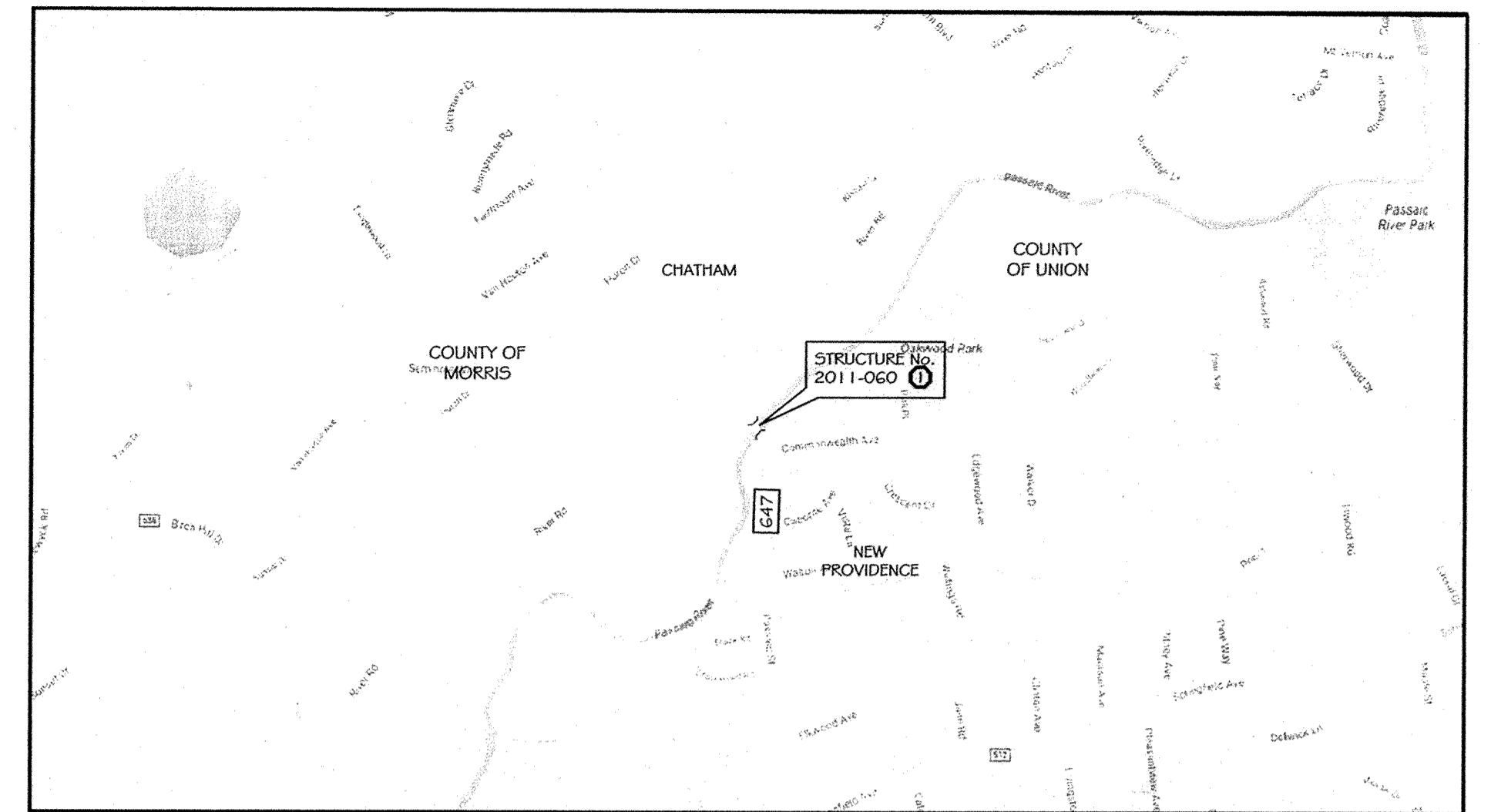
DESIGNED BY: D.R.A. SCALE: 1" = 500'  
FIELD BOOK NO.: DATE: JANUARY 5, 2018

PROJECT NO: UNIOCTY17.013  
SHEET NO: EXH. 1

m:\union county\uniocty17.013 (passaic street bridge)\load\_1.dwg (plot) (revised) 1 - detour plan.dwg Plotter: Tuesday, December 18, 2018 11:37:59 AM

# PASSAIC STREET BRIDGE SUPERSTRUCTURE REPLACEMENT COUNTY BRIDGE No. NE-60

## PASSAIC STREET BRIDGE OVER PASSAIC RIVER BOROUGH OF NEW PROVIDENCE, COUNTY OF UNION & TOWNSHIP OF CHATHAM, COUNTY OF MORRIS, NEW JERSEY



REFERENCE:  
MAP TAKEN FROM WWW.GOOGLE.COM/MAPS

**PROJECT CONTACT INFORMATION**

**PROJECT ADMINISTRATOR:**  
COUNTY OF UNION DIVISION OF ENGINEERING  
2325 SOUTH AVENUE  
SCOTCH PLAINS, NJ 07076

**CIVIL ENGINEER / PROJECT MANAGER:**  
NEGLIA ENGINEERING ASSOCIATES  
34 PARK AVENUE  
LYNDHURST, NJ 07071  
DAVID ATKINSON, P.E.  
PROJECT MANAGER  
201-939-8805

**STRUCTURAL ENGINEER:**  
DONLY ENGINEERING GROUP, INC.  
769 CHESTNUT STREET  
NEW MILFORD, NJ 07646  
MICHAEL DONLY, P.E.  
STRUCTURAL PROJECT MANAGER  
201-655-7230

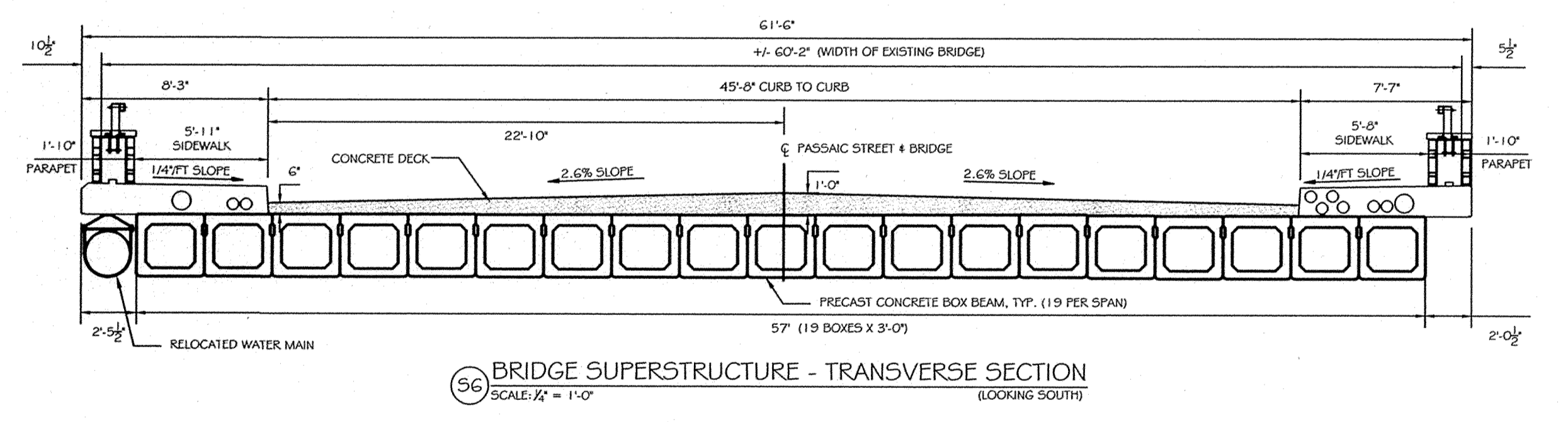
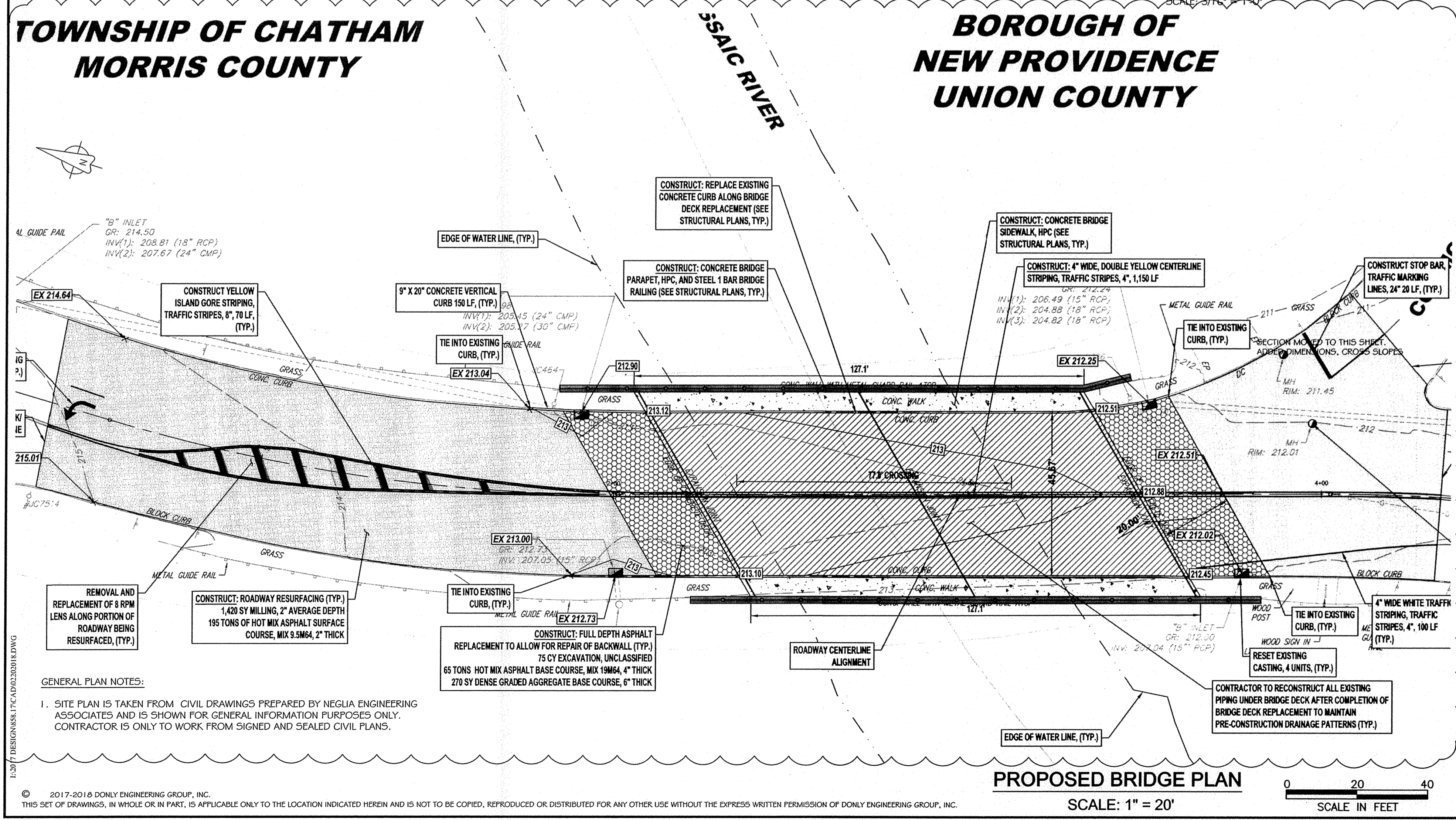
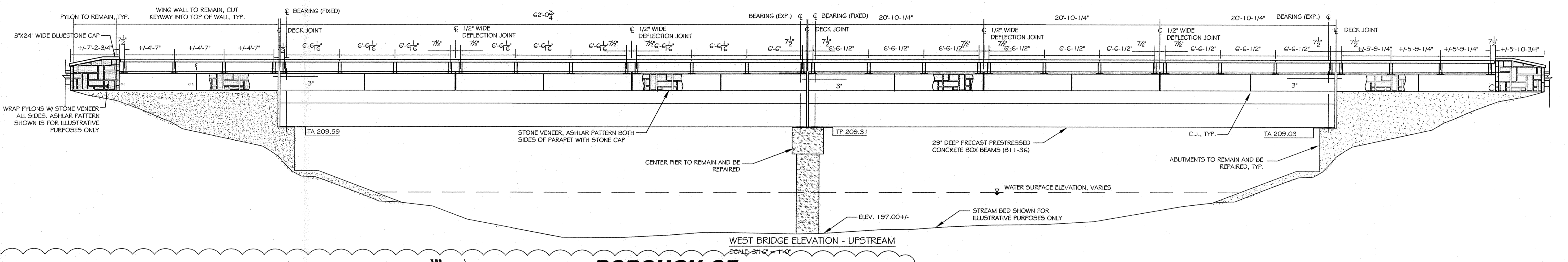
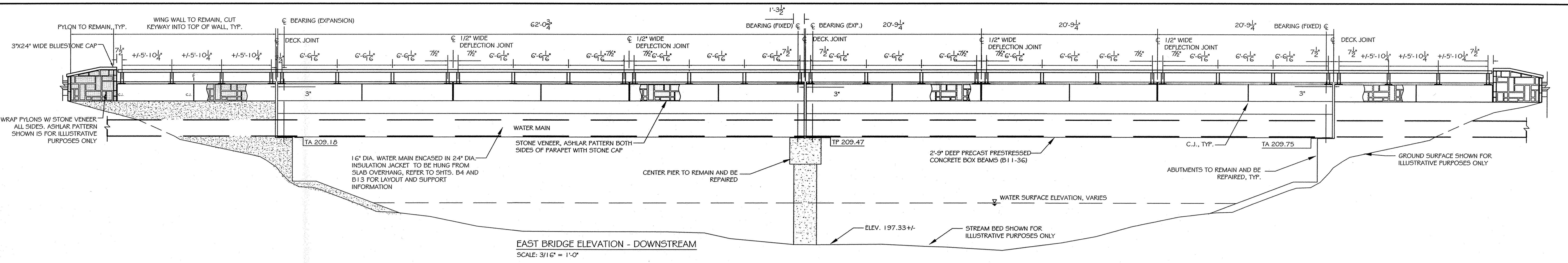


DRAWING LIST	
SHEET No.	DESCRIPTION
KEY	KEY PLAN
B0	BRIDGE PLAN, ELEVATION AND SECTIONS
B1	ESTIMATE OF QUANTITIES
B2	DEMOLITION PLAN No. 1
B3	DEMOLITION PLAN No. 2
B4	SUPERSTRUCTURE REPLACEMENT PLAN No. 1
B5	SUPERSTRUCTURE REPLACEMENT PLAN No. 2
B6	SUPERSTRUCTURE REPLACEMENT PLAN No. 3
B7	SUPERSTRUCTURE REPLACEMENT PLAN No. 4
B8	PARAPET AND RAILING DETAILS No. 1
B9	PARAPET AND RAILING DETAILS No. 2
B10	PARAPET AND GUIDE RAIL CONNECTION DETAILS
B11	SUBSTRUCTURE REPAIR PLAN
B12	SUBSTRUCTURE REPAIR DETAILS
B13	WATER MAIN SUPPORT PLAN

STRUCTURES IN THIS CONTRACT		
MARK	STRUCTURE No.	DESCRIPTION
①	2011-060	BRIDGE: ROUTE 647 OVER PASSAIC RIVER

STRUCTURAL DESIGN BY DONLY ENGINEERING GROUP, INC. CERT OF AUTH. 246A28083900		NEW JERSEY DEPARTMENT OF TRANSPORTATION BUREAU OF STRUCTURAL ENGINEERING	
12/19/2018 ISSUED FOR BIDDING MTD MTD 5/31/2018 REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS JER MTD 3/12/2018 ISSUED FOR NJDOT REVIEW JER MTD 2/20/2018 ISSUED FOR COUNTY REVIEW JER MTD 10/31/2017 PRELIMINARY PLANS JER MTD		KEY PLAN PASSAIC STREET (COUNTY ROAD 647) OVER PASSAIC RIVER COUNTY BRIDGE No. NE-60	
REV. DATE REVISION DESCRIPTION DRAWN BY CHECKED BY		A PROJECT OF NEGLIA ENGINEERING ASSOCIATES CERT. OF AUTH. No. GA276890	
MICHAEL T. DONLY, P.E. N.J.P.E. No. GE44224		BRIDGE SHEET No. KEY OF B13	

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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
1	12/19/2018	ISSUED FOR BIDDING, REPLACED "PROPOSED BRIDGE PLAN" WITH UPDATED CIVIL DRAWING	MTD	MTD
2	5/31/2018	SHEET ADDED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD

STRUCTURAL DESIGN BY  
**DONLY ENGINEERING GROUP, INC.**  
 CERT OF AUTH. 24GA28083900

STATE OF NEW JERSEY  
 PROFESSIONAL ENGINEERING  
 No. GE44224  
 MICHAEL J. DONLY, P.E.  
 N.J.P.E. No. GE44224

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
 BUREAU OF STRUCTURAL ENGINEERING

**BRIDGE PLAN, ELEVATIONS AND SECTION**

PASSAIC STREET (COUNTY ROAD 647)  
 OVER PASSAIC RIVER  
 COUNTY BRIDGE No. NE-60

A PROJECT OF  
**NEGLIA ENGINEERING ASSOCIATES**  
 CERT. OF AUTH. No. GA276890

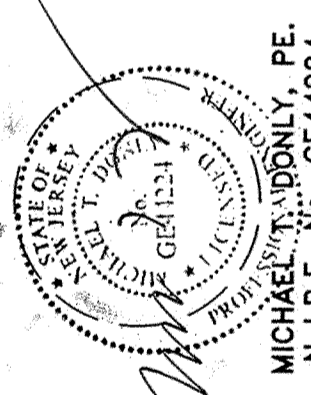
BRIDGE SHEET No.  
 BO OF B13

ITEM No.	DESCRIPTION	UNIT	CONTRACT QUANTITY	AS-BUILT QUANTITY	ITEM No.	DESCRIPTION	UNIT	CONTRACT QUANTITY	AS-BUILT QUANTITY
153009P	BAR CHART PROGRESS SCHEDULE AND UPDATES	LS	1						
154003P	MOBILIZATION	LS	1						
157004M	CONSTRUCTION LAYOUT	LS	1						
158003M	CAUTION FENCE	LF	350						
158006M	SILT FENCE	LF	150						
158030M	INLET FILTER TYPE 2, 2' X 4'	UNIT	4						
158045M	FLOATING TURBIDITY BARRIER, TYPE 2	LF	460						
158060M	CONSTRUCTION DRIVEWAY	TON	155						
158063P	CONCRETE WASHOUT SYSTEM	LS	1						
159012M	CONSTRUCTION SIGNS	SF	5,400						
159021P	CONSTRUCTION BARRIER CURB	LF	90						
159026P	CONSTRUCTION BARRIER CURB REMOVAL	LF	90						
MMB133M	POLICE TRAFFIC DIRECTORS	LS	1						
159030M	PORTABLE VARIABLE MESSAGE SIGN	UNIT	6						
161003P	FINAL CLEANUP	LS	1						
201003P	CLEARING SITE	LS	1						
201006P	CLEARING SITE, BRIDGE ( BRIDGE NO. NE-60)	LS	1						
201039P	TEMPORARY SHIELDING	LS	1						
202006M	EXCAVATION, TEST PITS	CY	12						
202009P	EXCAVATION, UNCLASSIFIED	CY	75						
202021P	REMOVAL OF PAVEMENT	SY	21						
302036P	DENSE-GRADED AGGREGATE BASE COURSE, 6" THICK	SY	1,250						
401009P	HMA MILLING, 3" OR LESS	SY	1,420						
401023P	INTELLIGENT COMPACTION	LS	1						
401042M	HOT MIX ASPHALT, MIX 9.5M64, SURFACE COURSE, 2" THICK	TON	195						
610003M	HOT MIX ASPHALT, MIX 19M64, BASE COURSE, 4" THICK	TON	65						
405024M	CORE SAMPLES, CONCRETE	UNIT	20						
504006P	REINFORCEMENT STEEL, EPOXY COATED	LB	48,000						
504064P	STONE VENEER	SY	220						
505018P	PRESTRESSED CONCRETE BOX BEAM, ( TYPE BII-36) , 36" X 33"	LF	2,356						
507015P	STRIP SEAL EXPANSION JOINT ASSEMBLY	LF	216						
507024P	CONCRETE BRIDGE DECK, HPC	CY	167						
507027M	DATE PANEL	UNIT	2						
507033P	CONCRETE BRIDGE SIDEWALK, HPC	CY	92						
507039P	CONCRETE BRIDGE PARAPET, HPC	LF	320						
507082P	STEEL 1 BAR BRIDGE RAILING	LF	320						
552003M	PRESSURE INJECTION, CONCRETE CRACKS	LF	20						
555003M	SUBSTRUCTURE CONCRETE REPAIR	SF	88						
556012P	PRESSURE WASHING OF SUBSTRUCTURE	LS	1						
602099M	RESET EXISTING CASTING	UNIT	4						
607024P	9" X 20" CONCRETE VERTICAL CURB	LF	150						
609003M	BEAM GUIDE RAIL ( IF & WHERE DIRECTED)	LF	40						
401096M	TRAFFIC STRIPES, 4"	LF	1,250						
610007M	TRAFFIC STRIPES, 8"	LF	70						
610017M	TRAFFIC MARKINGS LINES, 24"	LF	20						
610027M	REMOVAL & REPLACEMENT OF RPM LENS	UNIT	8						
610060M	TRAFFIC MARKINGS SYMBOLS	SF	20						
652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	UNIT	2						
802024M	TREE REMOVAL, OVER 12" TO 18" DIAMETER	UNIT	1						
804006P	TOPSOILING, 4" THICK	SY	500						
806003P	FERTILIZING AND SEEDING, TYPE A	SY	500						
809003M	STRAW MULCHING	SY	500						
MMD024M	REPLACE PIPE	LF	125						

ESTIMATE OF QUANTITIES


DATE	REV.	DESCRIPTION	BY	CHECKED
12/19/2016	1	ISSUED FOR BID, REVISED WITH UPDATED CIVIL PAY ITEMS	MTD	MTD
05/11/2016	2	REVISION FOR COUNTY, HONOLULU COMMENTS	JER	MTD
01/22/2016	3	ISSUED FOR NDOT REVIEW	JER	MTD
03/22/2016	4	ISSUED FOR COUNTY REVIEW	JER	MTD
10/31/2017	5	PRELIMINARY PLANS	JER	MTD
		REVISION DESCRIPTION	BY	CHECKED

STRUCTURAL DESIGN BY  
 DONLY ENGINEERING GROUP, INC.  
 CERT. OF AUTH. 24GA28055900

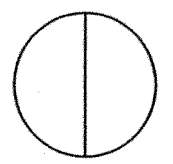


MICHAEL J. DONLY, P.E.  
 N.J.P.E. No. GE444224

A PROJECT OF  
 NEGLIA ENGINEERING ASSOCIATES  
 CERT. OF AUTH. No. GA276890

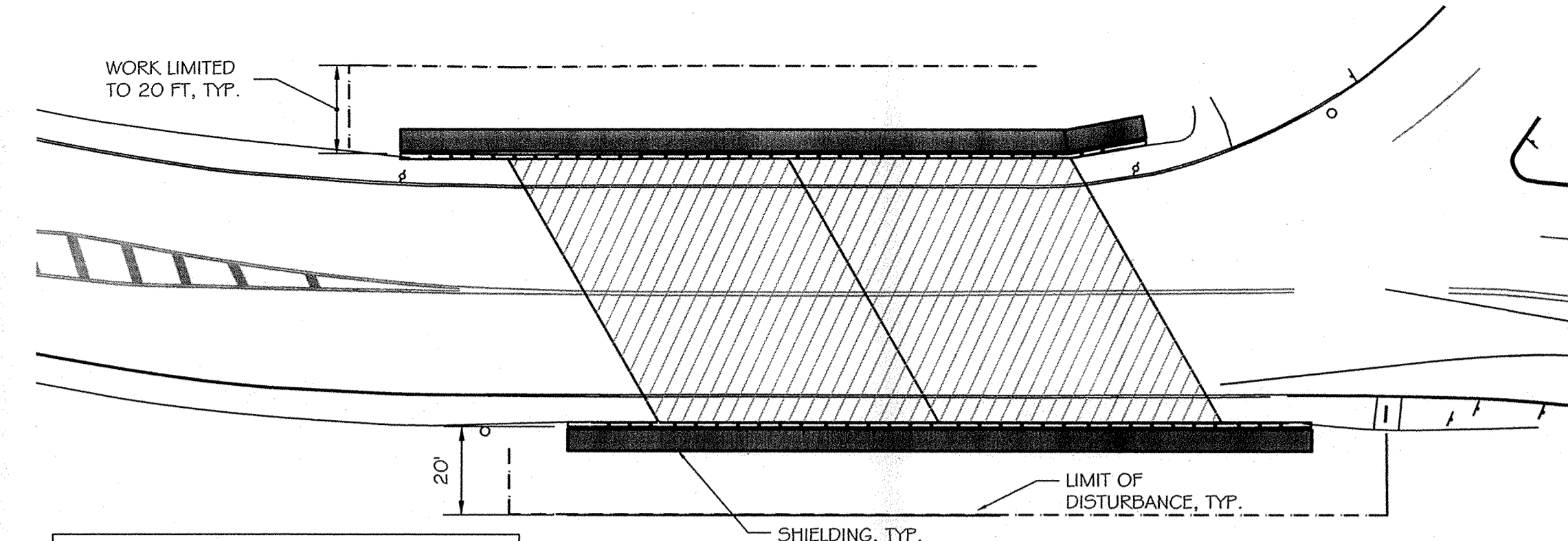


COUNTY BRIDGE No. NE-60  
 SHEET No. B1 OF B13

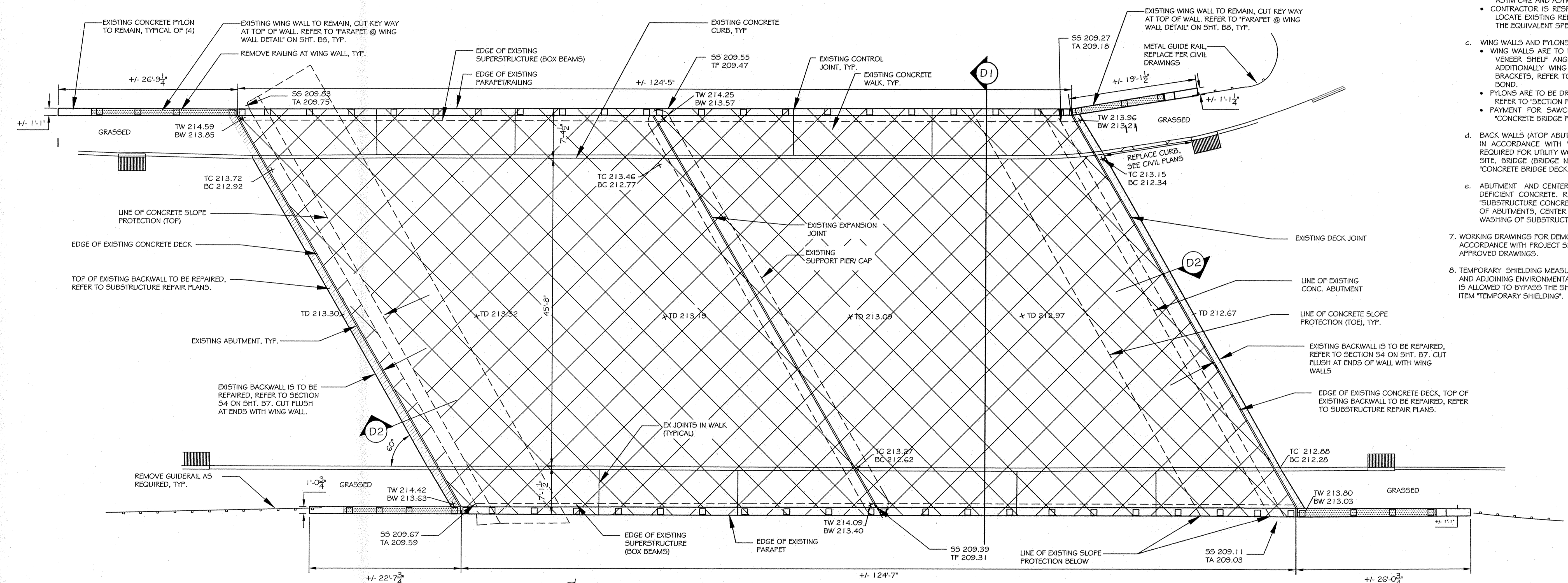


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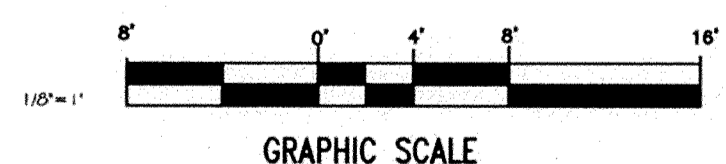




**WORK AREA SCHEMATIC**  
SCALE: 1" = 30'



**BRIDGE SUPERSTRUCTURE - CLEARING PLAN**  
SCALE: 1/8" = 1'-0"



**DEMOLITION NOTES:**

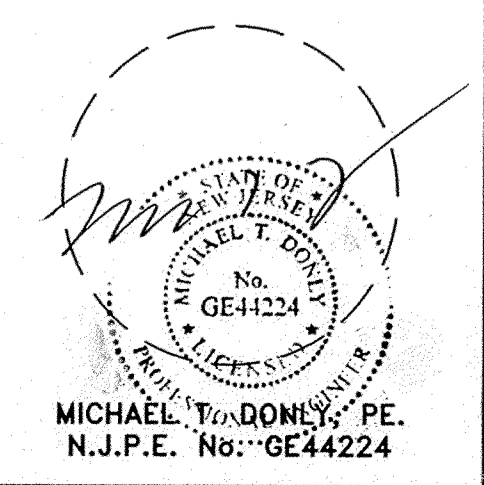
- REFER TO CIVIL DRAWINGS PREPARED BY NEGLIA ENGINEERING ASSOCIATES FOR FURTHER REQUIREMENTS INCLUDING BUT NOT LIMITED TO: LIMITS OF DISTURBANCE, EXISTING UTILITIES AND HIGH TENSION OVERHEAD LINES AND TOWERS, TRAFFIC CONTROL, NJDEP REQUIREMENTS AND SCOPE OF ROAD & UTILITY WORK IN CONNECTION WITH BRIDGE SUPERSTRUCTURE REPLACEMENT.
- UTILITIES SHOWN ON THE CONTRACT DRAWINGS ARE TAKEN FROM ORIGINAL BRIDGE DRAWINGS. THIS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF CONFIRMING ALL UTILITY LOCATIONS AFFECTING HIS WORK PRIOR TO THE START OF CONSTRUCTION. THE COST FOR TEST PITS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS OF THE PROJECT. UTILITIES SHALL BE PROTECTED THROUGHOUT THE PROJECT FROM START TO FINISH.
- UTILITY SERVICE FLOWS AND PRESSURES SHALL BE MAINTAINED AT ALL TIMES UNLESS SPECIFIC WRITTEN PERMISSION IS RECEIVED BY CONTRACTOR. SEPARATE PAYMENT WILL NOT BE MADE FOR UTILITY REMOVAL, TEMPORARY SUPPORT AND/OR COORDINATION WITH UTILITIES. ALL COSTS SHALL BE INCLUDED IN THE PAY ITEM "CLEARING OF SITE, BRIDGE (BRIDGE NO. NE 60)".
- ELEVATIONS ARE REFERENCED TO A DRAWING ENTITLED "TOPOGRAPHIC SURVEY" AS PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
- THE INFORMATION PRESENTED HEREON IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT GUARANTEED TO BE CORRECT. BIDDERS SHALL VISIT THE SITE BEFORE SUBMITTING BIDS TO ASCERTAIN THE EXTENT OF WORK AND SITE CONDITIONS AFFECTING WORK.
- DEMOLITION AND RELATED ACTIVITIES ARE LIMITED TO THE FOLLOWING SCOPE OF WORK:
  - CLEARING OF THE EXISTING SUPERSTRUCTURE INCLUDING DECK SLAB, SIDEWALK SLAB, BOX BEAMS AND RAILINGS. UPON REMOVAL OF BOX BEAMS, ANCHOR RODS ARE TO BE REMOVED BY CORE DRILLING. PAYMENT FOR THE DEMOLITION AND DISPOSAL OF THE EXISTING BRIDGE ITEMS SHALL BE INCLUDED IN THE PAY ITEM "CLEARING OF SITE, BRIDGE (BRIDGE NO. NE 60)".
  - ABUTMENTS AND CENTER PIER SHALL BE CORE DRILLED ALONG BEARING LINES UPON REMOVAL OF EXISTING BOX BEAMS FOR SAMPLING AND TESTING OF THE CONCRETE AS LISTED BELOW. REFER TO "CONCRETE SAMPLING DETAIL" ON SHT. B3.
    - FIVE (5) SAMPLES FROM NORTH ABUTMENT: (10) COMPRESSION & (5) CHLORIDE TESTS
    - FIVE (5) SAMPLES FROM SOUTH ABUTMENT: (10) COMPRESSION & (5) CHLORIDE TESTS
    - FIVE (5) SAMPLES FROM CENTER PIER: (10) COMPRESSION & (5) CHLORIDE TESTS
    - PAYMENT FOR CORE DRILLING, SAMPLE SHIPPING/HANDLING AND TESTING SHALL BE INCLUDED IN THE PAY ITEM "CORE SAMPLES, CONCRETE". SAMPLING AND COMPRESSION TESTING PER ACI 214.4R, ASTM C42 AND ASTM C823, CHLORIDE TESTING PER ASTM D512-04.
    - CONTRACTOR IS RESPONSIBLE TO HIRE AND DIRECT A GROUND PENETRATING RADAR COMPANY TO LOCATE EXISTING REBAR AS NEEDED TO AVOID WITH CORE DRILL. PROVIDE REPORT WITH VALUE OF THE EQUIVALENT SPECIFIED CONCRETE STRENGTH FOR EACH ABUTMENT/PIER.
  - WING WALLS AND PYLONS ARE TO REMAIN WITH MODIFICATIONS AS FOLLOWS:
    - WING WALLS ARE TO BE SAW CUT FOR KEYWAY AND DRILLED FOR EPOXY DOVEL BARS AND STONE VENEER SHELF ANGLE ATTACHMENT. REFER TO "PARAPET AT WING WALL DETAIL" ON SHT. B6. ADDITIONALLY WING WALLS ARE TO BE DRILLED FOR ATTACHMENT OF WATER MAIN SUPPORT BRACKETS. REFER TO SHT. B13. TOP OF WING WALLS ARE TO BE BLAST CLEANED FOR CONCRETE BOND.
    - PYLONS ARE TO BE DRILLED FOR EPOXY DOVEL BARS AND STONE VENEER SHELF ANGLE ATTACHMENT. REFER TO "SECTION P2" ON SHT. B9 AND "PYLON RETROFIT DETAIL" ON SHT. B10.
    - PAYMENT FOR SAWCUTTING, DRILLING AND BLAST CLEANING SHALL BE INCLUDED IN PAY ITEM "CONCRETE BRIDGE PARAPET, SIDEWALK AND CURB, HPC".
  - BACK WALLS (AT ABUTMENTS BEHIND BOX BEAMS) ARE TO BE PARTIALLY DEMOLISHED AND RE-BUILT IN ACCORDANCE WITH "SECTION S4" ON SHT. B7. BACKWALL MODIFICATIONS AND PATCHING AS REQUIRED FOR UTILITY WORK. PAYMENT FOR DEMOLITION SHALL BE INCLUDED IN PAY ITEM "CLEARING OF SITE, BRIDGE (BRIDGE NO. NE 60)". PAYMENT FOR CONCRETE SHALL BE INCLUDED IN THE PAY ITEM "CONCRETE BRIDGE DECK, HPC".
  - ABUTMENT AND CENTER PIER CONCRETE SURFACE REPAIR INVOLVES SAWCUTTING AND REMOVAL OF DEFICIENT CONCRETE. REFER TO SHTS. B11 AND B12. PAYMENT SHALL BE INCLUDED IN PAY ITEM "SUBSTRUCTURE CONCRETE REPAIR". WORK INCLUDES THE POWERWASHING OF ALL EXPOSED SURFACES OF ABUTMENTS, CENTER PIER AND WING WALLS. PAYMENT SHALL BE INCLUDED IN PAY ITEM "PRESSURE WASHING OF SUBSTRUCTURE".
- WORKING DRAWINGS FOR DEMOLITION SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS. THE MEANS AND METHODS OF WORK SHALL FOLLOW THE APPROVED DRAWINGS.
- TEMPORARY SHIELDING MEASURES SHALL BE DEPLOYED AND MAINTAINED TO PROTECT THE PASSAIC RIVER AND ADJOINING ENVIRONMENTALLY SENSITIVE AREAS FROM FALLING OR FLYING DEBRIS. ANY MATERIAL WHICH IS ALLOWED TO BYPASS THE SHIELDING SHALL BE REMOVED AT ONCE. PAYMENT SHALL BE INCLUDED IN PAY ITEM "TEMPORARY SHIELDING".

LEGEND	
EL.	ELEVATION
PROP.	PROPOSED
X 102.4	EXISTING SPOT ELEVATION
TC	TOP OF CURB
BC	BOTTOM OF CURB
TD	TOP OF DECK
TW	TOP OF WALL
BW	BOTTOM OF WALL
SS	BOTTOM OF SUPERSTRUCTURE
TA	TOP OF ABUTMENT
TP	TOP OF PIER
INV.	INVERT
[Cross-hatched box]	AREA OF REMOVAL
[Diagonal lines box]	BACK WALL REPAIR
[Dotted box]	WING WALL MODIFICATION

SUMMARY OF QUANTITIES - FOR INFORMATION PURPOSES ONLY				
ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
201006P	CLEARING OF ALUMINUM RAILINGS - 3 RAIL	LF	260	
201006P	CLEARING OF CONCRETE BRIDGE DECK	CY	117	
201006P	CLEARING OF CONCRETE CURB, WALK & PARAPET	CY	98	
201006P	CLEARING OF CONCRETE BOX BEAMS, TYPE BII-36 .36"X33"	LF	2,356	
609075M	REMOVAL OF GUIDE RAIL	LF	40	
405024M	CORE SAMPLE, CONCRETE	UNIT	20	

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
1	12/19/2016	ISSUED FOR BID, REVISED WITH UPDATED CIVIL ITEM	MTD	MTD
2	5/31/2016	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
3	3/12/2016	ISSUED FOR NJDOT REVIEW	JER	MTD
4	2/20/2016	ISSUED FOR COUNTY REVIEW	JER	MTD
5	10/31/2017	PRELIMINARY PLANS	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 246A28083900



NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

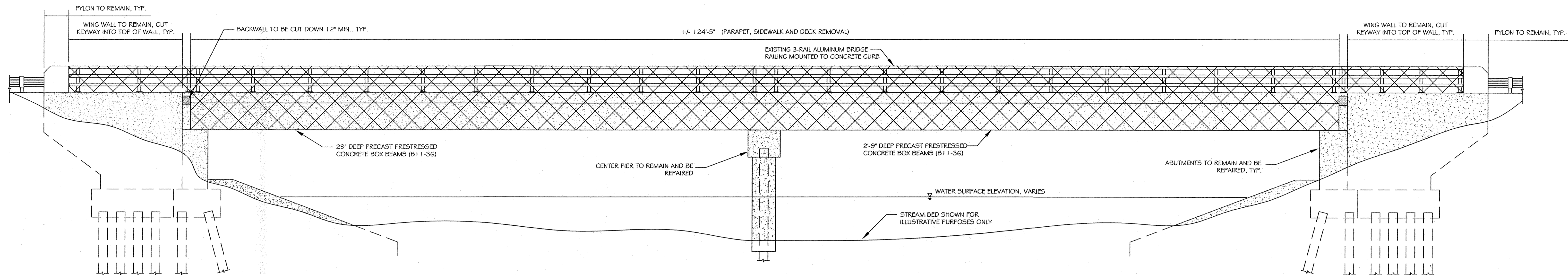
**DEMOLITION PLAN NO.1**

PASSAIC STREET ( COUNTY ROAD 647 )  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

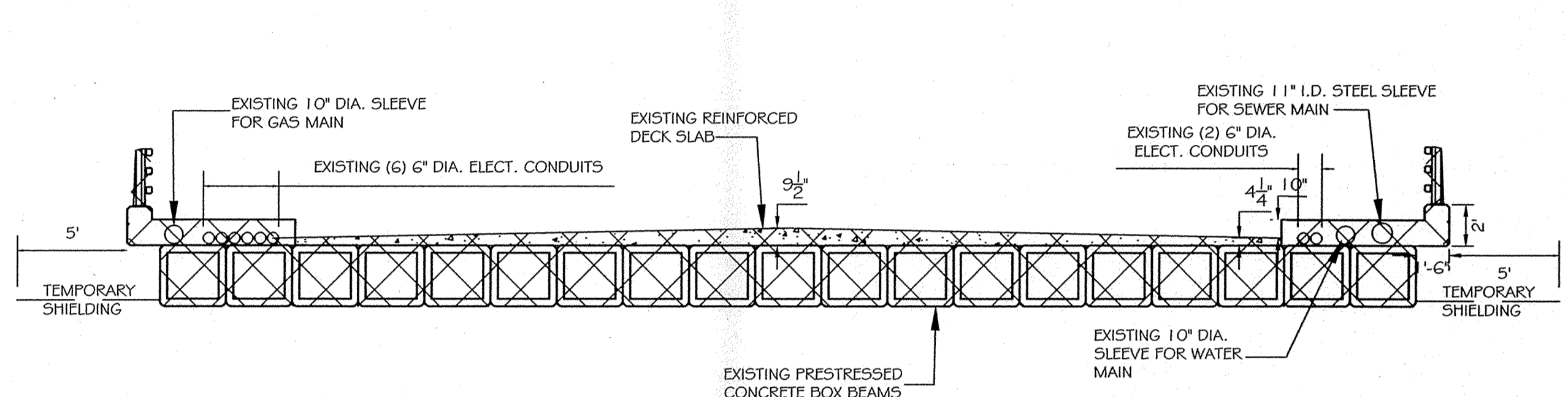
BRIDGE SHEET No. B2 OF B13

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**BRIDGE ELEVATION (EAST)**

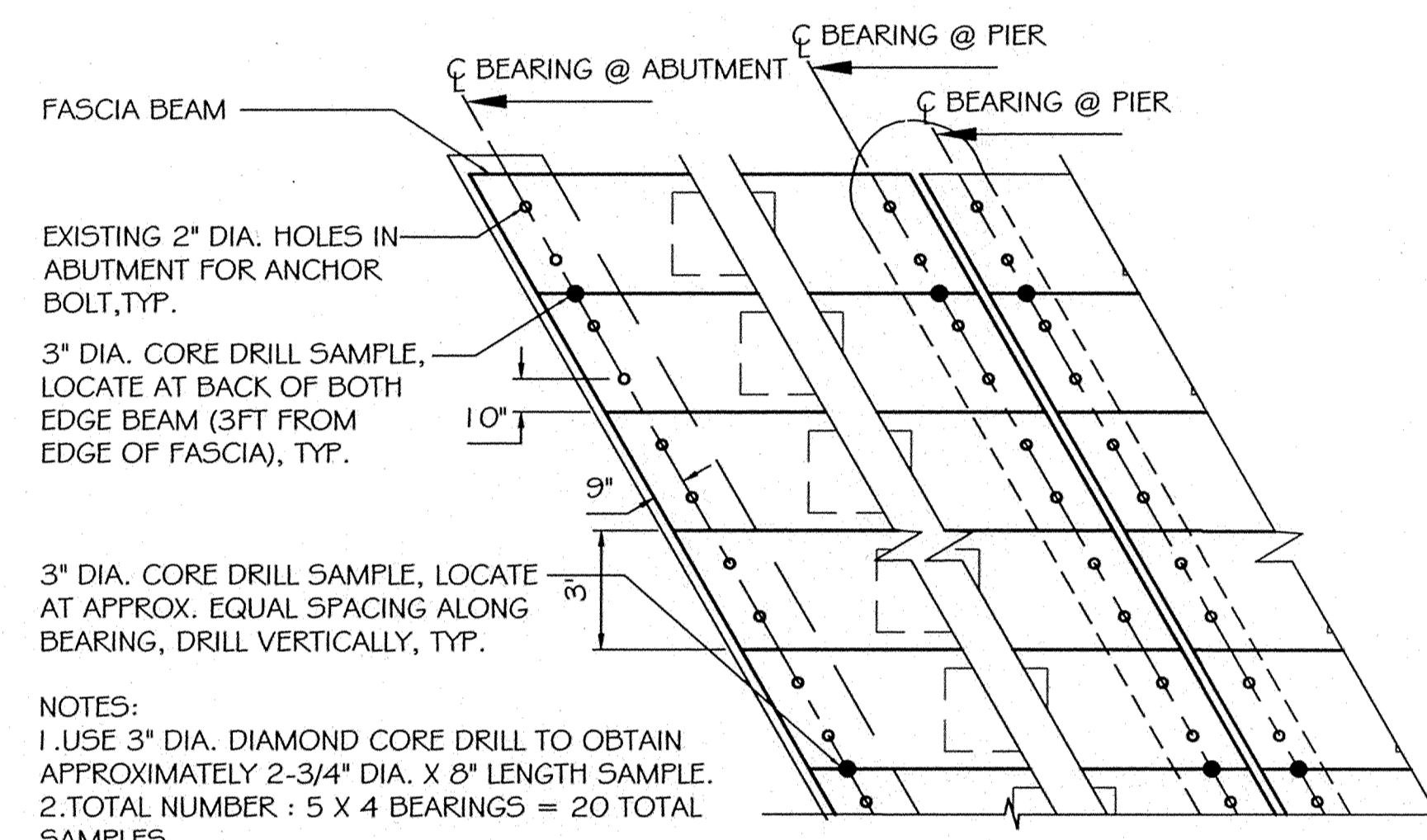
SCALE: 3/8" = 1'-0"



**D1 SECTION**

SCALE: 3/8" = 1'-0"

- NOTES:**
- EXISTING UTILITY SLEEVE LOCATION AND DATA IS TAKEN FROM AN PLAN ENTITLED 'AS BUILT - JUNE 1976' AND IS PROVIDED FOR INFORMATION PURPOSES ONLY. CONTRACTOR IS REQUIRED TO MARK-OUT AND LOCATE ALL UTILITIES WITHIN WORK AREA.
  - ALL UTILITY LOCATIONS NOTED ARE APPROXIMATE.



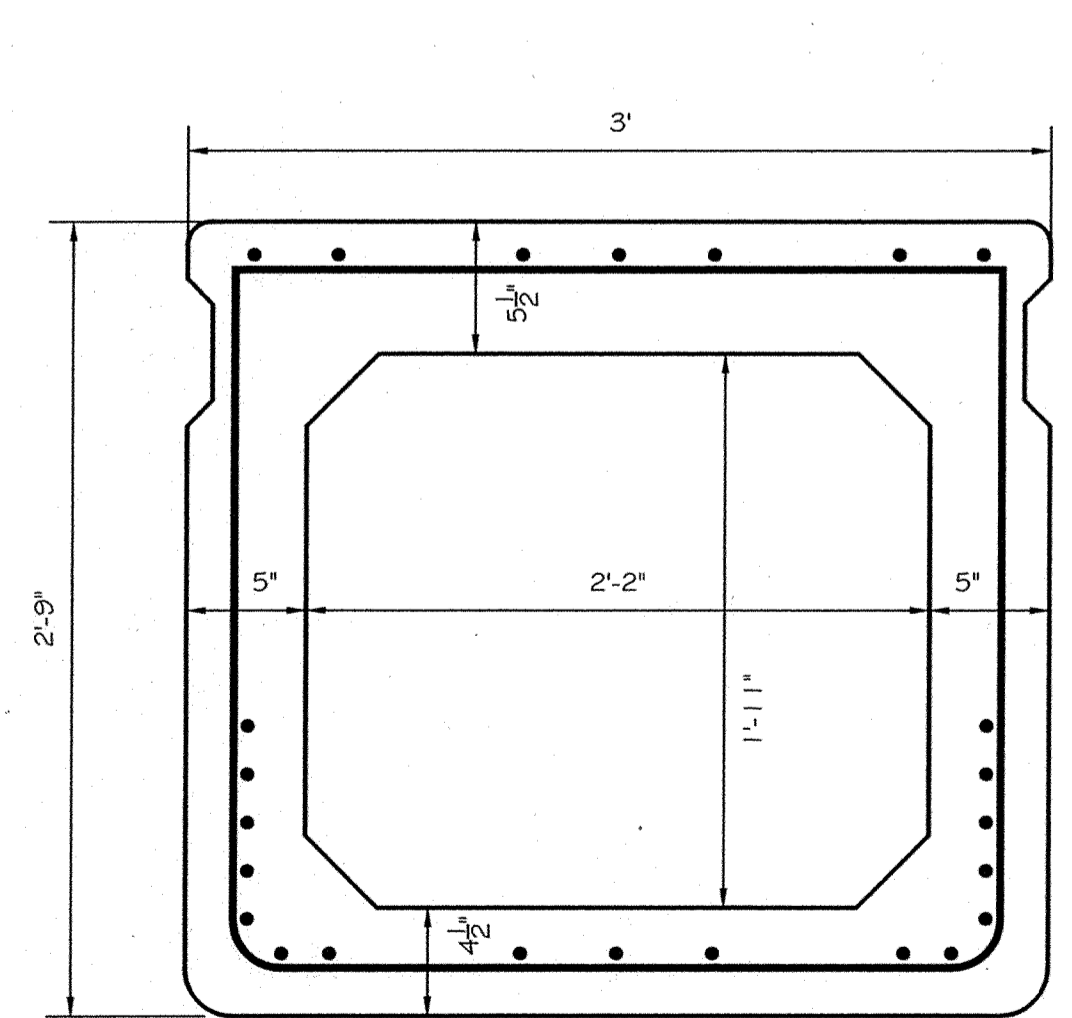
**CONCRETE SAMPLING DETAIL**

SCALE: 1/4" = 1'-0" PLAN VIEW

- NOTES:**
- USE 3" DIA. DIAMOND CORE DRILL TO OBTAIN APPROXIMATELY 2-3/4" DIA. X 8" LENGTH SAMPLE.
  - TOTAL NUMBER : 5 X 4 BEARINGS = 20 TOTAL SAMPLES
  - PERFORM (2) COMPRESSION TESTS AND (1) CHLORIDE ION TEST PER SAMPLE.
  - DRILLING APPARATUS MUST BE RIGIDLY ATTACHED TO SUBSTRUCTURE. LUBRICATE WITH WATER AND REPLACE WORN BITS.
  - TESTING LABORATORY TO HAVE REPRESENTATIVE ON SITE TO MONITOR SAMPLING, TO RECEIVE, NUMBER AND RETRIEVE SAMPLES WITH CONTINUOUS CHAIN OF CUSTODY.

LEGEND	
EL.	ELEVATION
PROP.	PROPOSED
X 102.4	EXISTING SPOT ELEVATION
TC	TOP OF CURB
BC	BOTTOM OF CURB
TD	TOP OF DECK
TW	TOP OF WALL
BW	BOTTOM OF WALL
SS	BOTTOM OF SUPERSTRUCTURE
TA	TOP OF ABUTMENT
TP	TOP OF PIER
INV.	INVERT
[Cross-hatch pattern]	AREA OF REMOVAL
[Diagonal lines pattern]	BACK WALL REPAIR
[Dotted pattern]	WING WALL MODIFICATION

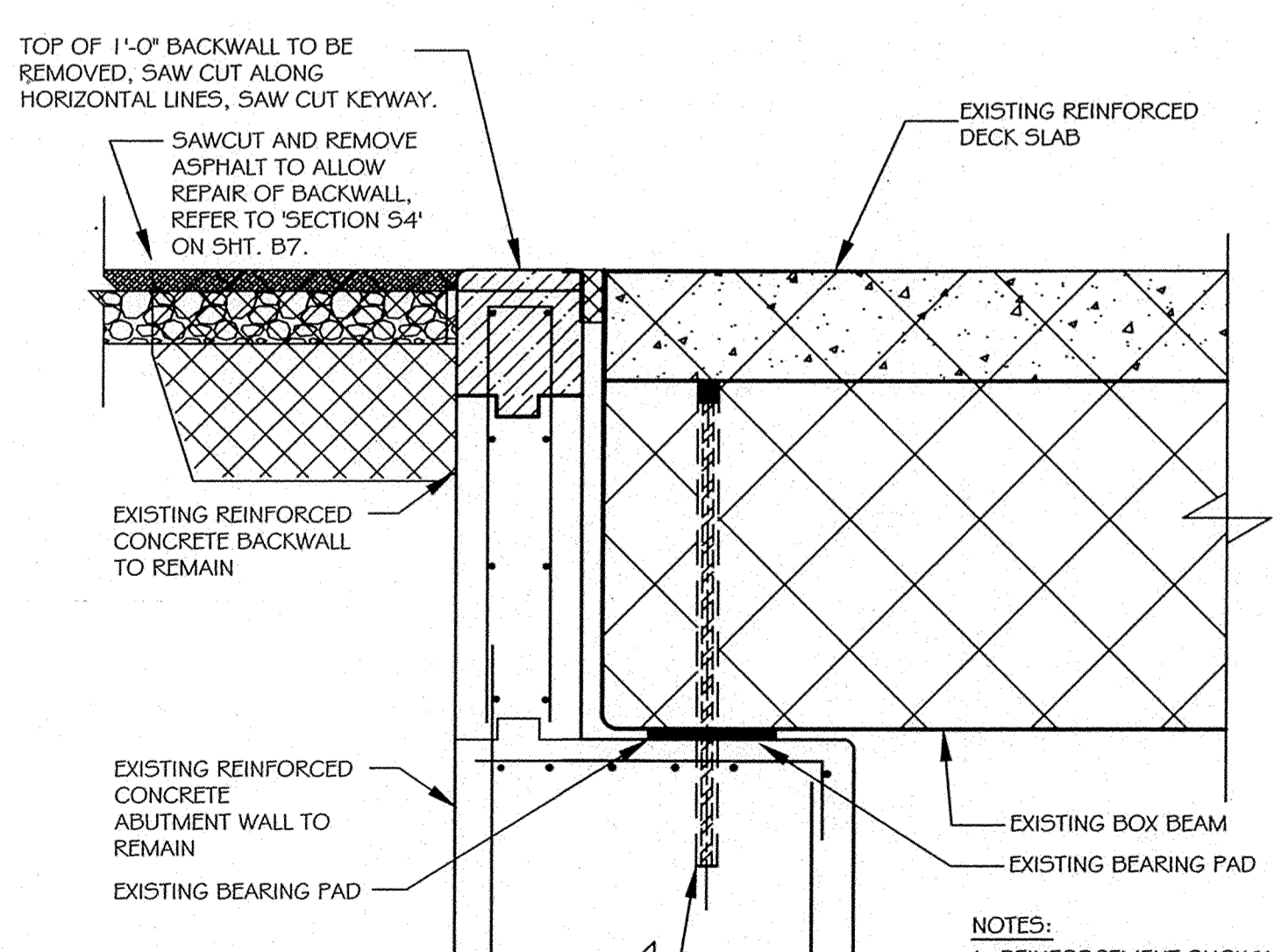
ABBREVIATIONS			
BM.	BEAM	LTWT	LIGHT WEIGHT
BOT.	BOTTOM	FL.	PLATE
B.O.W.	BOTTOM OF WALL	FL.	PLATE
B.W.	BOTH WAYS	PSI	POUNDS PER SQUARE INCH
C.J.	CONTROL JOINT	PSF	POUNDS PER SQUARE FOOT
CL.	CENTER LINE	REIN.	REINFORCEMENT
CLR.	CLEAR	REQD.	REQUIRED
CONC.	CONCRETE	REV.	REVISION
CONN.	CONNECTION	SCHED.	SCHEDULE
CONST.	CONSTRUCTION	SECT.	SECTION
CONT.	CONTINUOUS	S.O.G.	SLAB ON GRADE
COORD.	COORDINATE	S.S.	STAINLESS STEEL
DK.	DECK	STIFF.	STIFFENER
DN.	DOWN	STL.	STEEL
DO	DITTO	SUPP.	SUPPORT
DWG.	DRAWING	TEMP.	TEMPORARY
EA.	EACH	T.O.C.	TOP OF CONCRETE
E.F.	EACH FACE	T.O.P.	TOP OF PEDESTAL OR PIER
EL.	ELEVATION	T.O.P.	TOP OF PEDESTAL OR PIER
EQ.	EQUAL	T.O.PL.	TOP OF PLATE
ETC.	ET CETERA	T.O.S.	TOP OF STEEL
E.W.	EACH WAY	T.O.W.	TOP OF WALL
EX.	EXISTING	TYP.	TYPICAL
EXIST.	EXISTING	UNLESS NOTED OTHERWISE	UNLESS NOTED OTHERWISE
EXP. JT.	EXPANSION JOINT	V.	VERTICAL REIN.
EXT.	EXTERIOR	VERT.	VERTICAL
FDN.	FOUNDATION	V.I.F.	VERIFY IN FIELD
FIN.	FINISH	W/	WITH
FL.	FLOOR	WD.	WOOD
FTG.	FOOTING	W.P.	WORK POINT
GALV.	GALVANIZED	W.W.F.	WELDED WIRE FABRIC
G.C.	GENERAL CONTRACTOR		
H.	HORIZONTAL REINF.		
H.K.	HOOK		
HORIZ.	HORIZONTAL		
H.P.	HIGH POINT		
H.S.	HIGH STRENGTH BOLTS		
INCL.	INCLUSIVE		
JT.	JOINT		
K.	KIPS (1,000 LB PER KIP)		
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH		
LB.	POUND		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
L.P.	LOW POINT		



**EXISTING P.C. BEAM**

SCALE: 1/2" = 1'-0"

DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES. REFER TO ORIGINAL CONSTRUCTION DRAWINGS FOR MORE INFORMATION



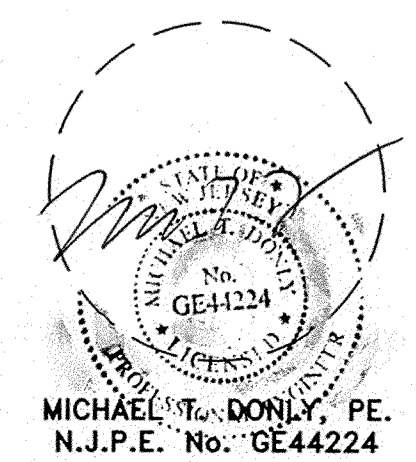
**D2 SECTION**

SCALE: 3/4" = 1'-0"

- NOTES:**
- REINFORCEMENT SHOWN IS TAKEN FROM ORIGINAL BRIDGE PLANS AND IS SHOWN FOR INFORMATION PURPOSES ONLY.
  - EXISTING DOWELS ARE TO BE REMOVED AND HOLES PATCHED, REFER TO 'SECTION B2' ON SHEET B6. PAYMENT SHALL BE INCLUDED FOR PAY ITEM 'CLEARING SITE, BRIDGE (BRIDGE NO. NE-60'

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
△				
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△				
△	12/19/2018	ISSUED FOR BIDDING	MTD	MTD
△	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
△	3/12/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
△	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
△	10/31/2017	PRELIMINARY PLANS	JER	MTD
△				

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 24GA28083900



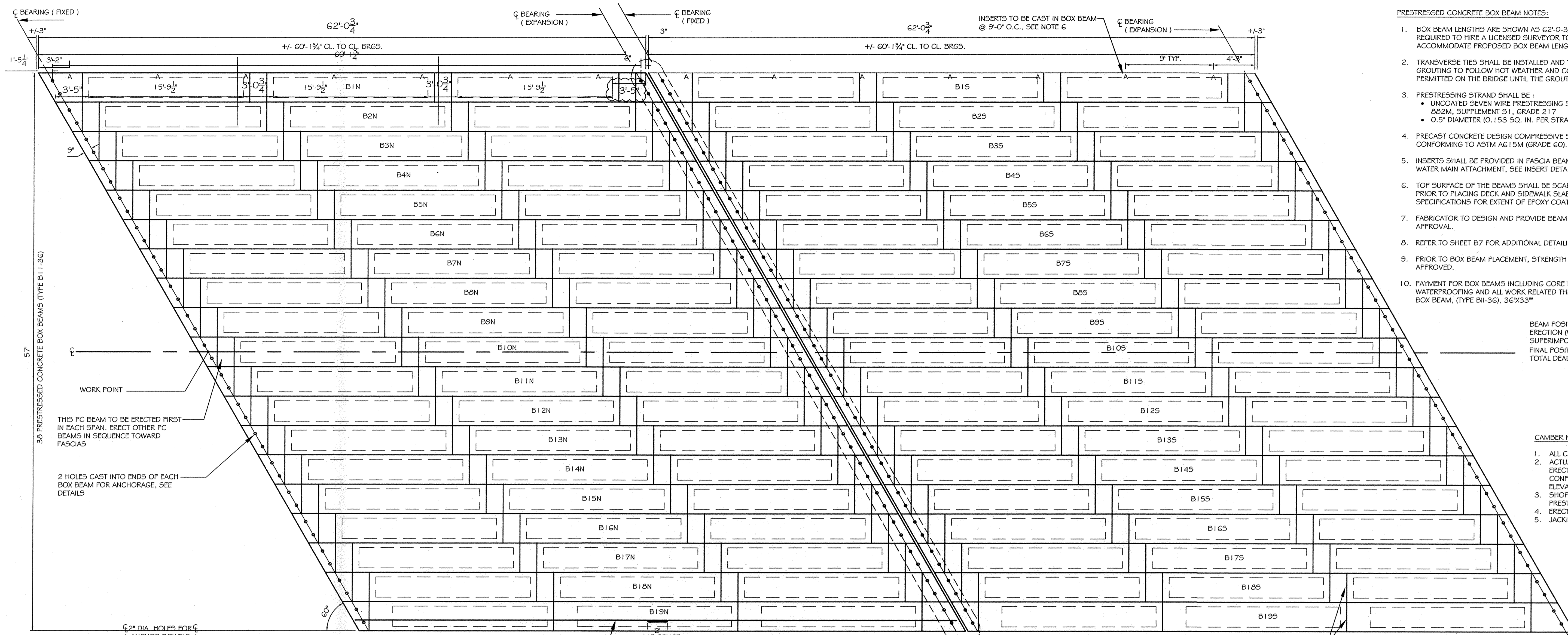
NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

**DEMOLITION PLAN NO. 2**

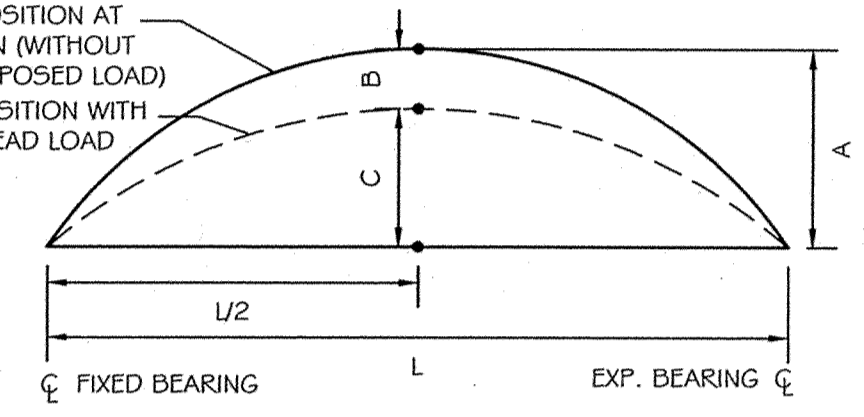
PASSAIC STREET (COUNTY ROAD 647)  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No.  
B3 OF B13



- PRESTRESSED CONCRETE BOX BEAM NOTES:**
- BOX BEAM LENGTHS ARE SHOWN AS 62'-0-3/4" ON ORIGINAL AS-BUILT BRIDGE PLANS. CONTRACTOR IS REQUIRED TO HIRE A LICENSED SURVEYOR TO FIELD VERIFY DIMENSIONS BETWEEN BACKWALLS TO ACCOMMODATE PROPOSED BOX BEAM LENGTHS PRIOR TO ORDERING.
  - TRANSVERSE TIES SHALL BE INSTALLED AND TENSIONED BEFORE THE LONGITUDINAL KEYWAYS ARE GROUTED. GROUTING TO FOLLOW HOT WEATHER AND COLD WEATHER CONCRETING REQUIREMENTS. NO TRAFFIC IS PERMITTED ON THE BRIDGE UNTIL THE GROUT HAS CURED FOR A MINIMUM OF 72 HOURS.
  - PRESTRESSING STRAND SHALL BE:
    - UNCOATED SEVEN WIRE PRESTRESSING STEEL LOW RELAXATION STRAND CONFORMING TO ASTM A882/A822M, SUPPLEMENT S1, GRADE 217
    - 0.5" DIAMETER (0.153 SQ. IN. PER STRAND)
  - PRECAST CONCRETE DESIGN COMPRESSIVE STRENGTH,  $f_c = 5,000$  PSI, CLASS P MILD STEEL REINFORCEMENT CONFORMING TO ASTM A615M (GRADE 60).
  - INSERTS SHALL BE PROVIDED IN FASCIA BEAMS "B1N" & "B1S", AT DOWNSTREAM SIDE OF BRIDGE TO SUPPORT WATER MAIN ATTACHMENT, SEE INSERT DETAILS ON SHT. B13, SEE LAYOUT THIS SHT.
  - TOP SURFACE OF THE BEAMS SHALL BE SCARIFIED WITH A STIFF WIRE BRUSH PERPENDICULAR TO BEAM SPAN PRIOR TO PLACING DECK AND SIDEWALK SLABS. NO EPOXY ALLOWED ON TOP OF BOX BEAMS. REFER TO SPECIFICATIONS FOR EXTENT OF EPOXY COATING REQUIRED.
  - FABRICATOR TO DESIGN AND PROVIDE BEAM LIFTING DEVICES/EMBEDS. SUBMIT WORKING DRAWINGS FOR APPROVAL.
  - REFER TO SHEET B7 FOR ADDITIONAL DETAILING AND REQUIREMENTS.
  - PRIOR TO BOX BEAM PLACEMENT, STRENGTH TESTING OF EXISTING BEARING CONCRETE TO BE COMPLETED AND APPROVED.
  - PAYMENT FOR BOX BEAMS INCLUDING CORE DRILLING, DOWELS, BEARING PADS, TENSION TIES, EPOXY WATERPROOFING AND ALL WORK RELATED THERETO SHALL BE INCLUDED IN PAY ITEM "PRESTRESSED CONCRETE BOX BEAM, (TYPE B11-36), 36"x33"



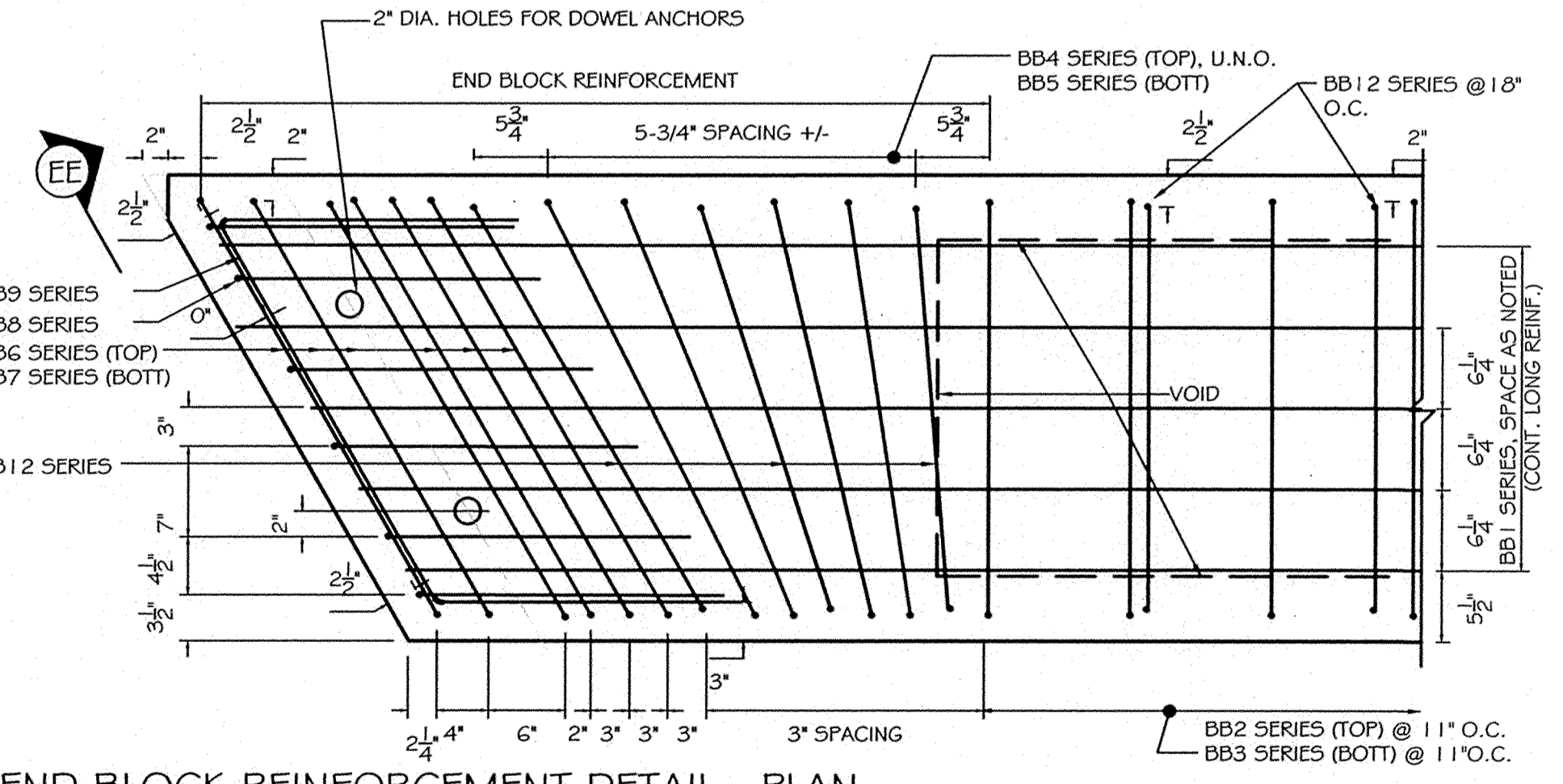
- CAMBER NOTES:**
- ALL CAMBERS SHOWN ARE IN INCHES.
  - ACTUAL ELEVATIONS SHALL BE CONFIRMED IN FIELD AT TIME OF ERECTION/INSTALLATION, REPORT TO ENGINEER. CONTRACTOR SHALL CONFIRM ACTUAL CAMBER TO ESTABLISH PROPER FINAL DECK ELEVATIONS.
  - SHOPWORKING DRAWINGS SHALL INCLUDE CALCULATIONS OF PRESTRESS LOSSES FOR THE ENGINEER'S REVIEW AND APPROVAL.
  - ERECTION ASSUMED TO BE 30-60 DAYS AFTER RELEASE OF STRANDS.
  - JACKING FORCE AT PRESTRESSING = 30.99 KIPS/STRAND.

CAMBER SCHEDULE	
ALL BOX BEAMS	
A	0.96 IN
B	0.65 IN
C	0.31 IN
L	60.14 FT

- DIAGRAM LEGEND**
- A. ESTIMATED PRESTRESS CAMBER AT RELEASE MINUS DEFLECTION DUE TO BEAM DEAD LOAD.
  - B. DEFLECTION DUE TO DEAD LOAD OF SLAB AND ALL SECONDARY DEAD LOADS SUCH AS PARAPET, SIDEWALK, UTILITIES, ETC.
  - C = NET FINAL CAMBER = A - B

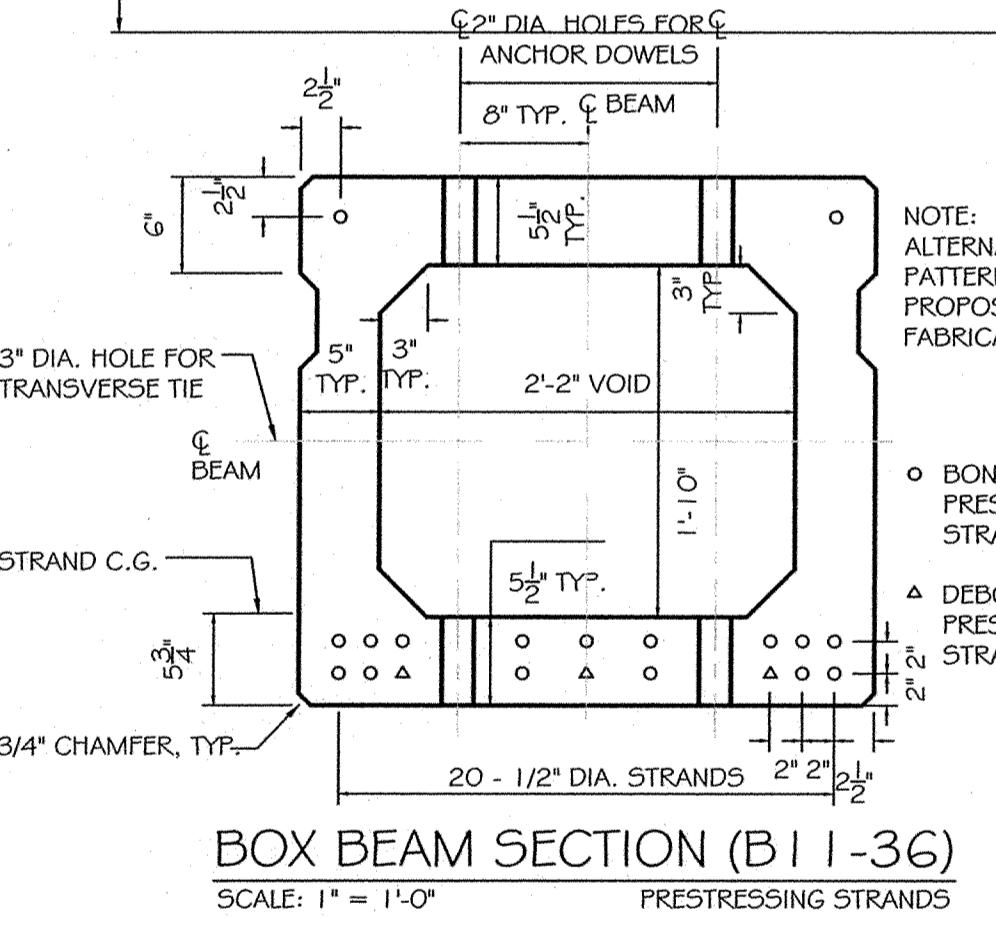
**BRIDGE SUPERSTRUCTURE - SCHEMATIC BOX BEAM LAYOUT**

SCALE: 3/8" = 1'-0"



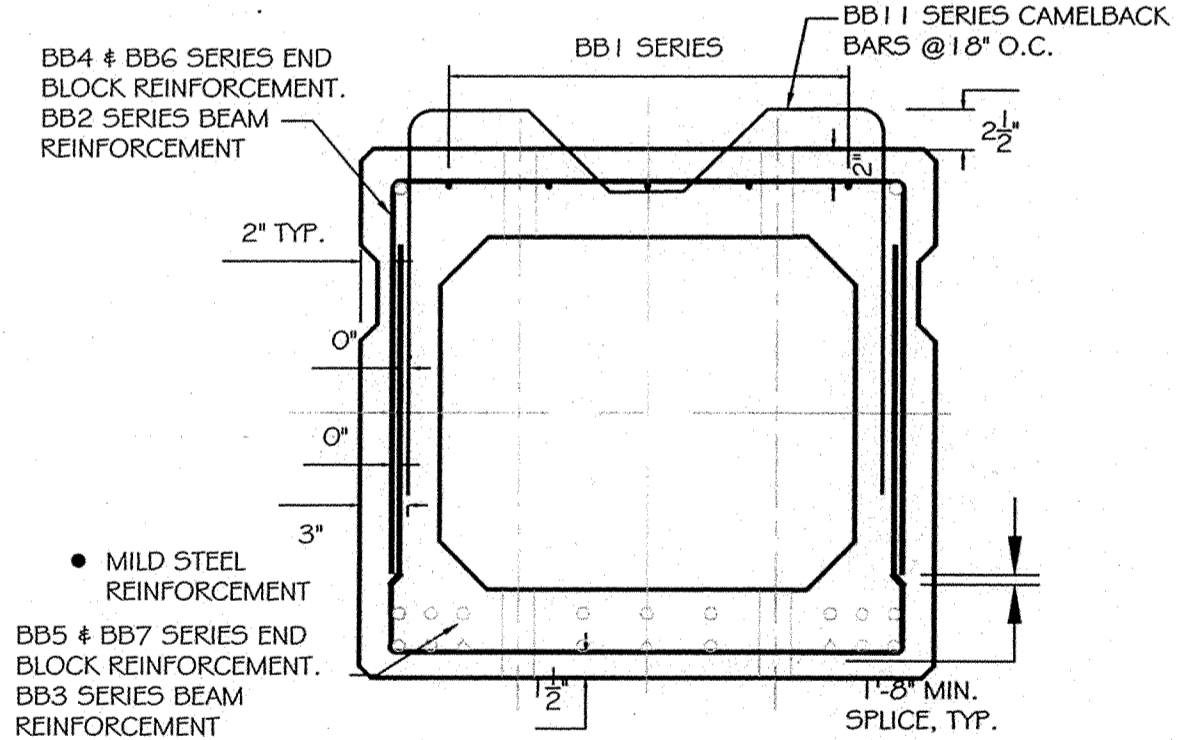
**END BLOCK REINFORCEMENT DETAIL - PLAN**

SCALE: 1" = 1'-0"



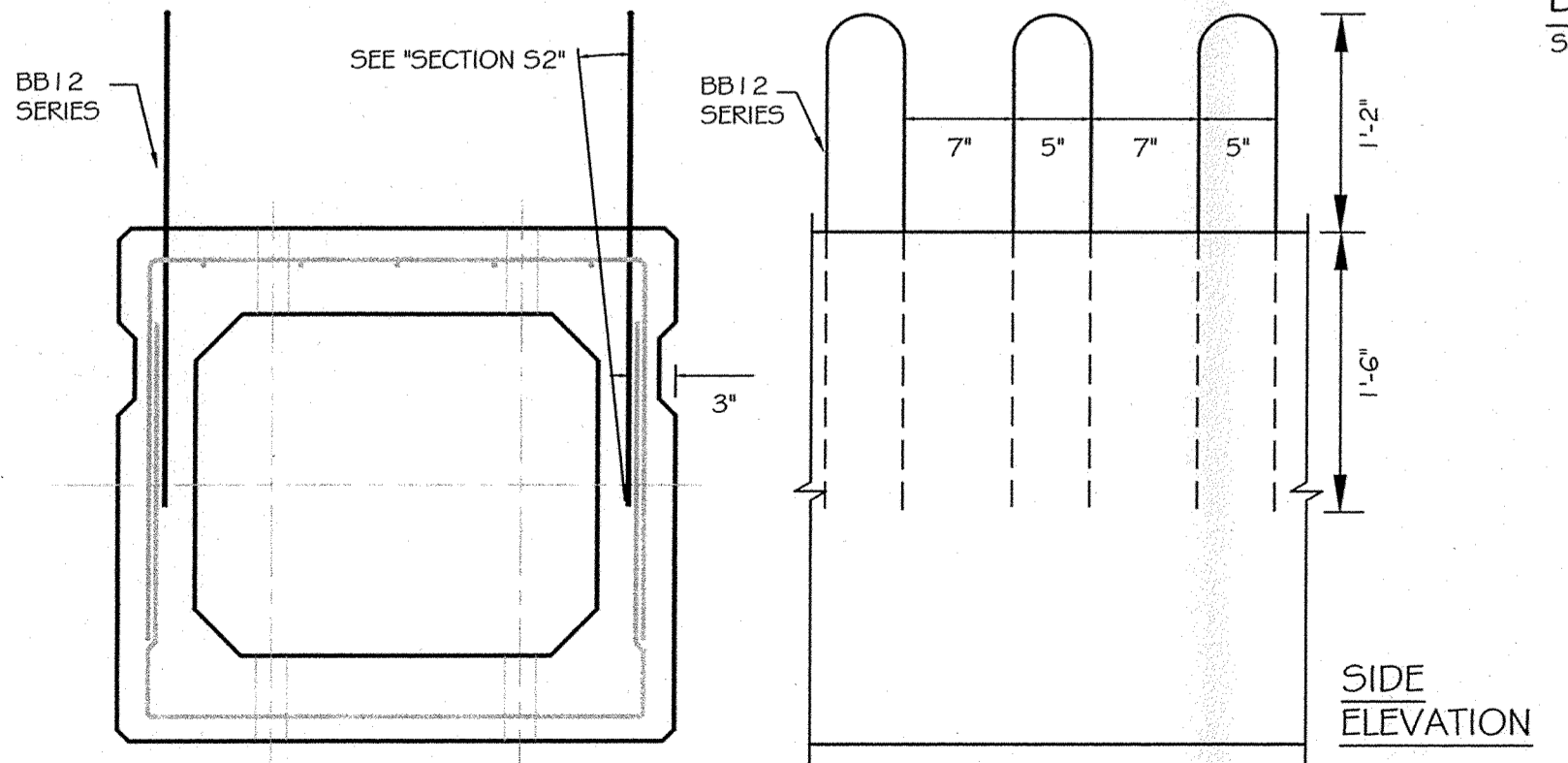
**BOX BEAM SECTION (B11-36)**

SCALE: 1" = 1'-0"



**BOX BEAM SECTION (B11-36)**

SCALE: 1" = 1'-0"



**SUPPLEMENTAL REINFORCEMENT AT BEAMS B1, B2, B18 & B19 (8 BEAMS TOTAL)**

SCALE: 1" = 1'-0"

**SUMMARY OF QUANTITIES**

ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
505018P	CONCRETE PRECAST BOX BEAMS (TYPE B11-36)	LF	2,356	

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
△				
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△	1/21/2018	ISSUED FOR BIDDING	MTD	MTD
△	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
△	3/1/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
△	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
△	1/03/2017	PRELIMINARY PLANS	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 24GA28083900

MICHAEL T. DONLY, P.E.  
N.J.P.E. No. GE44224

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

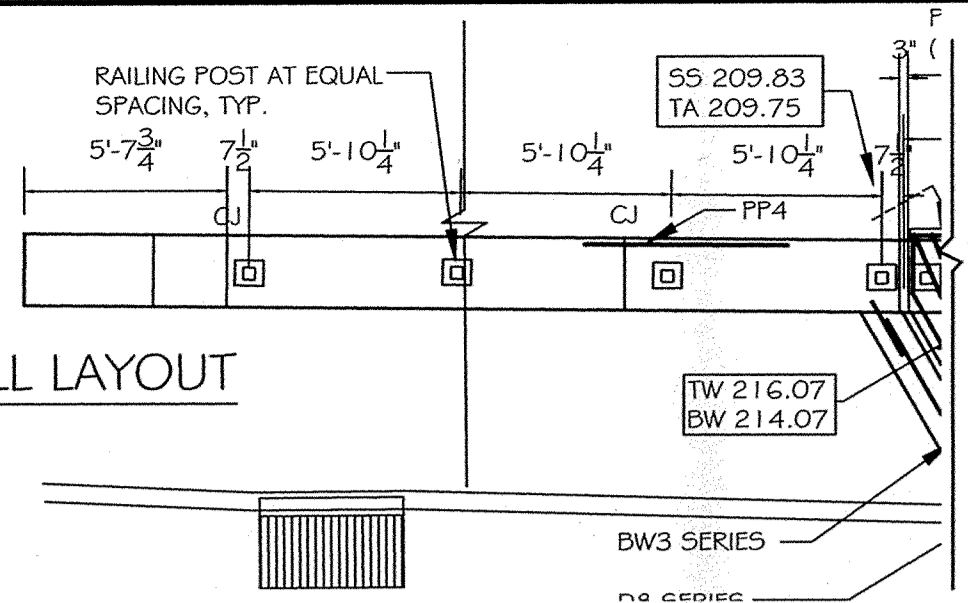
**SUPERSTRUCTURE REPLACEMENT PLAN NO. 1**

PASSAIC STREET (COUNTY ROAD 647)  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

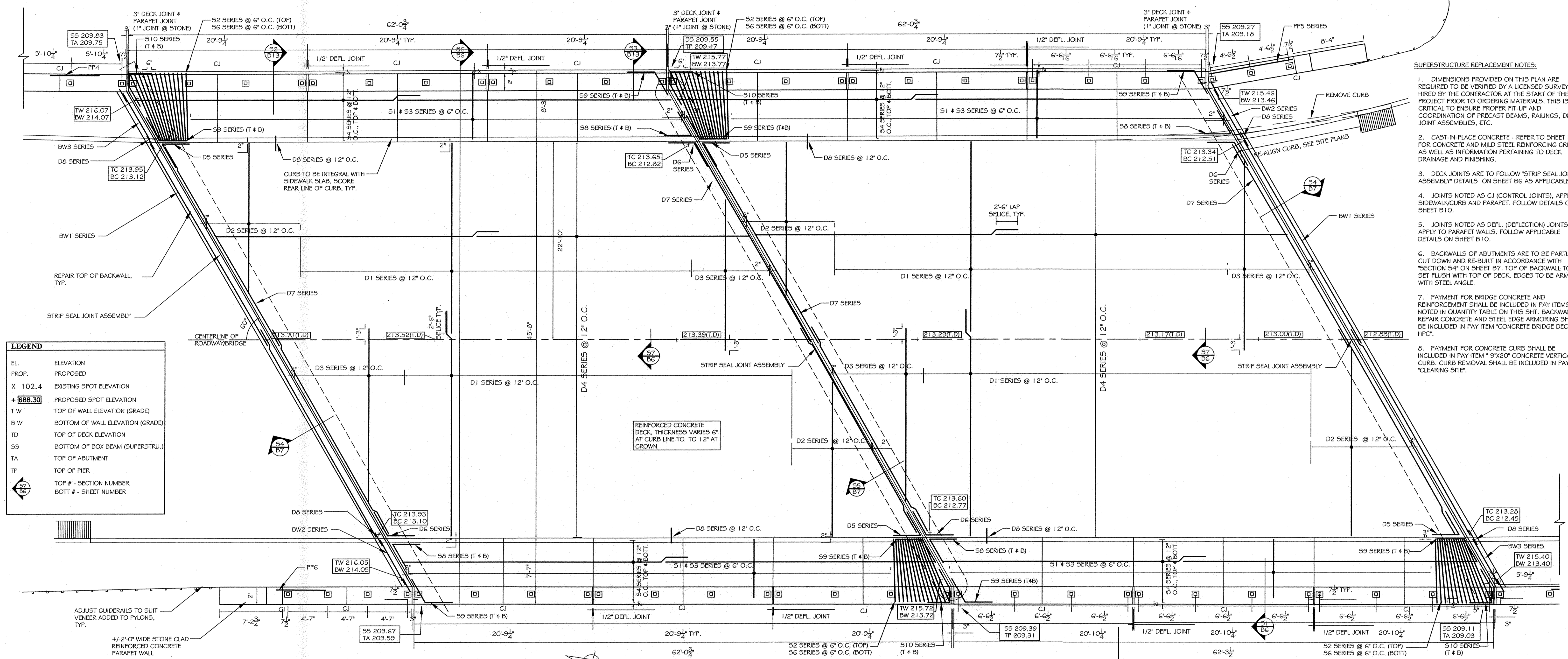
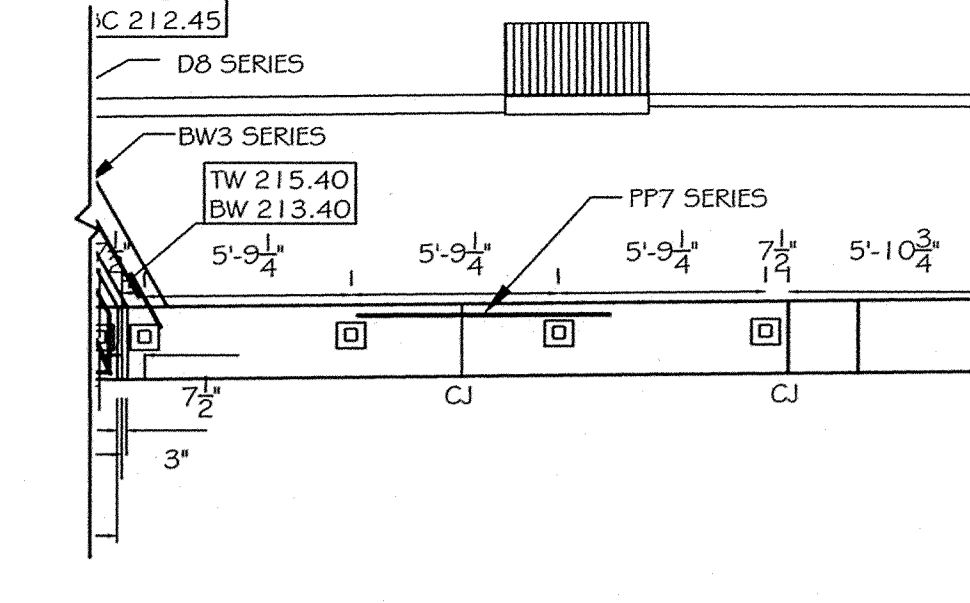
A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. 84 OF 113

**NORTH EAST WING WALL LAYOUT**  
SCALE: 3/16" = 1'-0"



**SOUTH-WEST WING WALL LAYOUT**  
SCALE: 3/16" = 1'-0"

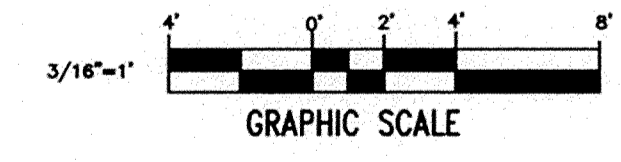


- SUPERSTRUCTURE REPLACEMENT NOTES:**
- DIMENSIONS PROVIDED ON THIS PLAN ARE REQUIRED TO BE VERIFIED BY A LICENSED SURVEYOR HIRED BY THE CONTRACTOR AT THE START OF THE PROJECT PRIOR TO ORDERING MATERIALS. THIS IS CRITICAL TO ENSURE PROPER FIT-UP AND COORDINATION OF PRECAST BEAMS, RAILINGS, DECK JOINT ASSEMBLIES, ETC.
  - CAST-IN-PLACE CONCRETE: REFER TO SHEET B6 FOR CONCRETE AND MILD STEEL REINFORCING CRITERIA AS WELL AS INFORMATION PERTAINING TO DECK DRAINAGE AND FINISHING.
  - DECK JOINTS ARE TO FOLLOW "STRIP SEAL JOINT ASSEMBLY" DETAILS ON SHEET B6 AS APPLICABLE.
  - JOINTS NOTED AS CJ (CONTROL JOINTS), APPLY TO SIDEWALK/CURB AND PARAPET. FOLLOW DETAILS ON SHEET B10.
  - JOINTS NOTED AS DEFL. (DEFLECTION) JOINTS, APPLY TO PARAPET WALLS. FOLLOW APPLICABLE DETAILS ON SHEET B10.
  - BACKWALLS OF ABUTMENTS ARE TO BE PARTIALLY CUT DOWN AND RE-BUILT IN ACCORDANCE WITH SECTION S4" TOP OF BACKWALL TO BE SET FLUSH WITH TOP OF DECK. EDGES TO BE ARMORED WITH STEEL ANGLE.
  - PAYMENT FOR BRIDGE CONCRETE AND REINFORCEMENT SHALL BE INCLUDED IN PAY ITEMS AS NOTED IN QUANTITY TABLE ON THIS SHEET. BACKWALL REPAIR CONCRETE AND STEEL EDGE ARMORING SHALL BE INCLUDED IN PAY ITEM "CONCRETE BRIDGE DECK, HPC".
  - PAYMENT FOR CONCRETE CURB SHALL BE INCLUDED IN PAY ITEM "9'X20" CONCRETE VERTICAL CURB. CURB REMOVAL SHALL BE INCLUDED IN PAY ITEM "CLEARING SITE".

**LEGEND**

EL.	ELEVATION
PROP.	PROPOSED
X 102.4	EXISTING SPOT ELEVATION
+ 688.30	PROPOSED SPOT ELEVATION
T W	TOP OF WALL ELEVATION (GRADE)
B W	BOTTOM OF WALL ELEVATION (GRADE)
TD	TOP OF DECK ELEVATION
SS	BOTTOM OF BOX BEAM (SUPERSTRU.)
TA	TOP OF ABUTMENT
TP	TOP OF PIER
TOP #	SECTION NUMBER
BOIT #	SHEET NUMBER

**BRIDGE SUPERSTRUCTURE - REPLACEMENT PLAN**  
SCALE: 3/16" = 1'-0"



**SUMMARY OF QUANTITIES**

ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
507082P	STEEL 1 BAR BRIDGE RAILING	LF	320	
507027M	DATE PANEL	UNIT	2	
507024P	CONCRETE BRIDGE DECK, HPC	CY	167	
507033P	CONCRETE BRIDGE SIDEWALK, HPC	CY	92	
507033P	CONCRETE BRIDGE PARAPET, HPC	LF	320	
504006P	REINFORCEMENT STEEL	LB	48,000	
507015P	STRIP SEAL EXPANSION JOINT ASSEMBLY	LF	216	
504064P	STONE VENEER	SY	220	
609003M	BEAM GUIDE RAIL (IF & WHERE DIRECTED)	LF	40	
607024P	9'X20" CONCRETE VERTICAL CURB	LF	16	

**SCHEDULE OF MILD STEEL REINFORCEMENT**

No.	MARK	SIZE	LENGTH	REMARKS	TYPE	A	B	C	D
<b>PARAPET REINFORCEMENT</b>									
406	PP1	#16	4'-0"	DETAILED	1	3'-1"	9'	5'	5'
120	PP2	#13	20'-5"	STRAIGHT	--	--	--	--	--
184	PP3	#13	6'-1"	DETAILED	2	2'-1"	9'	3'-4"	--
8	PP4	#13	20'-11"	STRAIGHT	--	--	--	--	--
8	PP5	#13	12'-6"	STRAIGHT	--	--	--	--	--
8	PP6	#13	16'-11"	STRAIGHT	--	--	--	--	--
8	PP7	#13	20'-0"	STRAIGHT	--	--	--	--	--
80	PP8	#13	2'-2"	DETAILED	2	8"	10"	8"	--
16	PP9	#13	6'-2"	DETAILED	2	2'-8"	10"	2'-8"	--
32	PP10	#13	3'-0"	STRAIGHT	--	--	--	--	--
<b>BACK WALL REINFORCEMENT</b>									
8	BW1	#16	28'-3"	STRAIGHT	--	--	--	--	--
8	BW2	#16	6'-0"	STRAIGHT	--	--	--	--	--
8	BW3	#16	6'-3"	STRAIGHT	--	--	--	--	--
200	BW4	#16	41'-4"	DETAILED	3	11'-10"	8"	--	--

ALL REINFORCEMENT SHALL BE EPOXY COATED  
SOFT METRIC SIZE SHOWN  
DIMENSIONS SHOWN IN BENDING DIAGRAMS ARE OUT-TO-OUT OF BARS

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
1	12/19/2018	ISSUED FOR BID, ADJUSTED DECK ELEVATIONS TO SUIT FINAL CIVIL PLANS, REVISED WITH UPDATED CIVIL PAY ITEMS	MTD	MTD
2	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
3	3/12/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
4	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
5	10/31/2017	PRELIMINARY PLANS	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 246A28083900

MICHAEL J. DONLY, PE  
N.J.P.E. No. 4E44224

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

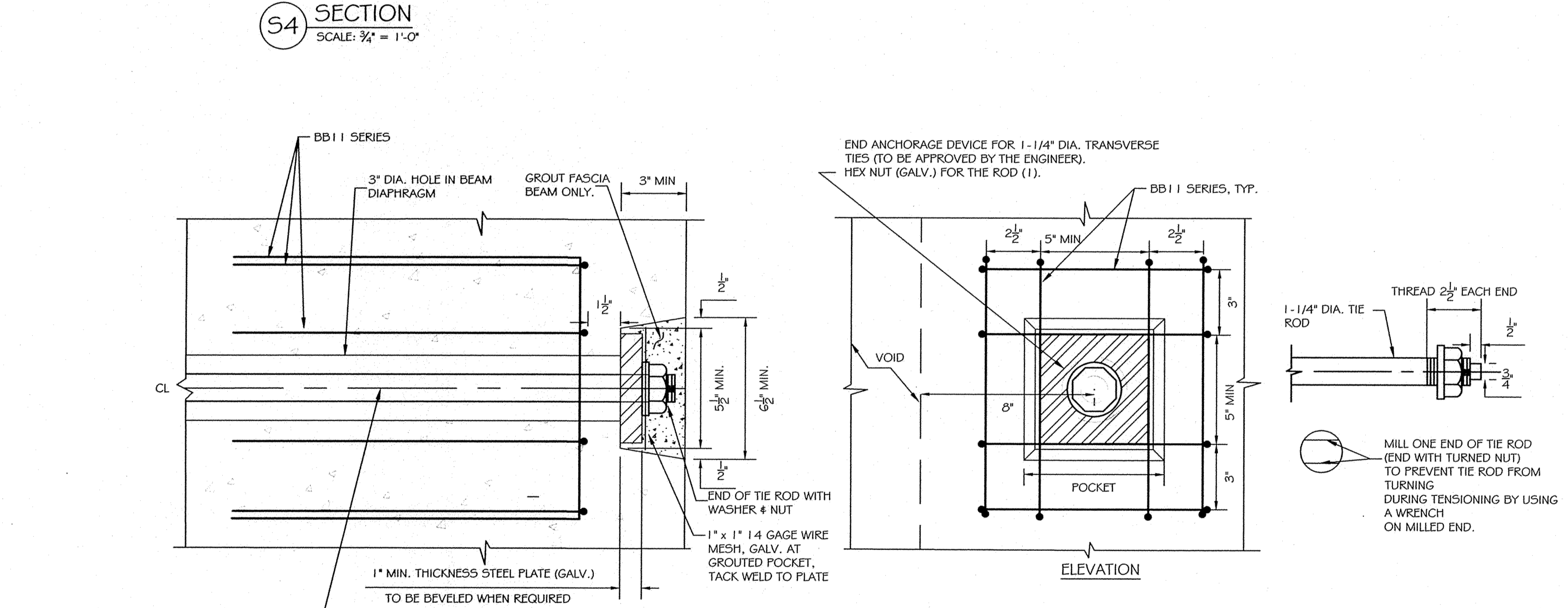
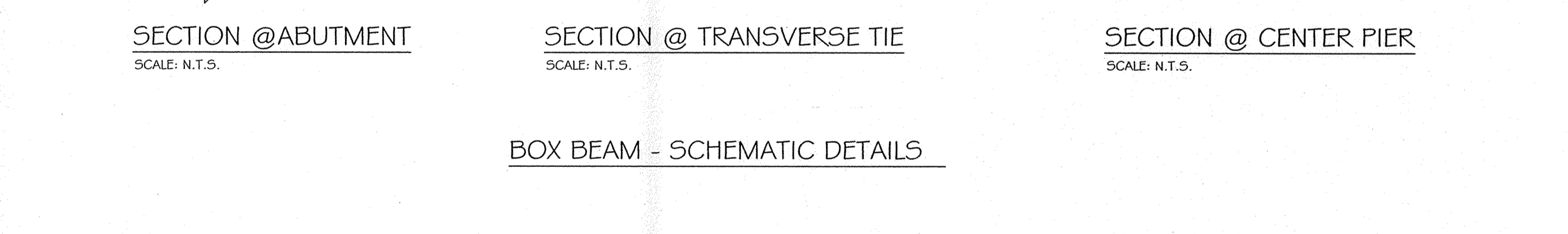
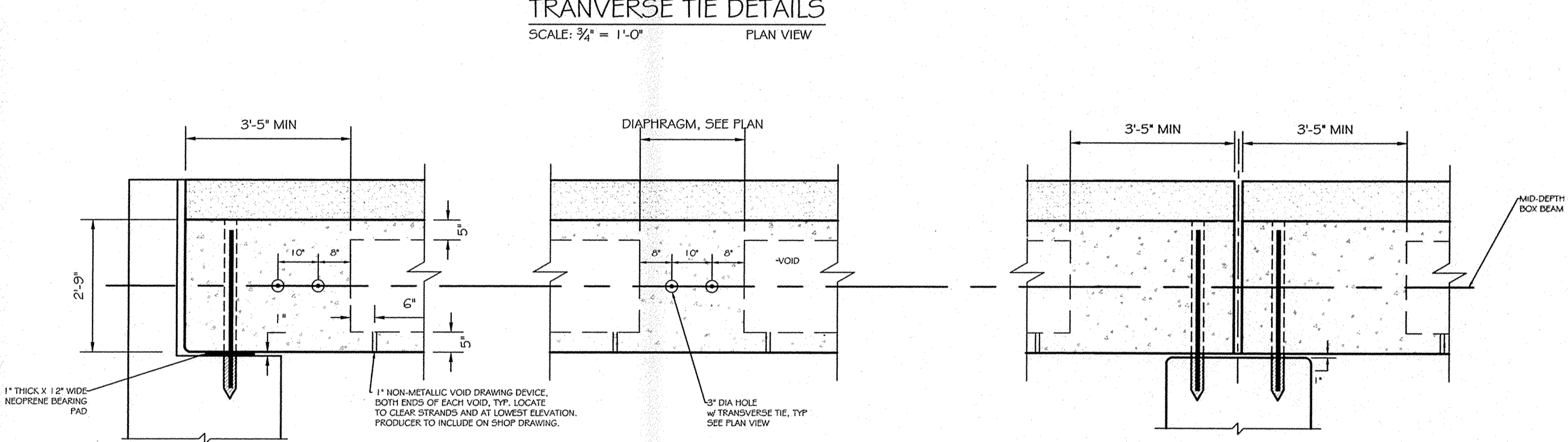
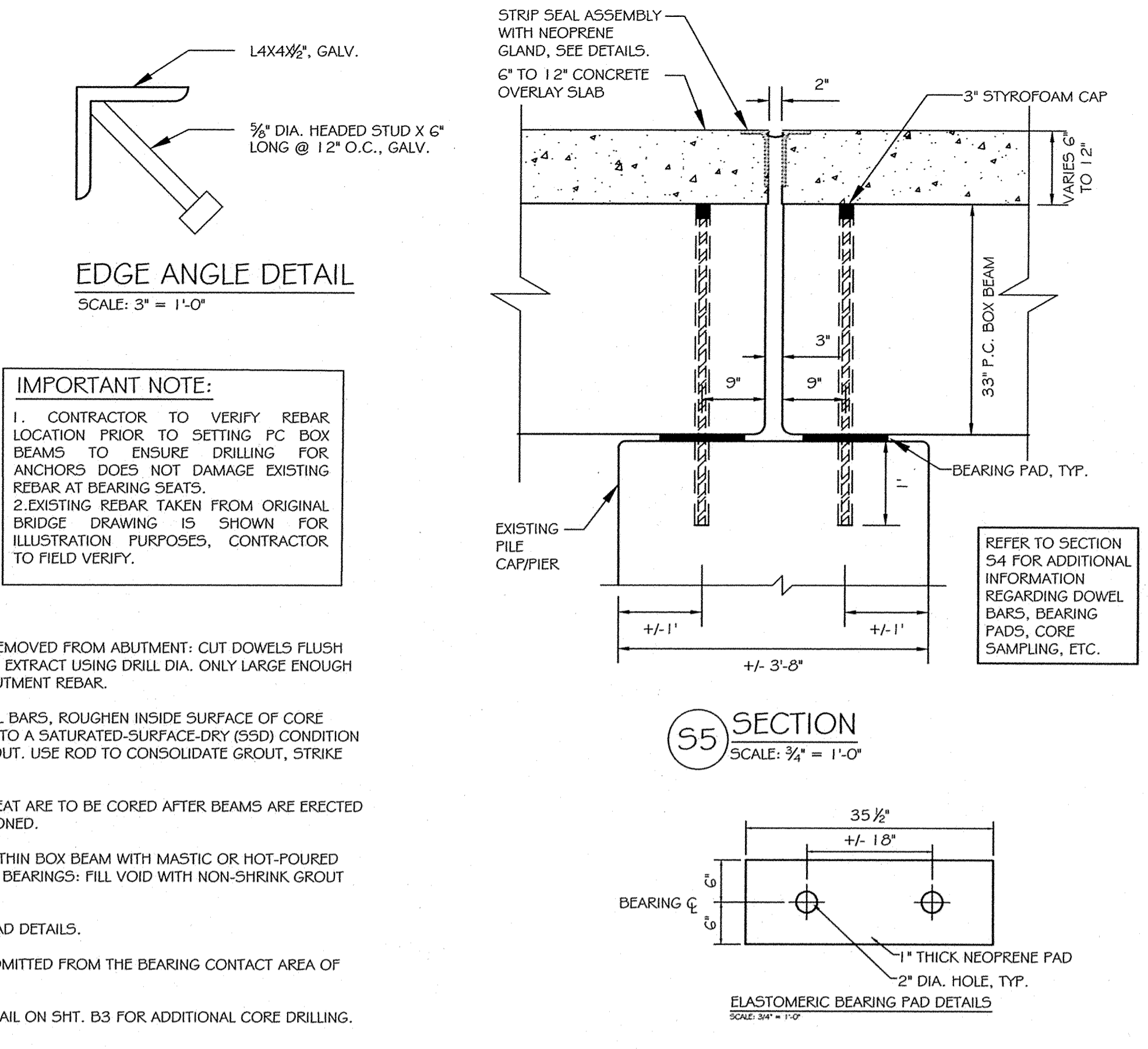
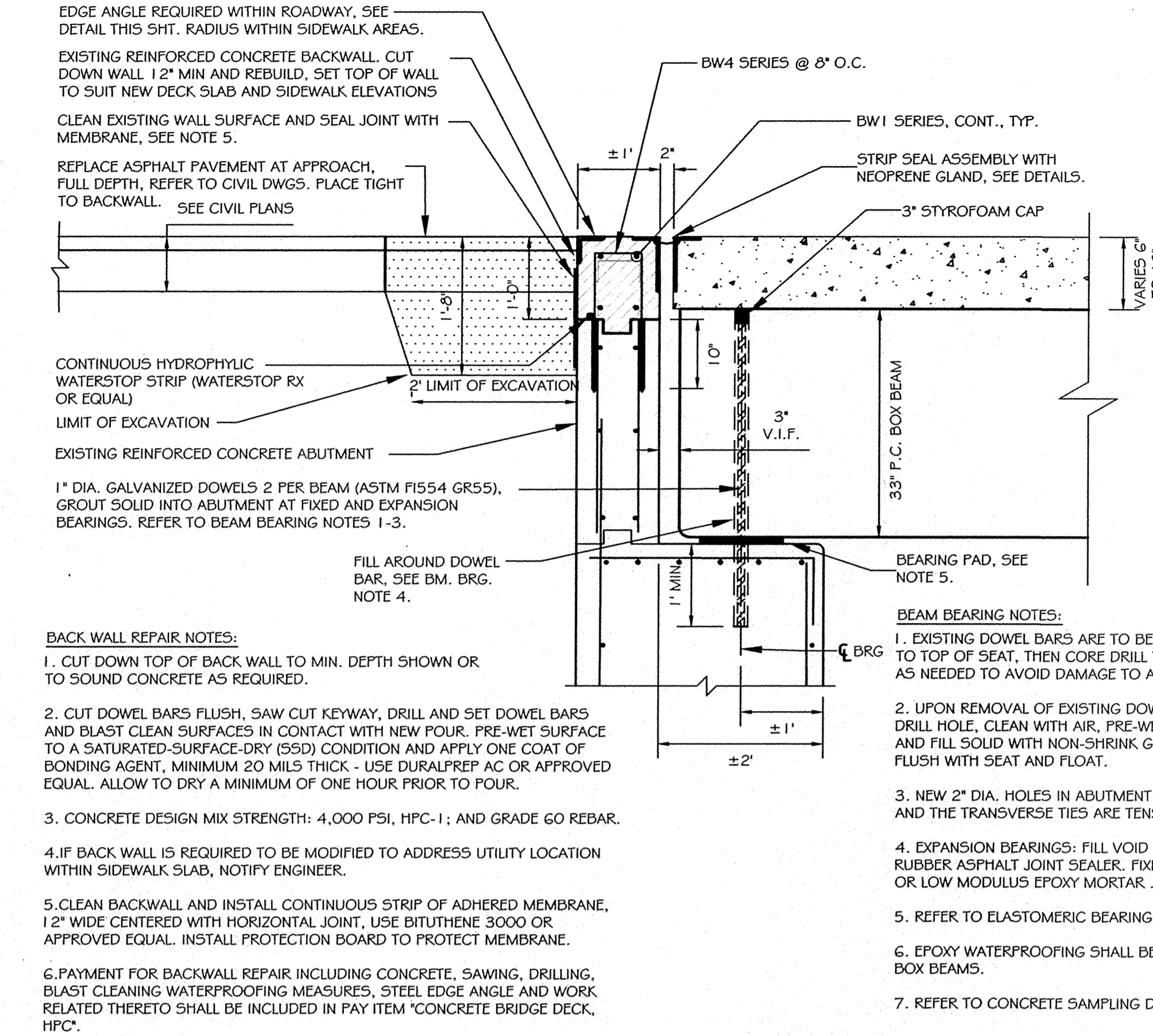
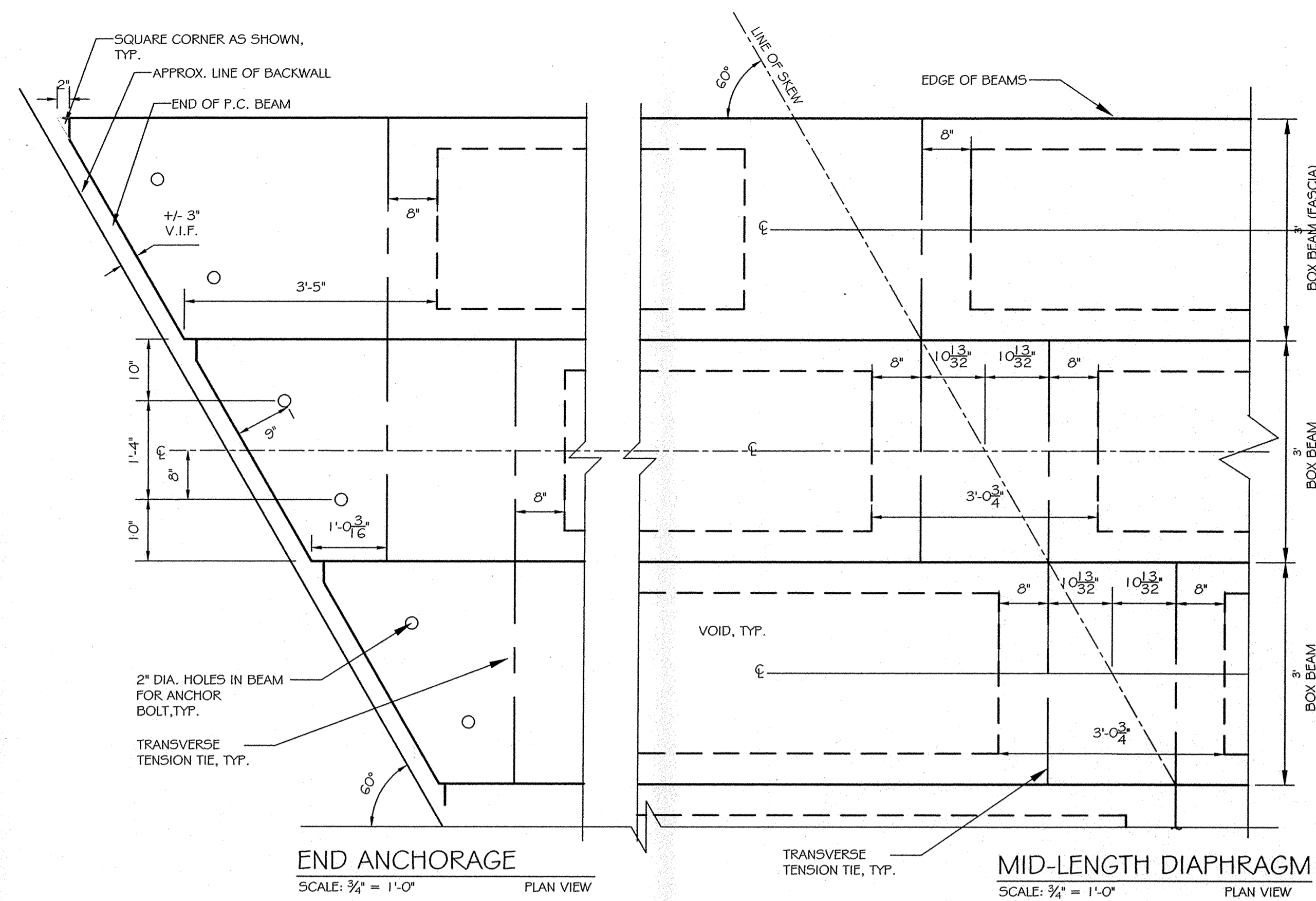
**SUPERSTRUCTURE REPLACEMENT PLAN NO. 2**

PASSAIC STREET (COUNTY ROAD 647)  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

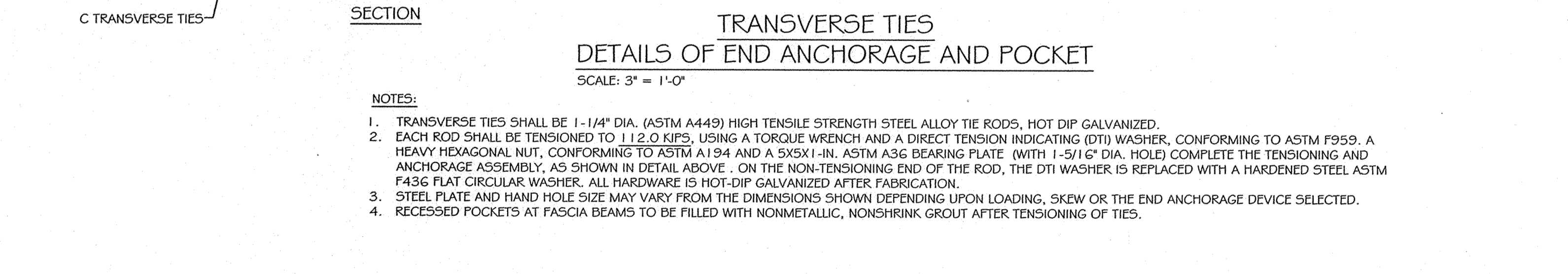
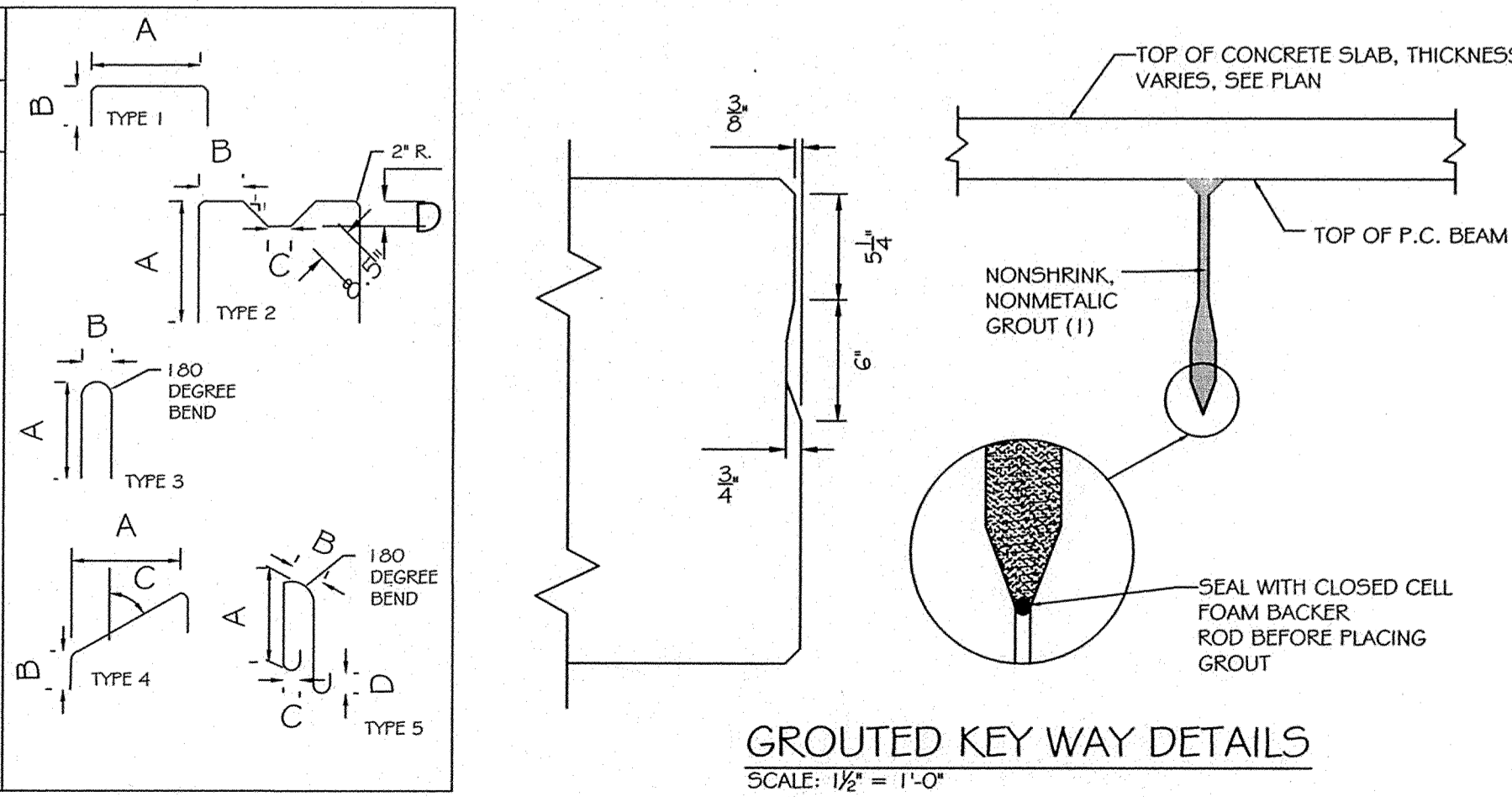
A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. 85 OF 113





SCHEDULE OF MILD STEEL REINFORCEMENT									
No.	MARK	SIZE	LENGTH	REMARKS	TYPE	A	B	C	D
<b>PRESTRESSED BOX BEAMS</b>									
380	BB1	#13	32'-9"	STRAIGHT	--	--	--	--	--
2166	BB2	#13	6'-10"	DETAILED	1	2'-1"	2'-8"	--	--
2166	BB3	#13	6'-10"	DETAILED	1	2'-1"	2'-8"	--	--
456	BB4	#13	6'-10" TO 7'-1"	DETAILED	1	2'-1"	2'-8" TO 2'-11"	--	--
456	BB5	#13	6'-10" TO 7'-1"	DETAILED	1	2'-1"	2'-8" TO 2'-11"	--	--
532	BB6	#13	7'-3"	DETAILED	1	2'-1"	3'-1"	--	--
532	BB7	#13	7'-3"	DETAILED	1	2'-1"	3'-1"	--	--
532	BB8	#13	6'-4-1/2"	DETAILED	1	2'-0"	2'-4-1/2"	--	--
456	BB9	#13	6'-5"	DETAILED	4	2'-0"	2'-5"	60	--
1216	BB10	#13	3'-8"	DETAILED	1	1'-4"	1'-0"	--	--
1200	BB11	#13	7'-1"	DETAILED	2	2'-0"	0'-8"	0'-4"	0'-6"
868	BB12	#16	5'-7"	DETAILED	3	2'-8"	0'-5"	--	--
124	BB13	#16	4'-9"	DETAILED	5	1'-7"	0'-5"	0'-5"	0'-5"



**NOTES:**

- TRANSVERSE TIES SHALL BE 1-1/4" DIA. (ASTM A449) HIGH TENSILE STRENGTH STEEL ALLOY TIE RODS, HOT DIP GALVANIZED.
- EACH ROD SHALL BE TENSIONED TO 112 O RIPS, USING A TORQUE WRENCH AND A DIRECT TENSION INDICATING (DTI) WASHER, CONFORMING TO ASTM F959. A HEAVY HEXAGONAL NUT, CONFORMING TO ASTM A194 AND A 5X5X1-IN. ASTM A36 BEARING PLATE (WITH 1-5/16" DIA. HOLE) COMPLETE THE TENSIONING AND ANCHORAGE ASSEMBLY, AS SHOWN IN DETAIL ABOVE. ON THE NON-TENSIONING END OF THE ROD, THE DTI WASHER IS REPLACED WITH A HARDENED STEEL ASTM F436 FLAT CIRCULAR WASHER. ALL HARDWARE IS HOT-DIP GALVANIZED AFTER FABRICATION.
- STEEL PLATE AND HAND HOLE SIZE MAY VARY FROM THE DIMENSIONS SHOWN DEPENDING UPON LOADING, SKEW OR THE END ANCHORAGE DEVICE SELECTED.
- RECESSED POCKETS AT FASCIA BEAMS TO BE FILLED WITH NONMETALLIC, NONSHRINK GROUT AFTER TENSIONING OF TIES.

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
△				
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△				
△				
△				
△	12/19/2018	ISSUED FOR BIDDING	MTD	MTD
△	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
△	3/12/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
△	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
△	10/31/2017	PRELIMINARY PLANS	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT. OF AUTH. 24GA28083900

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
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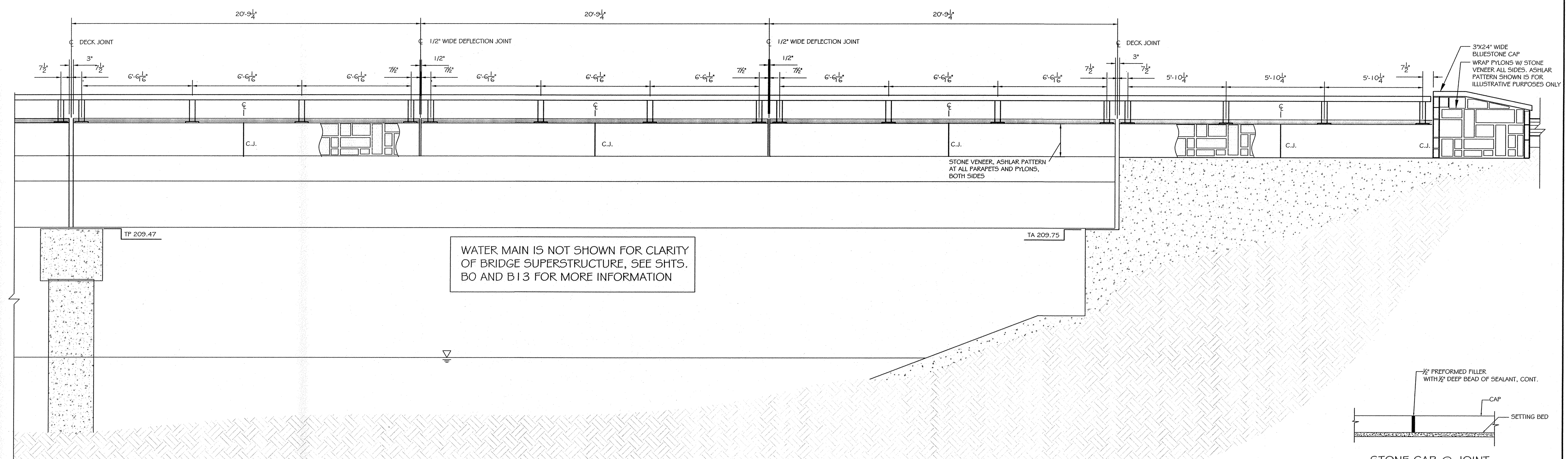
**SUPERSTRUCTURE REPLACEMENT PLAN NO. 4**

PASSAIC STREET ( COUNTY ROAD 647 )  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

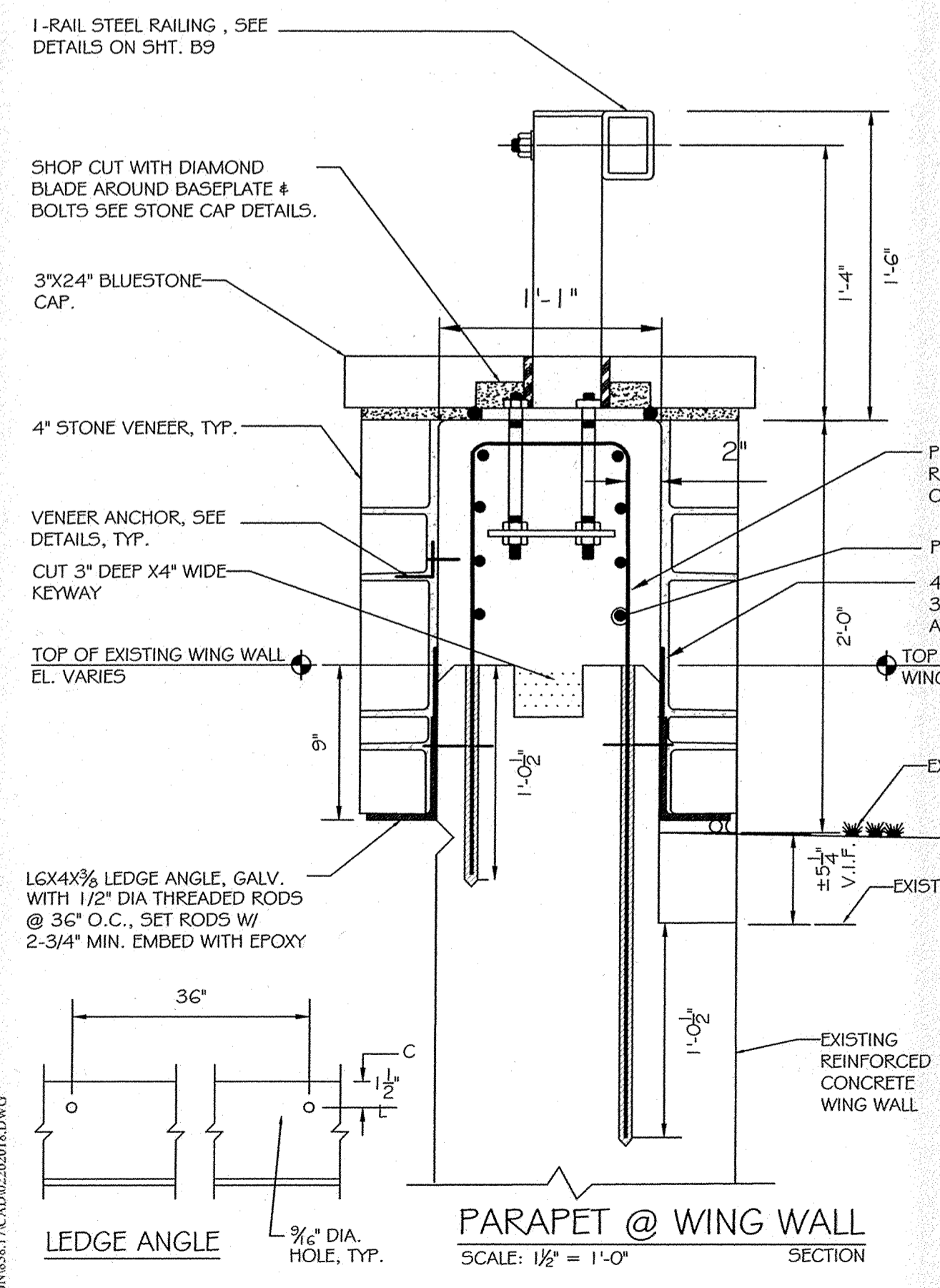
BRIDGE SHEET No. B7 OF B13

MICHAEL J. DONLY, P.E.  
N.J.P.E. NO. 0E44224



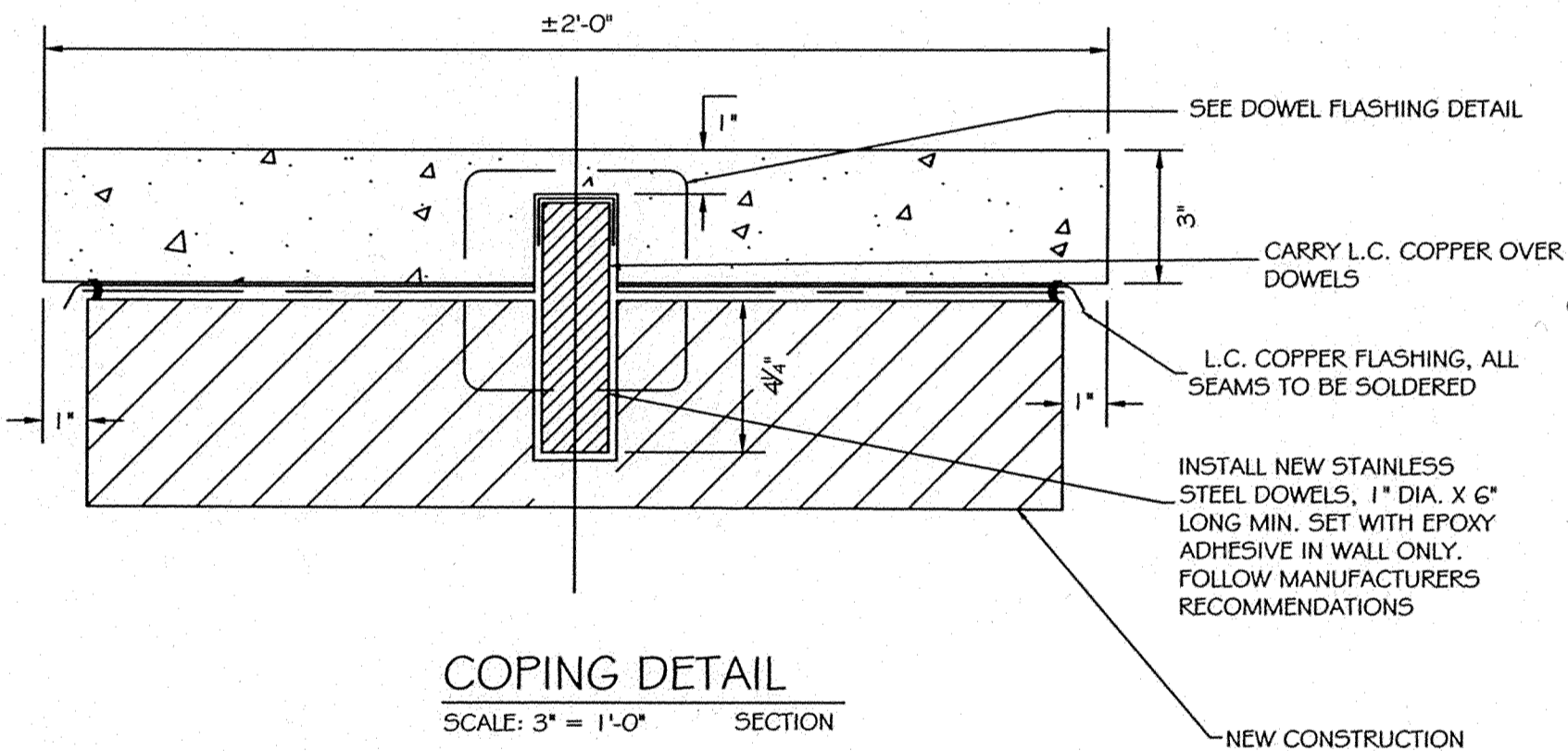
WATER MAIN IS NOT SHOWN FOR CLARITY OF BRIDGE SUPERSTRUCTURE, SEE SHTS. BO AND B13 FOR MORE INFORMATION

**PARTIAL BRIDGE ELEVATION (EAST)**  
SCALE: 3/8" = 1'-0"

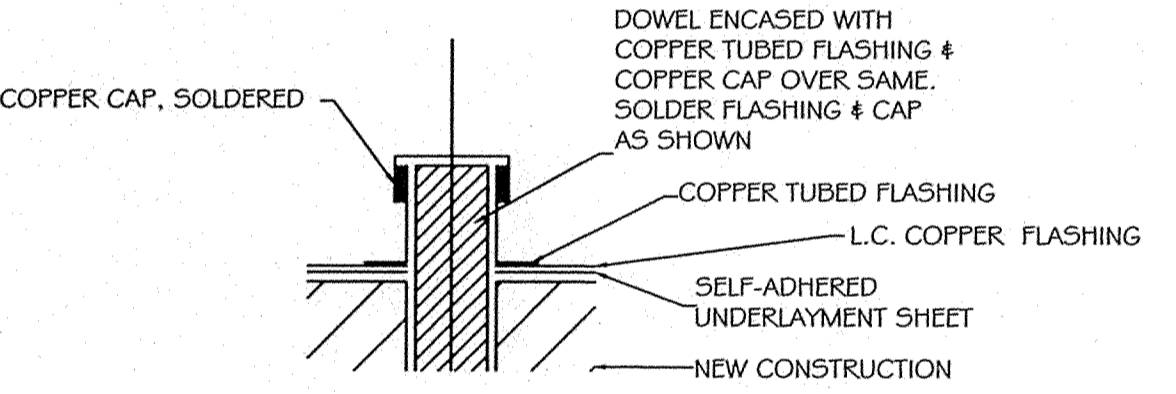


**PARAPET @ WING WALL**  
SCALE: 1/2" = 1'-0"

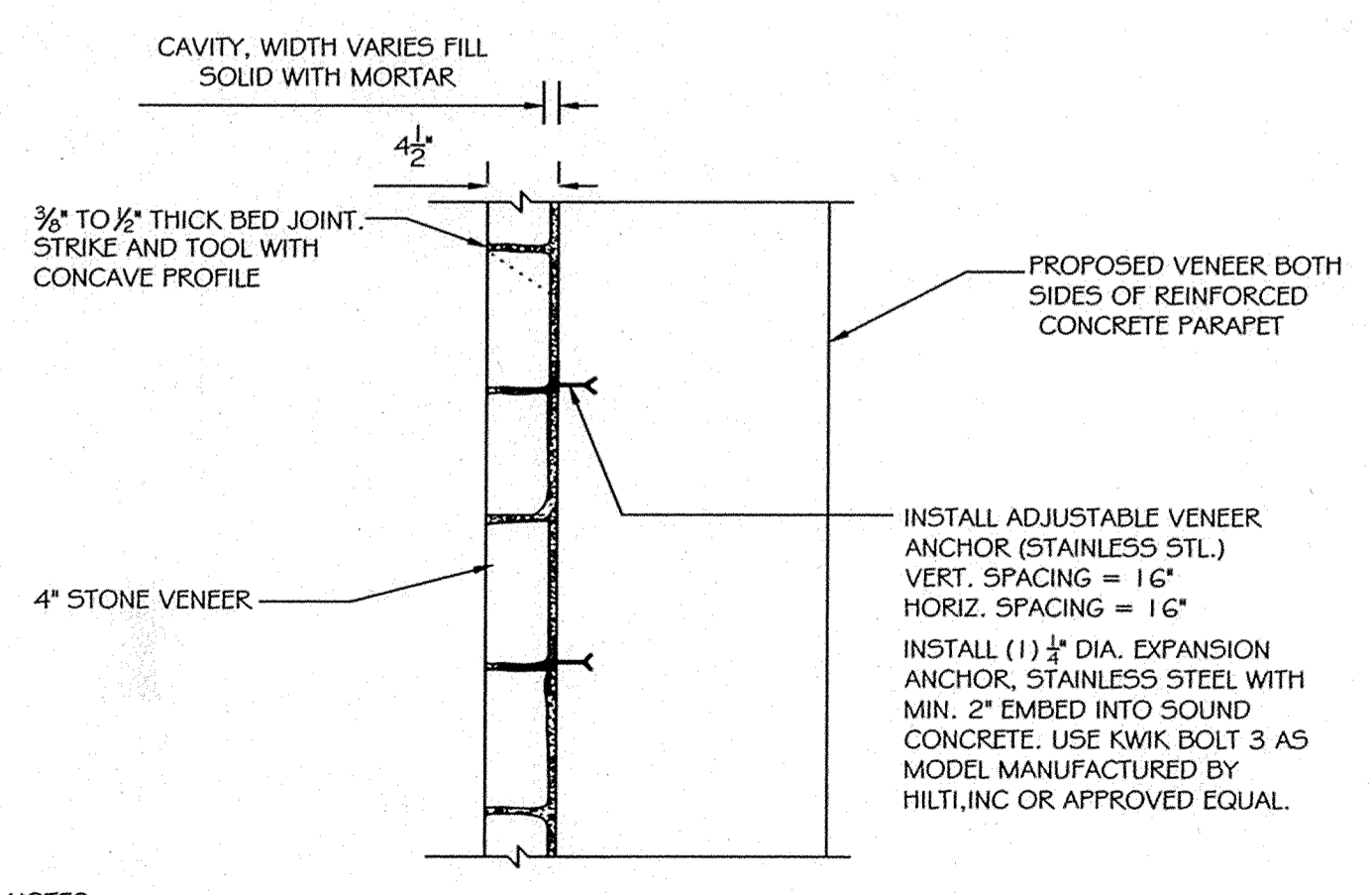
**PARAPET MODIFICATION NOTES:**  
 1. SAW CUT KEYWAY INTO TOP OF WALL, DRILL AND SET DOWEL BARS AND BLAST CLEAN SURFACES IN CONTACT WITH NEW FOUR.  
 2. PRE-WET SURFACE TO A SATURATED-SURFACE-DRY (SSD) CONDITION AND APPLY ONE COAT OF BONDING AGENT, MIN. 20 MILS THICK - USE DURALPREP AC OR APPROVED EQUAL. ALLOW TO DRY A MINIMUM OF ONE HOUR PRIOR TO POUR.  
 3. CONCRETE DESIGN MIX STRENGTH: 4,000 PSI, HPC-1; AND GRADE 60 REBAR.  
 4. CLEAN WALL AND INSTALL CONTINUOUS STRIP OF ADHERED MEMBRANE, 4" WIDE CENTERED WITH HORIZONTAL JOINT, USE BITUTHENE 3000 OR APPROVED EQUAL.



**COPING DETAIL**  
SCALE: 3" = 1'-0"

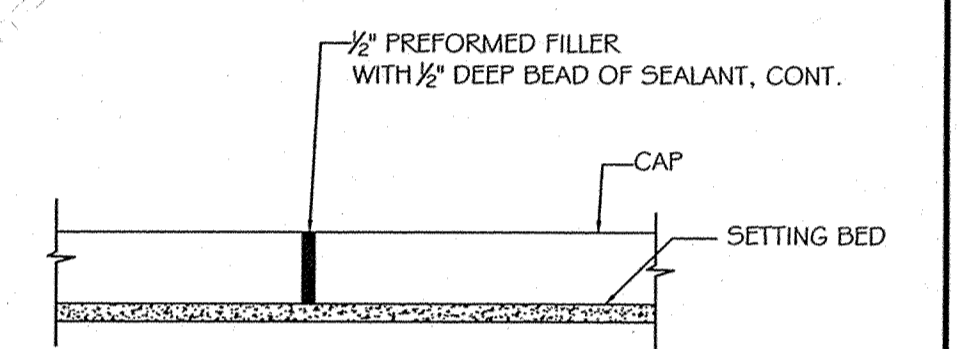


**DOWEL FLASHING DETAIL**  
SCALE: 3" = 1'-0"

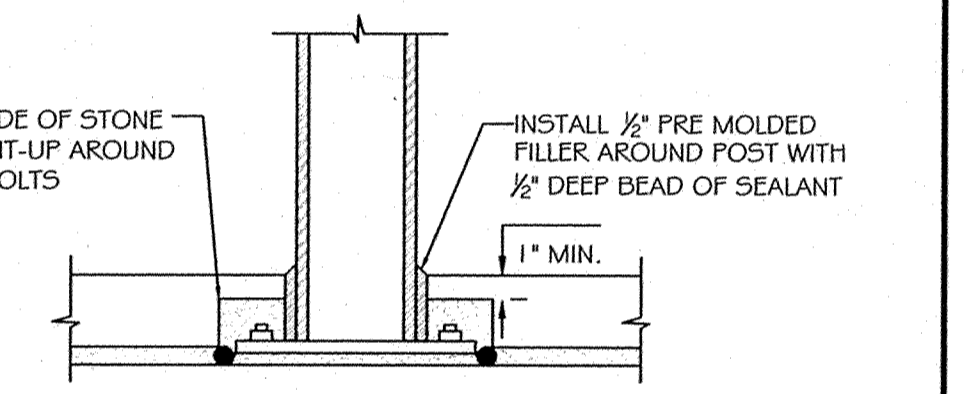


**STONE VENEER INSTALLATION**  
SCALE: N.T.S.

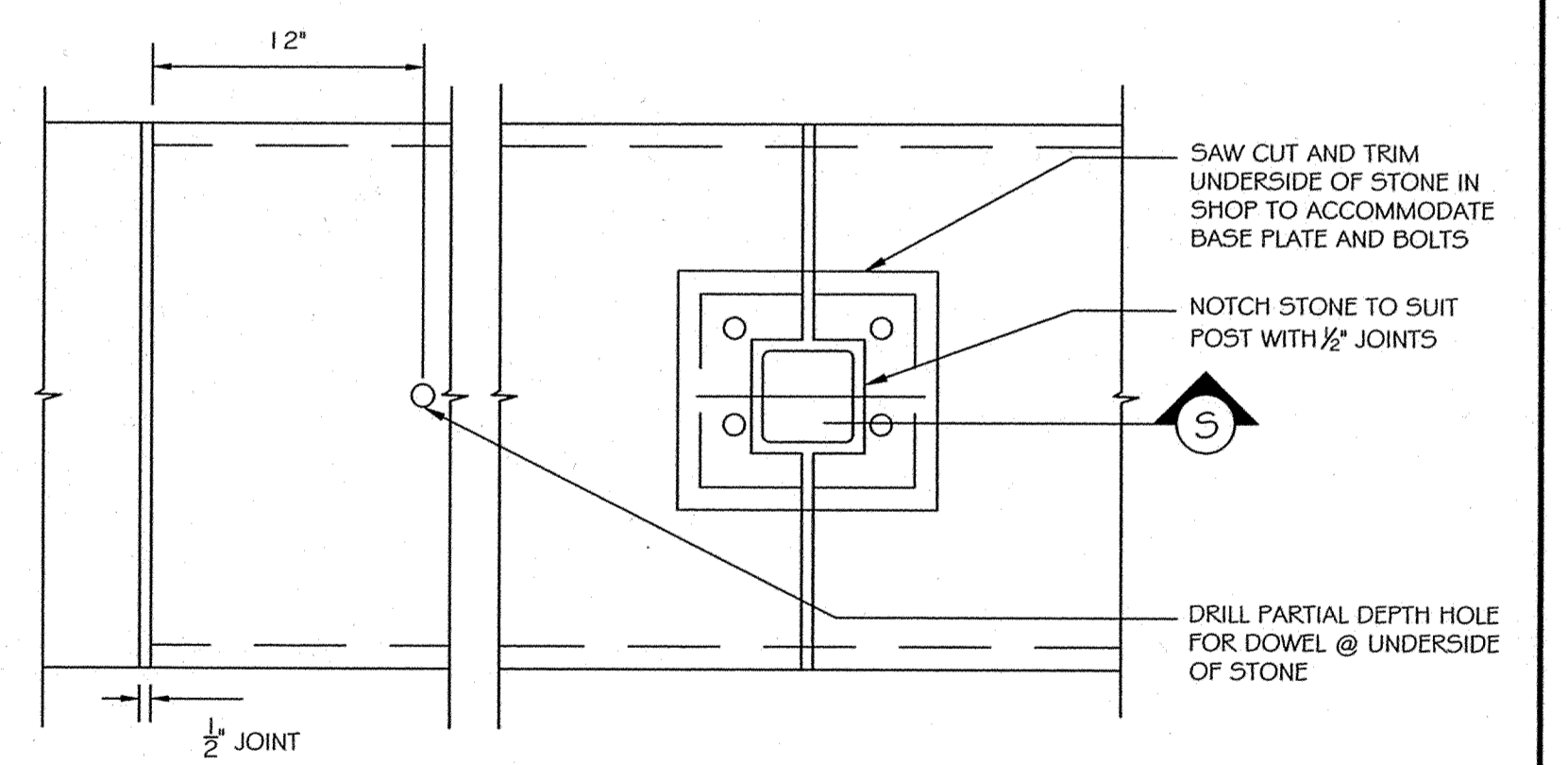
**NOTES:**  
 1. ANCHORING SYSTEM SHALL BE MODEL 345-BT FLEXIBLE TIE (S.S.) ADJUSTABLE VENEER ANCHOR AS MANUFACTURED BY HOHMANN & BARNARD, INC. OR APPROVED EQUAL. TIE DIMENSIONS: 3/8" DIA. TIE, 3" LENGTH, STAINLESS STEEL TYPE 304.  
 2. ANCHORING SYSTEM REQUIRES MIN 3/4" TO 1" CAVITY, CUT STONE AS REQUIRED TO FIT ANCHORS.



**STONE CAP @ JOINT**  
SCALE: 1/2" = 1'-0"



**STONE CAP @ POST**  
SCALE: 1/2" = 1'-0"

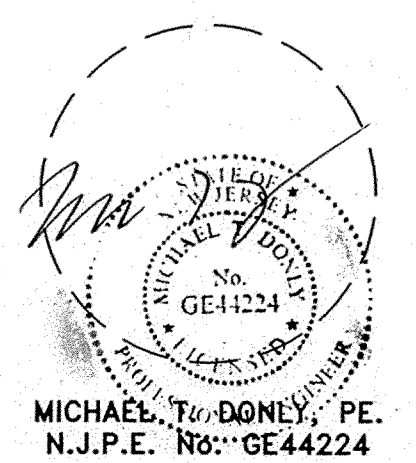


**STONE CAP DETAILS**  
SCALE: 1/2" = 1'-0"

- PARAPET NOTES:**
- PAYMENT FOR STONE VENEER, CAPSTONE, FLASHING, JOINT FILLER, SEALANT, VENEER ANCHORS, DOWELS, SHELF ANGLES AND ANCHORS AND ALL WORK RELATED THERETO SHALL BE INCLUDED IN PAY ITEM "STONE VENEER".
  - PAYMENT FOR RAILINGS, HARDWARE AND ALL WORK RELATED THERETO SHALL BE INCLUDED IN PAY ITEM "STEEL BAR BRIDGE RAILING".

REV.	DATE	REVISION DESCRIPTION	DESIGNED BY	CHECKED BY
1	12/19/2018	ISSUED FOR BIDDING	MTD	MTD
2	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
3	3/12/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
4	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
5	10/31/2017	PRELIMINARY PLANS	JER	MTD
6			DRW	CHECKED

STRUCTURAL DESIGN BY  
 DONLY ENGINEERING GROUP, INC.  
 CERT OF AUTH. 24GA28083900

  
 MICHAEL T. DONLY, P.E.  
 N.J.P.E. No. GE44224

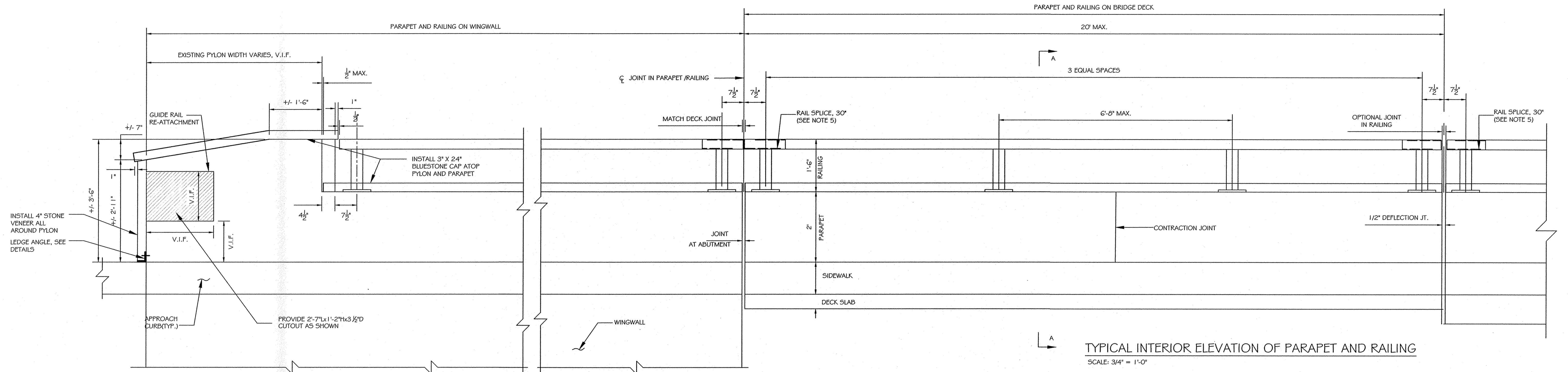
NEW JERSEY DEPARTMENT OF TRANSPORTATION  
 BUREAU OF STRUCTURAL ENGINEERING

**PARAPET AND RAILING DETAILS No. 1**

PASSAIC STREET (COUNTY ROAD 647)  
 OVER PASSAIC RIVER  
 COUNTY BRIDGE No. NE-60

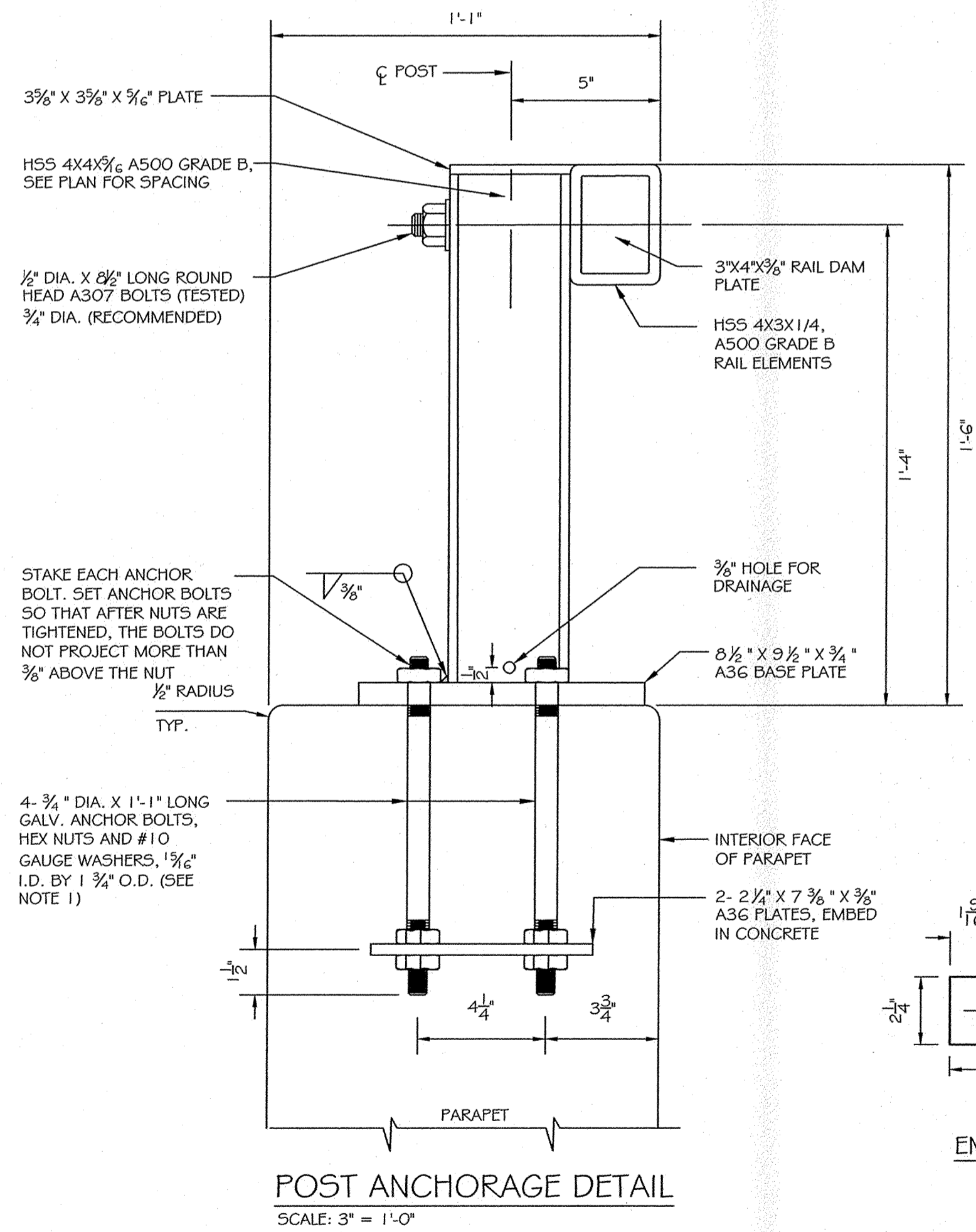
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 CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. B8 OF B13

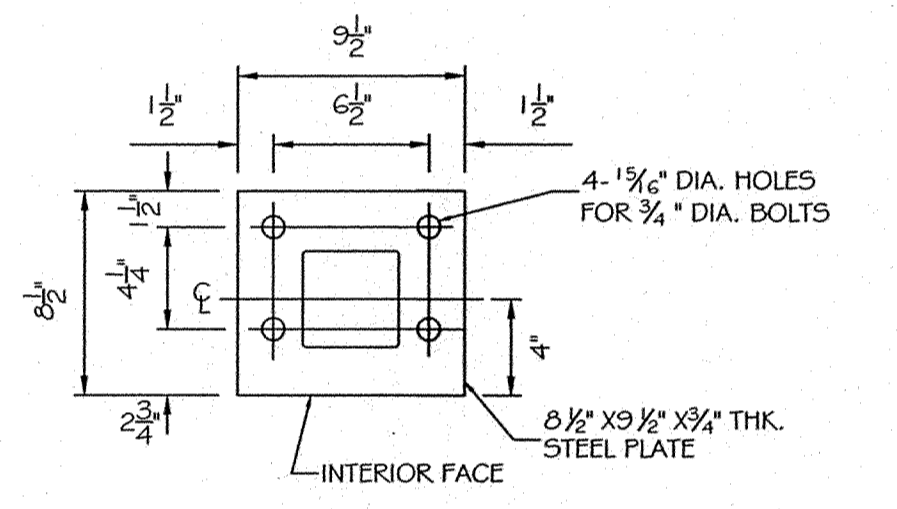


TYPICAL INTERIOR ELEVATION OF PARAPET AND RAILING  
SCALE: 3/4" = 1'-0"

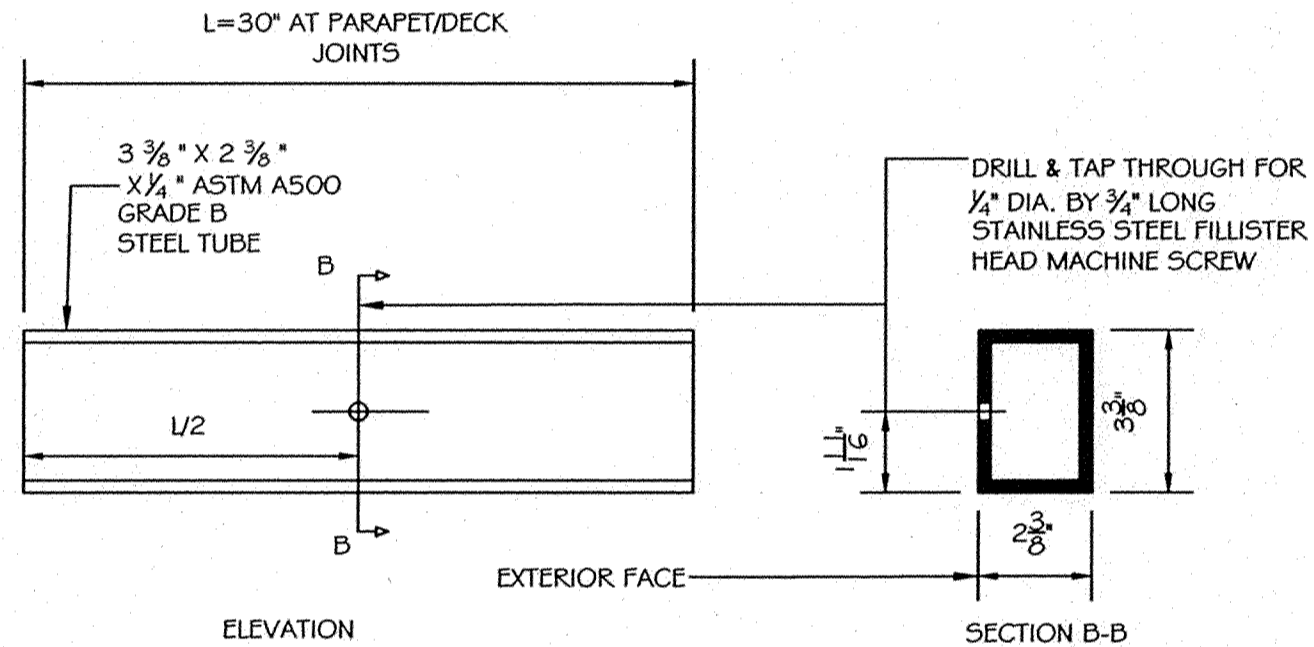
- RAILING NOTES:**
1. ENSURE THAT ANCHOR BOLTS ARE 3/4" DIA. X 1'-1" LONG AND TO BE SET BY THE CONTRACTOR WITH 2" OF CLEAR THREADS SET CLEAN.
  2. CONFORM WELDING OF POSTS TO BASE PLATES TO THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.
  3. CONFORM STEEL BOLTS, NUTS, AND WASHERS TO ASTM A307. CONFORM STRUCTURAL STEEL PLATES AND SHAPES TO ASTM A36, AND GALVANIZED AS PER ASTM A123.
  4. DRILL 3/8" DIA. HOLE IN THE POST, 1/2" ABOVE BASE PLATES FOR DRAINAGE.
  5. PROVIDE SPLICES IN THE RAIL AT ALL DECK JOINTS AND AS REQUIRED BY RAIL LENGTHS.
  6. PROVIDE 3/8" DIA. HOLES EVERY 7' ON BOTTOM OF RAILS FOR DRAINAGE.
  7. USE DAM PLATES TO CLOSE ALL OPEN RAILING AND POST ENDS, AS AN ALTERNATIVE DRIVE-IN END CAPS MAY BE USED. WELD END CAPS TO THE RAILS AND POST.
  8. WHERE NECESSARY FOR POST ALIGNMENT, USE SHIM MATERIAL AS APPROVED BY THE RE.
  9. ENSURE THAT ALL ANCHOR BOLT HOLES AND SPACES BETWEEN BASE PLATES AND CONCRETE ARE THOROUGHLY CAULKED WITH COLD-POURED JOINT SEALER CONFORMING TO SPECIFICATION 914.02 OF NJDOT STANDARD SPECIFICATION.
  10. FOR GUIDE RAIL ATTACHMENT AND LIP CURB DETAILS, REFER TO CD-609-15.
  11. RAILINGS AND ALL HARDWARE AND ACCESSORIES RELATED THERETO SHALL BE INCLUDED IN PAY ITEM "STEEL BAR BRIDGE RAILING".
  12. PARAPET CONSTRUCTION AND ALL WORK RELATED THERETO SHALL BE INCLUDED IN PAY ITEM "CONCRETE BRIDGE PARAPET, HPC".
  13. STONE VENEER AND CAPSTONE ALONG WITH COPPER FLASHING, JOINT FILLER AND SEALANT AND ALL WORK RELATED THERETO SHALL BE INCLUDED IN PAY ITEM "STONE VENEER".



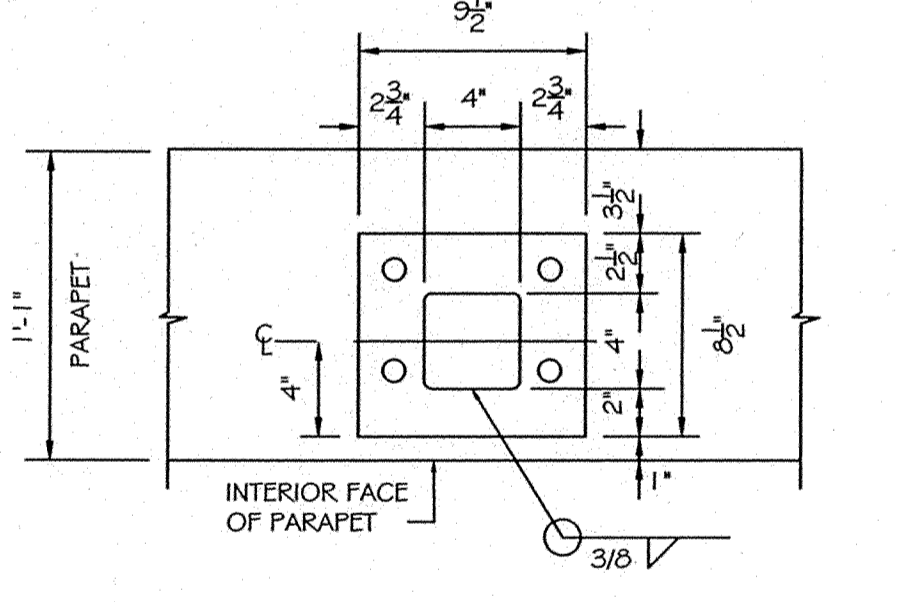
POST ANCHORAGE DETAIL  
SCALE: 3" = 1'-0"



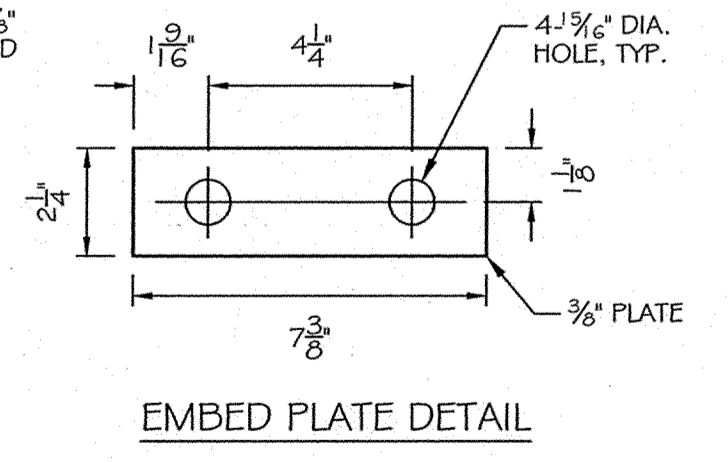
BASE PLATE DETAIL  
SCALE: 1/2" = 1'-0"



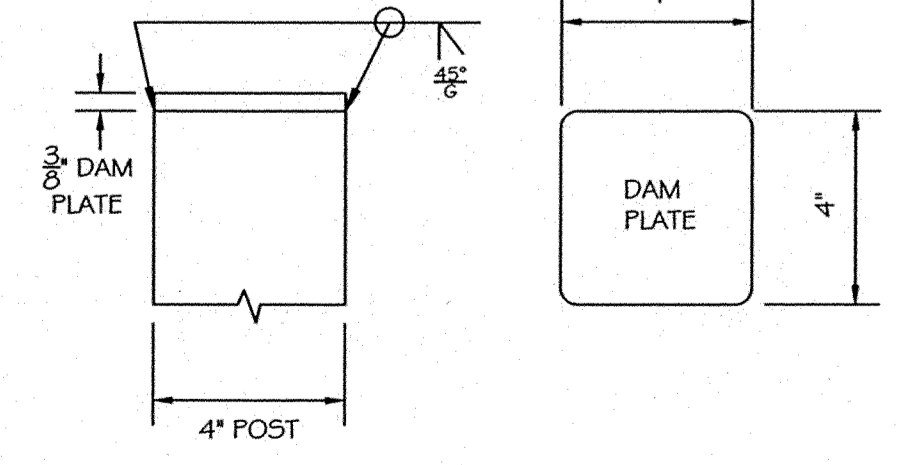
DETAIL OF RAIL SPLICE FOR 4" X 3" TOP RAIL  
SCALE: 3" = 1'-0"



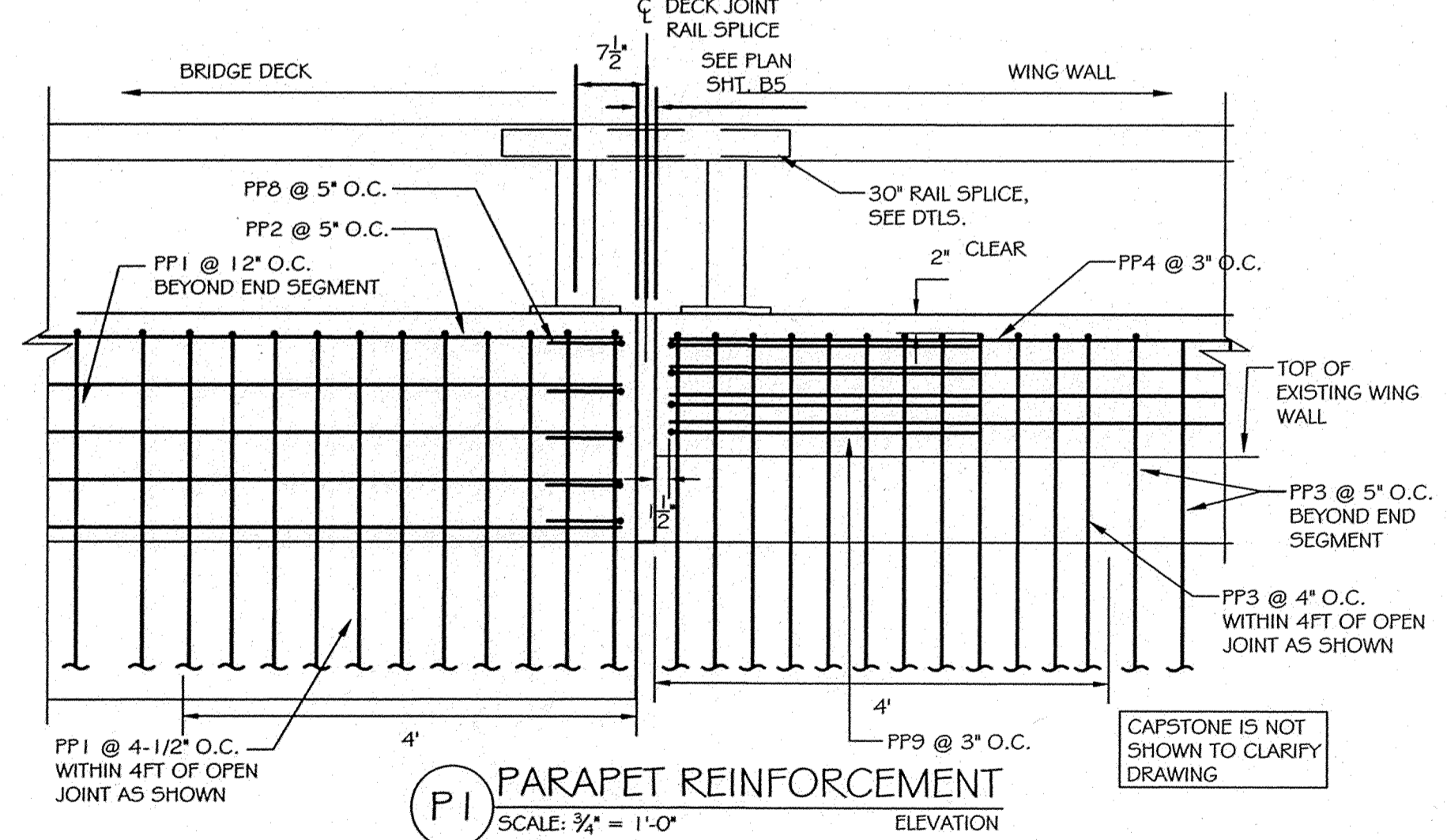
PLAN - POST AND BASE PLATE  
SCALE: 1/2" = 1'-0"



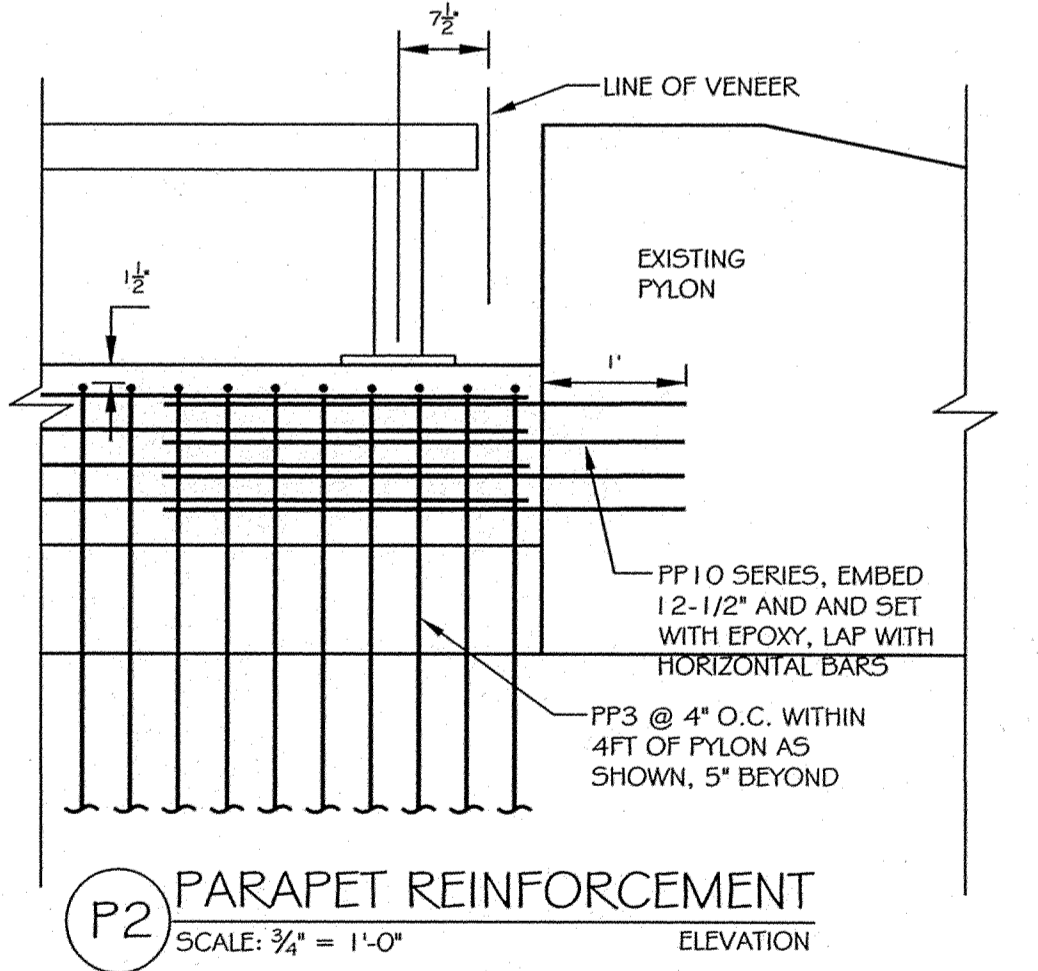
EMBED PLATE DETAIL



POST DAM PLATE DETAIL  
SCALE: 3" = 1'-0"



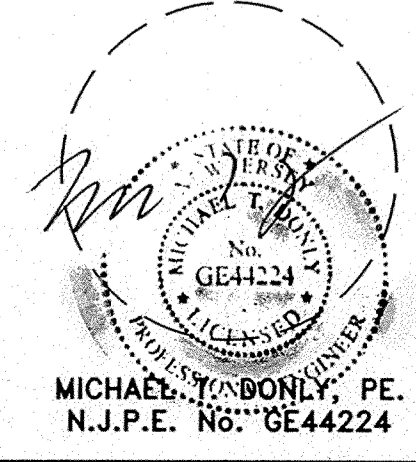
P1 PARAPET REINFORCEMENT  
SCALE: 3/4" = 1'-0"



P2 PARAPET REINFORCEMENT  
SCALE: 3/4" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	BY	CHECKED BY
1	12/19/2018	ISSUED FOR BIDDING	MTD	MTD
2	5/31/2019	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
3	3/1/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
4	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
5	1/03/2017	PRELIMINARY PLANS	JER	MTD

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DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 246A28083900



NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

**PARAPET AND RAILING DETAILS No. 2**

PASSAIC STREET (COUNTY ROAD 647)  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

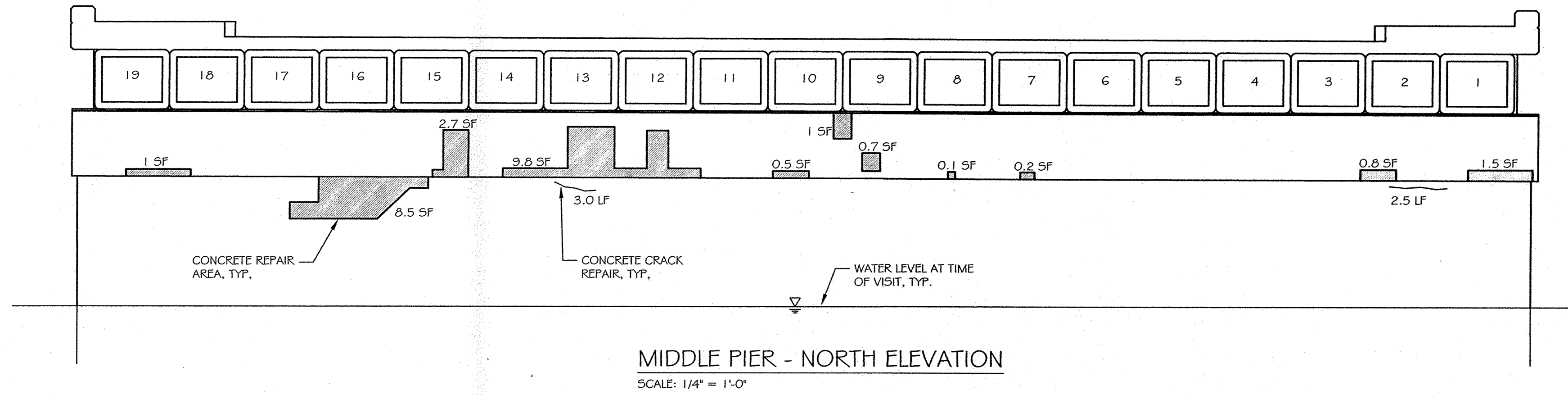
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BRIDGE SHEET No. 89 OF B13

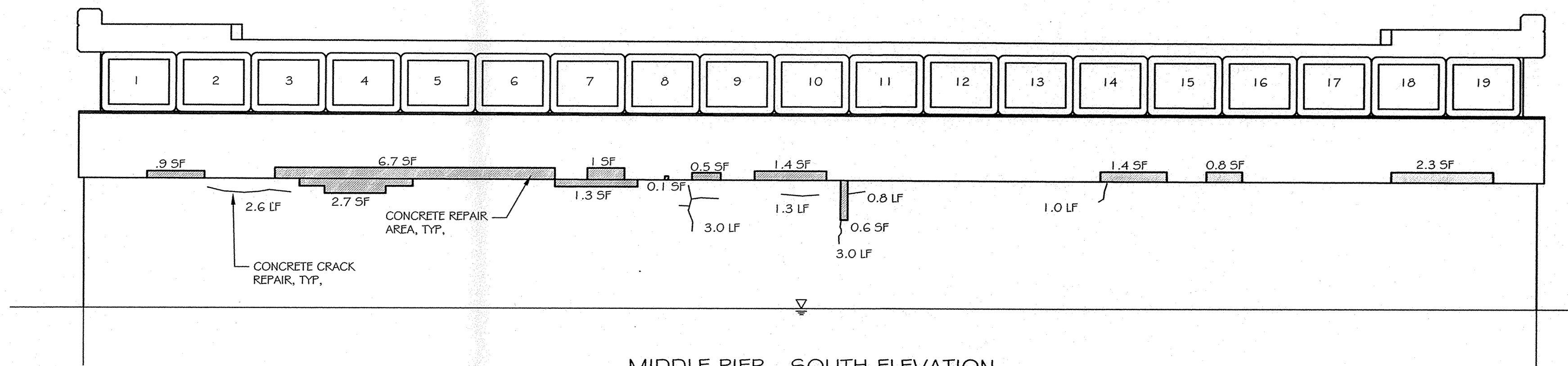
13/2017 DESIGN/ISSUE/17/CD/02/2018/REVISION



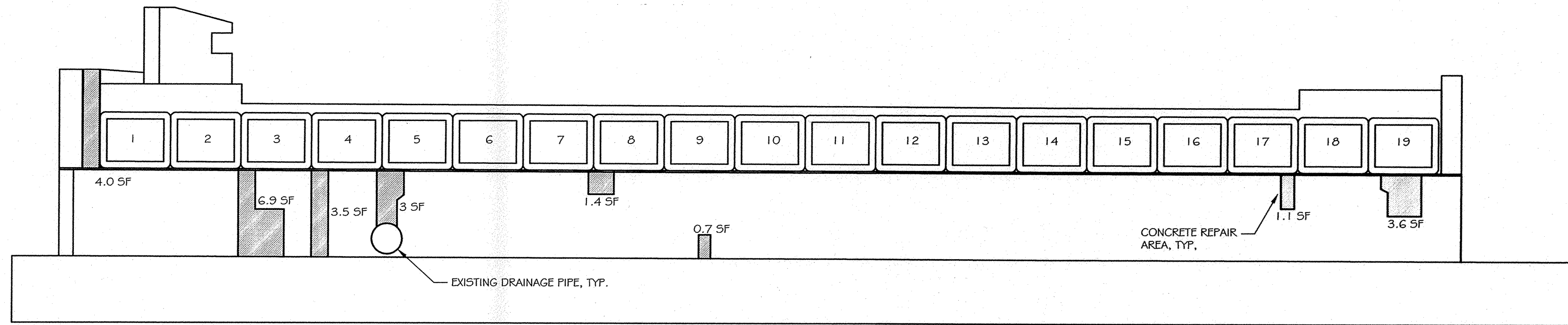




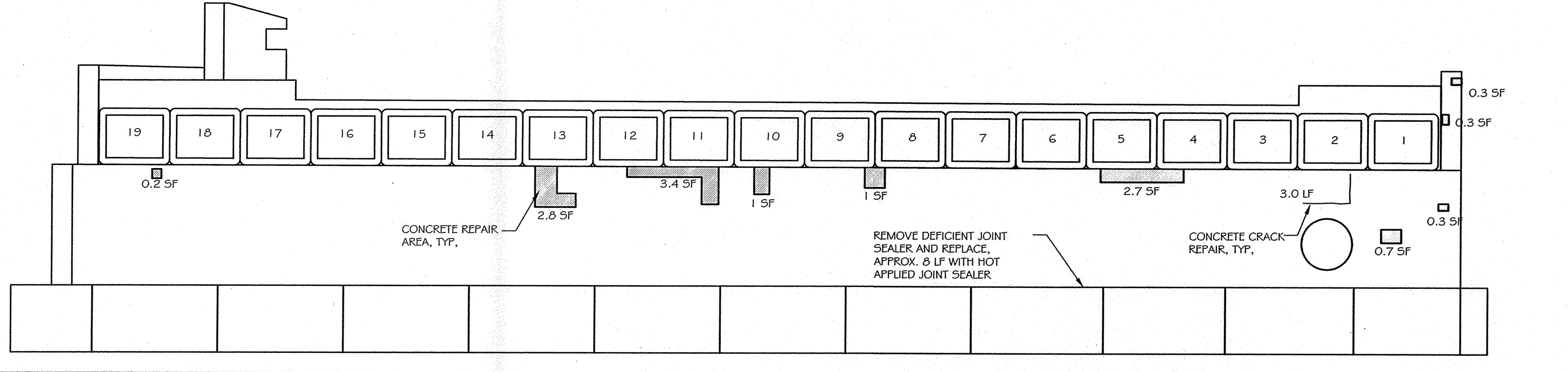
MIDDLE PIER - NORTH ELEVATION  
SCALE: 1/4" = 1'-0"



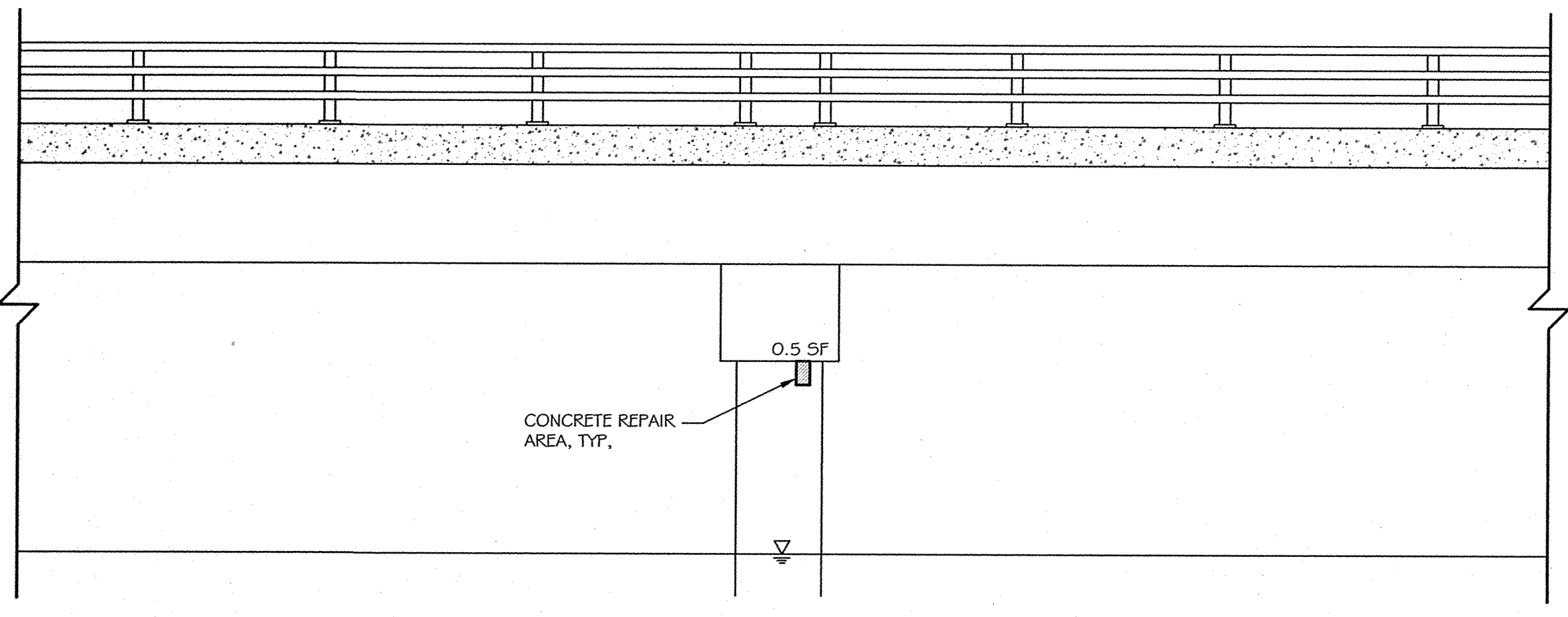
MIDDLE PIER - SOUTH ELEVATION  
SCALE: 1/4" = 1'-0"



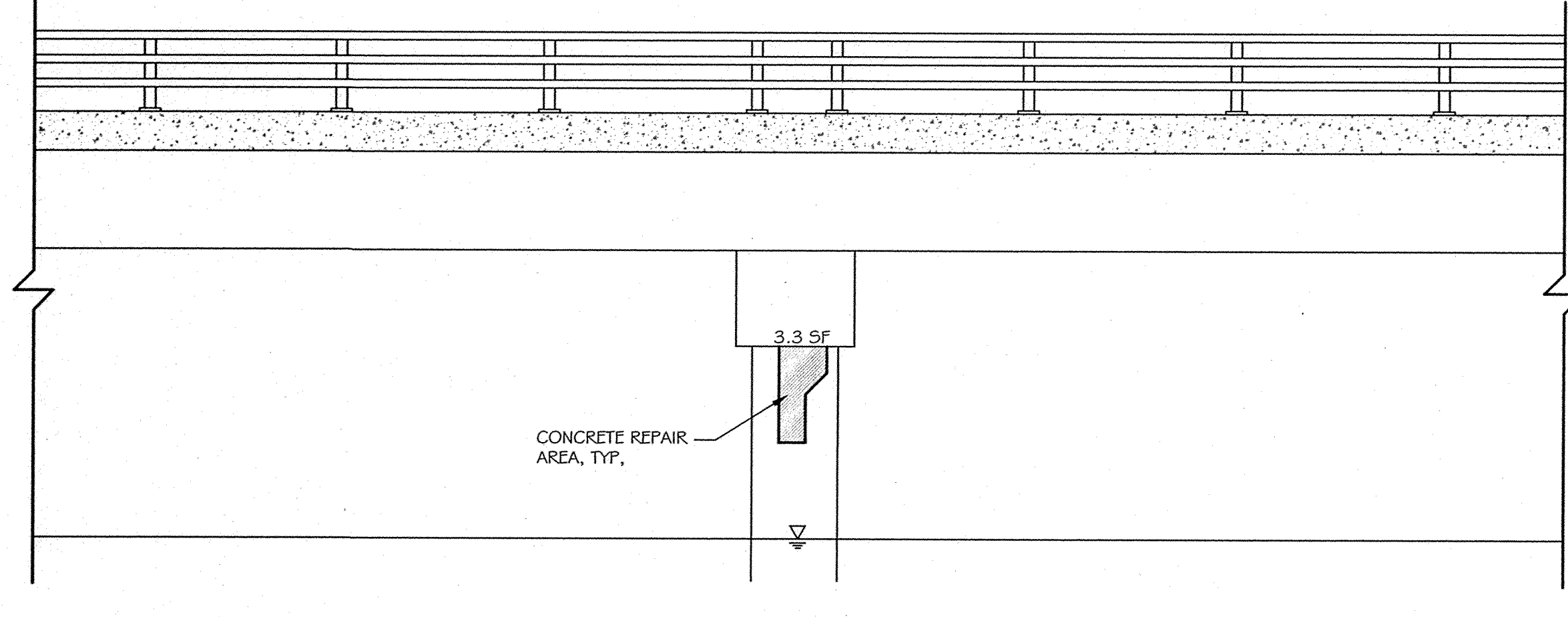
SOUTH ABUTMENT  
SCALE: 1/4" = 1'-0"



NORTH ABUTMENT  
SCALE: 1/4" = 1'-0"



PIER ELEVATION (EAST)  
SCALE: 1/4" = 1'-0"



PIER ELEVATION (WEST)  
SCALE: 1/4" = 1'-0"

SUMMARY OF QUANTITIES

ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
552003M	PRESSURE INJECTION, CONCRETE CRACKS	LF	20	
555003M	SUBSTRUCTURE CONCRETE REPAIR	SF	88	
556012P	PRESSURE WASHING OF SUBSTRUCTURE	LS	1	

- SUBSTRUCTURE REPAIR NOTES:
- PAYMENT FOR HOT APPLIED JOINT SEALER COST SHALL BE INCLUDED IN PAY ITEM "SUBSTRUCTURE CONCRETE REPAIR"
  - ALL EXPOSED CONCRETE SURFACES OF ABUTMENTS, PIER, WING WALLS AND SLOPE PROTECTION SHALL BE PRESSURE WASHED. PAYMENT FOR PRESSURE WASHING SHALL BE INCLUDED IN PAY ITEM "PRESSURE WASHING OF SUBSTRUCTURE"
  - CONCRETE SURFACE REPAIRS SHALL BE INCLUDED IN PAY ITEM "SUBSTRUCTURE CONCRETE REPAIR"
  - CONCRETE CRACK REPAIRS SHALL BE INCLUDED IN PAY ITEM "PRESSURE INJECTION, CONCRETE CRACKS"

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
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△	12/19/2018	ISSUED FOR BIDDING	MTD	MTD
△	5/31/2019	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
△	3/12/2019	ISSUED FOR NJDOT REVIEW	JER	MTD
△	2/20/2019	ISSUED FOR COUNTY REVIEW	JER	MTD
△	10/31/2017	PRELIMINARY PLANS	JER	MTD

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DONLY ENGINEERING GROUP, INC.  
CERT. OF AUTH. 246A28083900

MICHAEL J. DONLY, P.E.  
N.J.P.E. No. 6E44224

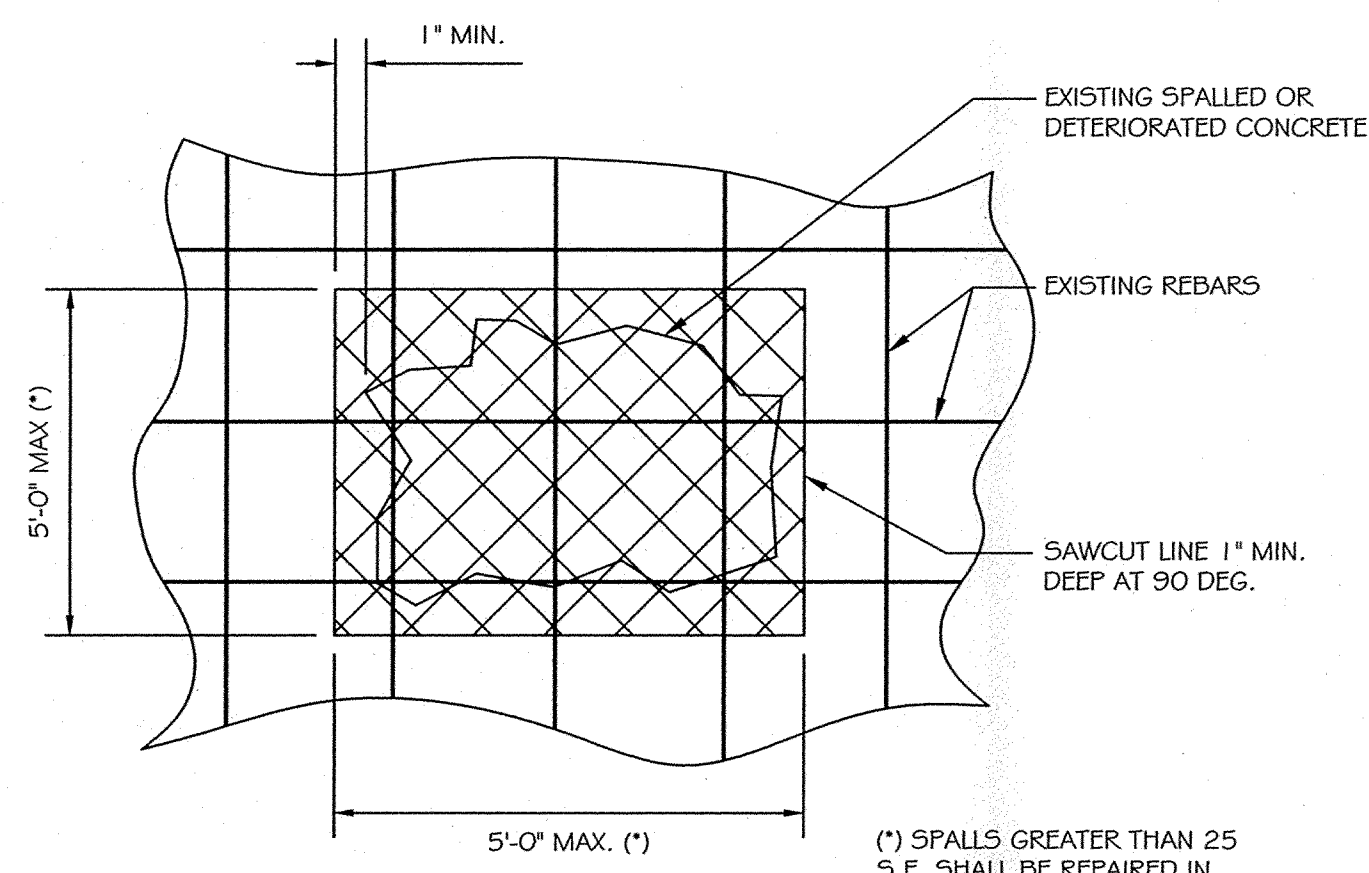
NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

SUBSTRUCTURE REPAIR PLAN

PASSAIC STREET ( COUNTY ROAD 647 )  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

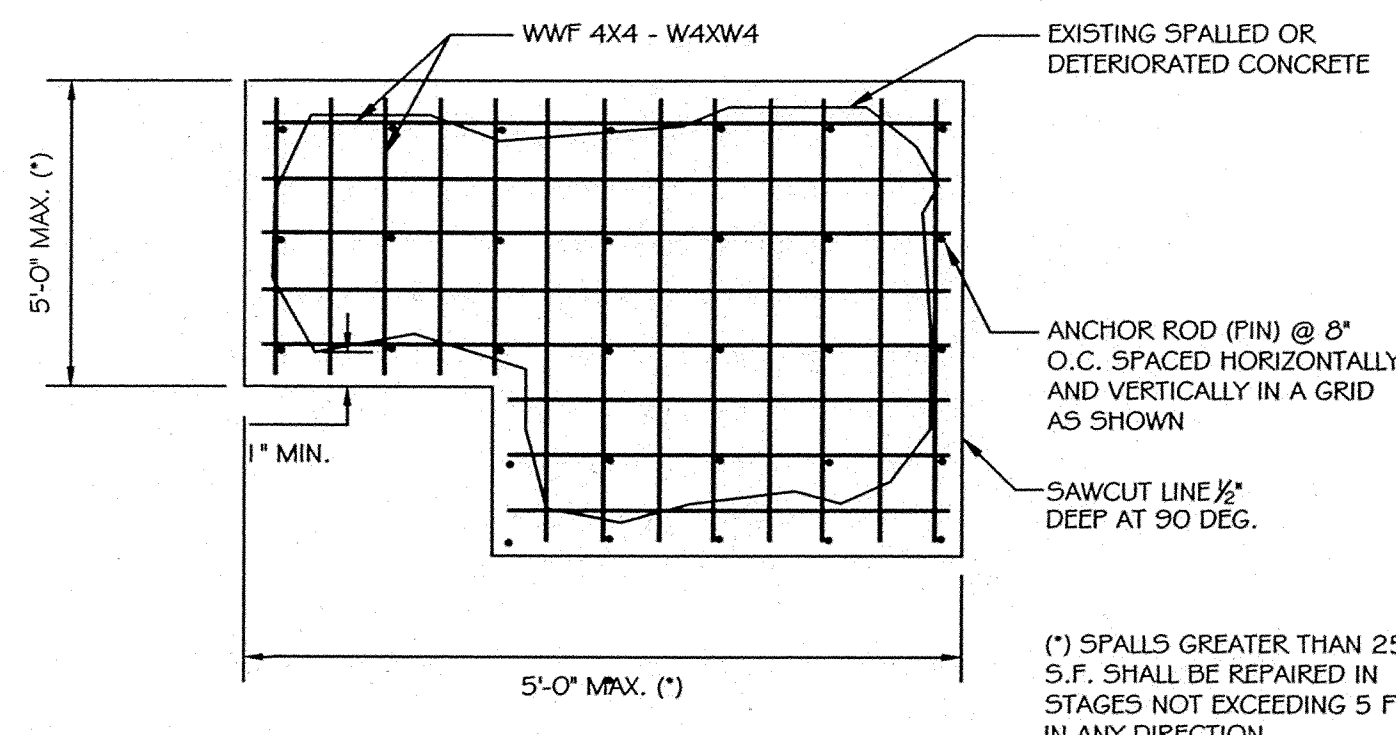
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BRIDGE SHEET No. B11 OF B13



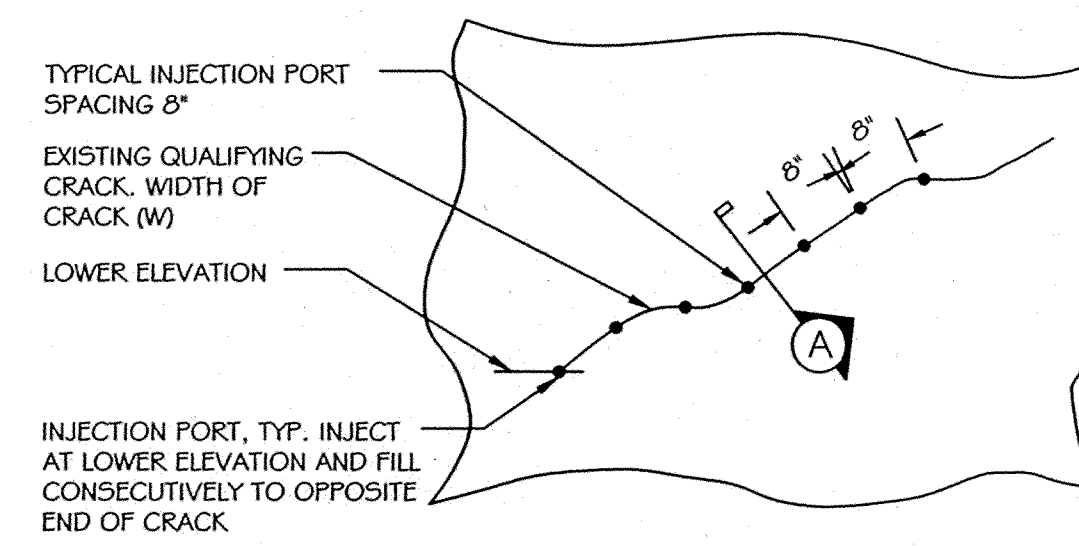
**E1 ELEVATION**  
SCALE: N.T.S.

(\*) SPALLS GREATER THAN 25 S.F. SHALL BE REPAIRED IN STAGES NOT EXCEEDING 5 FT IN ANY DIRECTION



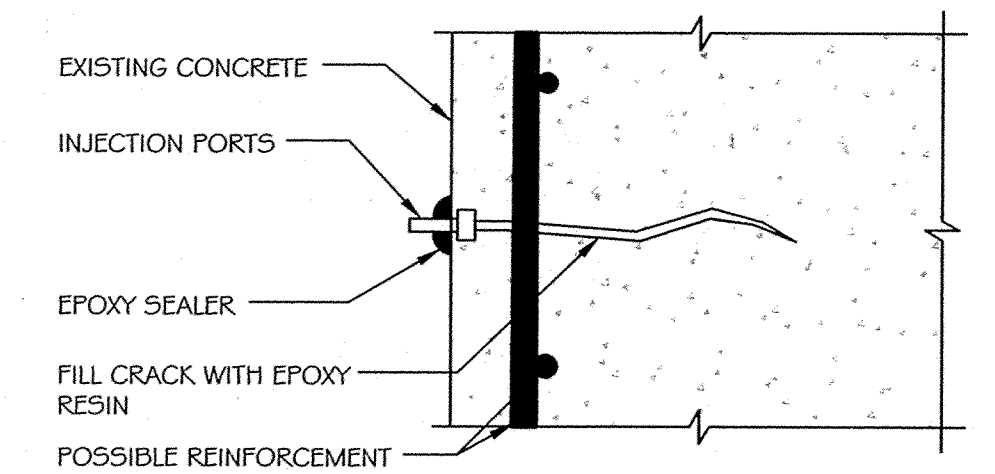
**E2 ELEVATION**  
SCALE: N.T.S.

(\*) SPALLS GREATER THAN 25 S.F. SHALL BE REPAIRED IN STAGES NOT EXCEEDING 5 FT IN ANY DIRECTION



**ELEVATION CONCRETE CRACK - EPOXY INJECTION REPAIR DETAIL - VERTICAL WALL SURFACE**

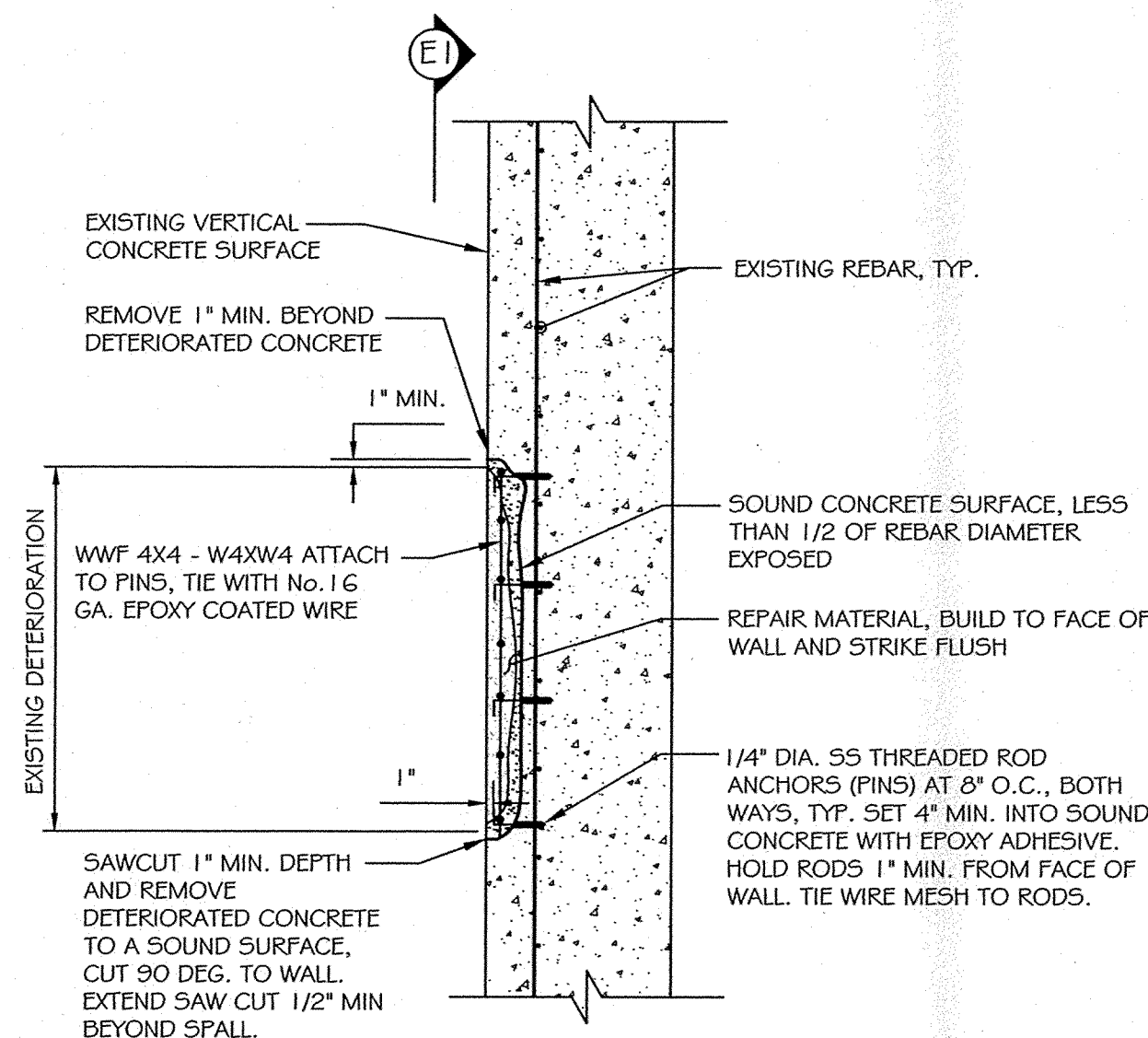
SCALE: N.T.S. (FOR W 1/2" TO 1/2")



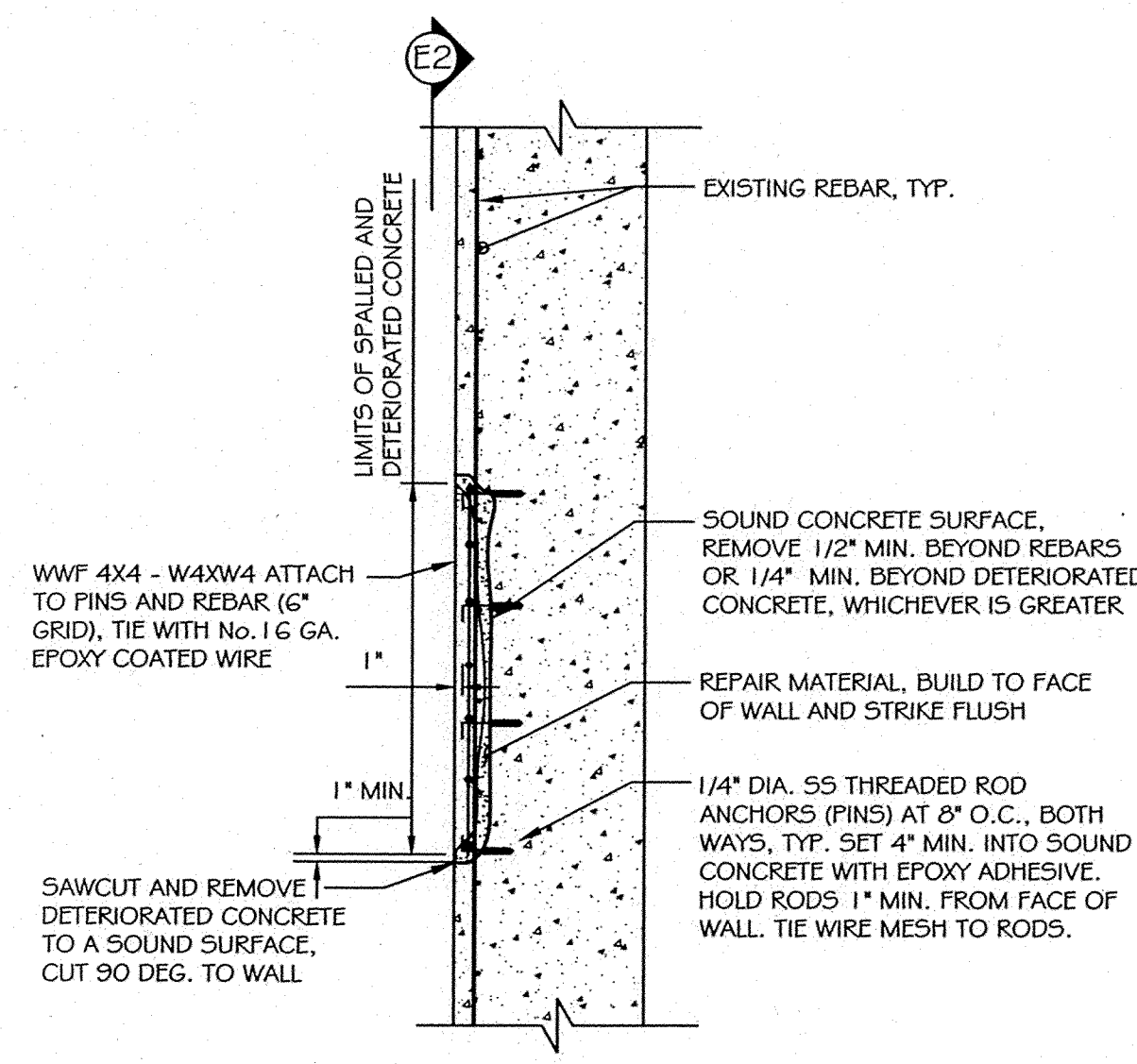
**SECTION "A"**  
SCALE: N.T.S.

**CONCRETE CRACK REPAIR NOTES:**

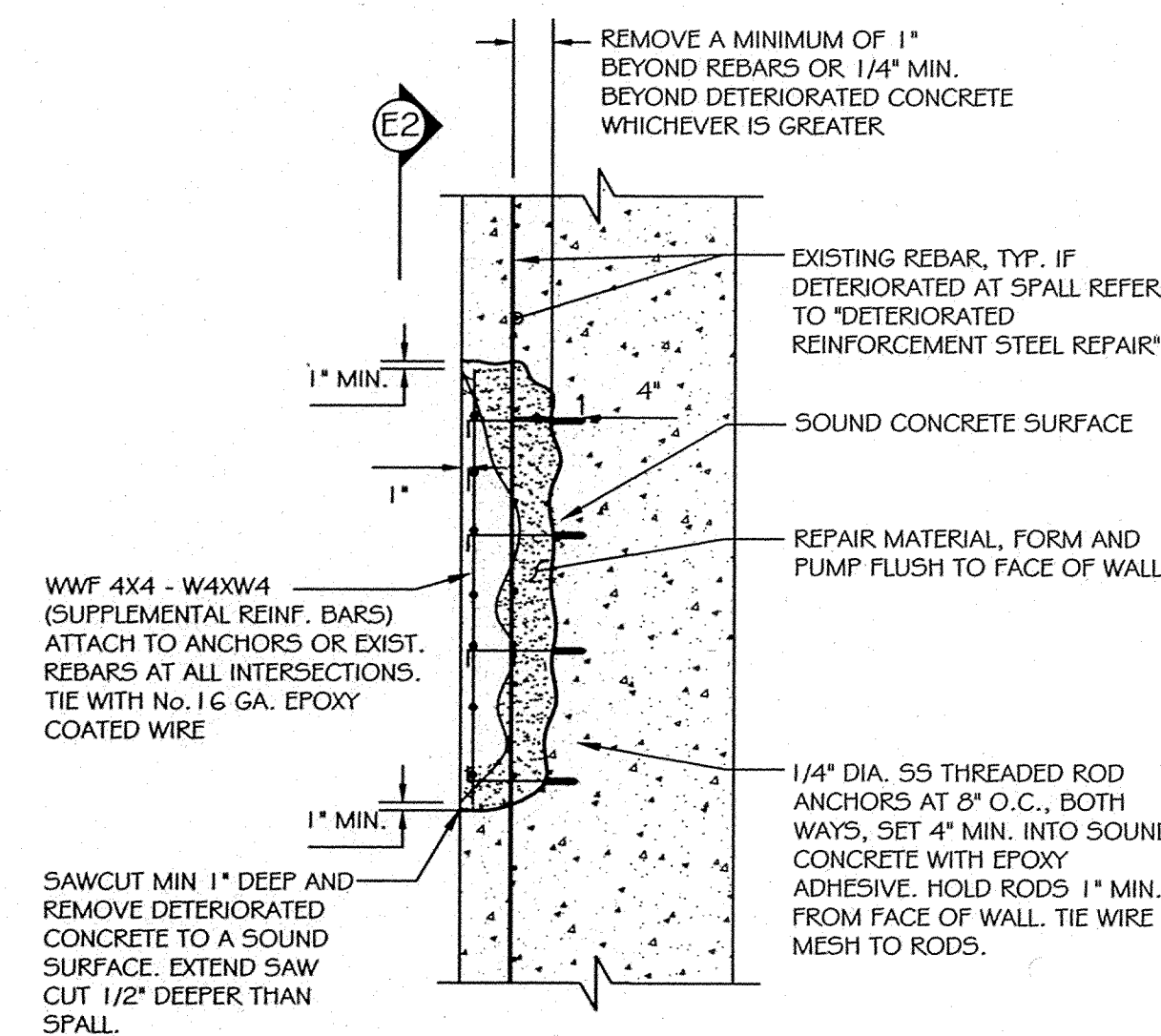
- DO NOT REPAIR CRACKS LESS THAN 1/32" WIDE WITH EPOXY INJECTION.
- CLEAN CRACKS EQUAL TO OR WIDER THAN 1/32" USING OIL-FREE COMPRESSED AIR OR WATER UNDER PRESSURE TO REMOVE ALL DIRT AND LOOSE MATERIAL INSIDE THE CRACKS.
- PERFORM CRACK REPAIRS AS SHOWN ON THIS DRAWING AND IN ACCORDANCE WITH SPECIFICATION SECTION 030140.61



**TYPE-E CONCRETE SPALL REPAIR DETAIL - SHALLOW**  
SCALE: N.T.S. (< 1/2 REBAR DEPTH) SECTION



**TYPE-E CONCRETE SPALL REPAIR DETAIL - MID-RANGE DEPTH**  
SCALE: N.T.S. (< 2" DEPTH) SECTION



**TYPE-F CONCRETE SPALL REPAIR DETAIL - DEEP**  
SCALE: N.T.S. (> 2" DEPTH) SECTION

**GENERAL REPAIR NOTES: ABUTMENTS, PIERS, WINGWALLS & SLOPE PROTECTION**

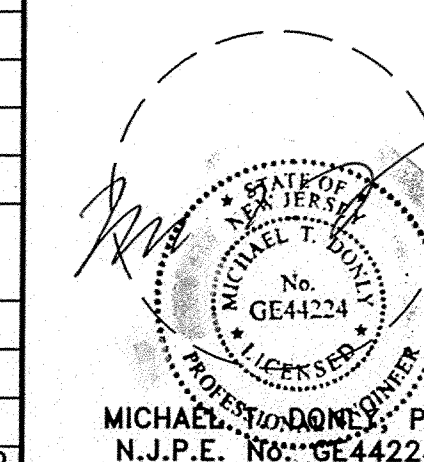
- CUT BACK BRUSH AWAY FROM BRIDGE SUBSTRUCTURE ELEMENTS AND PULL AWAY HEAVY VINES AND ROOTS GROWING ON AND INTO BRIDGE.
- POWERWASH ALL EXPOSED ELEMENTS OF BRIDGE TO REMOVE DIRT, VINES, LOOSE CONCRETE AND MINERAL BUILD-UP. STUBBORN MINERAL BUILD-UP MAY REQUIRE GRIT BLAST OR WATER BLAST, DETERMINE IN FIELD.
- EXCAVATE SILT AWAY FROM CONCRETE SLOPE PROTECTION DOWN TO TOE OF SLOPE.
- POWERWASHING MAY REVEAL ADDITIONAL CONCRETE DEFICIENCIES BEYOND EXTENT OF THIS PLAN.
- THE CONTRACTOR SHALL REPAIR DETERIORATED CONCRETE IN ACCORDANCE WITH ONE OF THE APPLICABLE CONCRETE REPAIR DETAILS SHOWN ON DRAWINGS.
- CRACKS NOTES TO BE REPAIRED SHALL RECEIVE EPOXY INJECTION IN ACCORDANCE WITH DETAILS.

**CONCRETE SPALL REPAIR NOTES:**

- REPAIR TYPE-E:** REMOVE ALL DETERIORATED AND DELAMINATED CONCRETE TO A MINIMUM DEPTH OF 1" BELOW THE WALL SURFACE TO UNSOUND CONCRETE, BUT NO MORE THAN ONE HALF OF THE REINFORCEMENT DIAMETER IS TO BE EXPOSED. PERFORM PREP WORK AS OUTLINED HEREIN AND REPAIR UPON APPROVAL OF DETAILING BY THE ENGINEER.
- REPAIR TYPE-F:** REMOVE ALL DETERIORATED AND DELAMINATED CONCRETE AND IF MORE THAN ONE HALF OF THE REINFORCEMENT DEPTH IS EXPOSED OR UNSOUND, EXTEND REMOVAL TO A MINIMUM DEPTH OF 1" BEHIND THE REINFORCEMENT TO UNSOUND CONCRETE. PERFORM PREP WORK AS OUTLINED HEREIN AND REPAIR UPON APPROVAL OF DETAILING BY THE ENGINEER.
- CLEAN DETERIORATED REBAR AND ANY EMBEDDED STEEL WITH POWER TOOLS TO REMOVE RUST DOWN TO BARE METAL.
- INSTALL 1/4" DIAMETER STAINLESS STEEL (ASTM 304) THREADED RODS ("PINS") IN A 6"X6" GRID PATTERN. SET PINS A MINIMUM OF 4" INTO SOUND CONCRETE WITH EPOXY. EXTEND PINS TO WITHIN 1" OF FINAL SURFACE, BEND AS NEEDED TO ACHIEVE.
- INSTALL REINFORCING MESH AS NOTED IN SECTIONS.
- BLOW CLEAN WITH COMPRESSED AIR OR VACUUM REPAIR SURFACE TO REMOVE DUST AND DEBRIS.
- WET CONCRETE SUBSTRATE WITH CLEAN WATER TO ACHIEVE A SATURATED SURFACE DRY (SSD) CONDITION WITH NO STANDING WATER.
- APPLY TWO COATS OF CORROSION INHIBITOR TO REBAR AT 20 MILS PER COAT. ALLOW 3 TO 6 HOURS BETWEEN COATS. USE DURALPREP AC AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY OR APPROVED EQUAL.
- RE-WET CONCRETE SUBSTRATE WITH CLEAN WATER TO ACHIEVE A SATURATED SURFACE DRY (SSD) CONDITION WITH NO STANDING WATER.
- APPLY ONE COAT OF BONDING AGENT, MINIMUM 20 MILS THICK TO CONCRETE SURFACE - USE DURALPREP AC OR APPROVED EQUAL. ALLOW TO DRY A MINIMUM OF 1 HOUR PRIOR TO PLACING REPAIR MORTAR.
- PLACE FIRST LIFT OF FRESH REPAIR MORTAR WITHIN THE ALLOWED OPEN TIME OF THE 1 - 24 HRS AT 75 DEG F. WORK FIRST LIFT INTO SSD SURFACE FILLING ALL VOIDS. INSTALL REPAIR MORTAR IN MAXIMUM 2" LIFTS. USE SPEED CRETE RED LINE AS MANUFACTURED BY THE EUCLID COMPANY OR APPROVED EQUAL.

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
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△	12/19/2016	ISSUED FOR BIDDING	MTD	MTD
△	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
△	3/12/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
△	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
△	10/31/2017	PRELIMINARY PLANS	JER	MTD
REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY

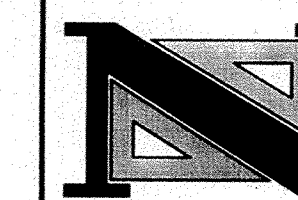
STRUCTURAL DESIGN BY  
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NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

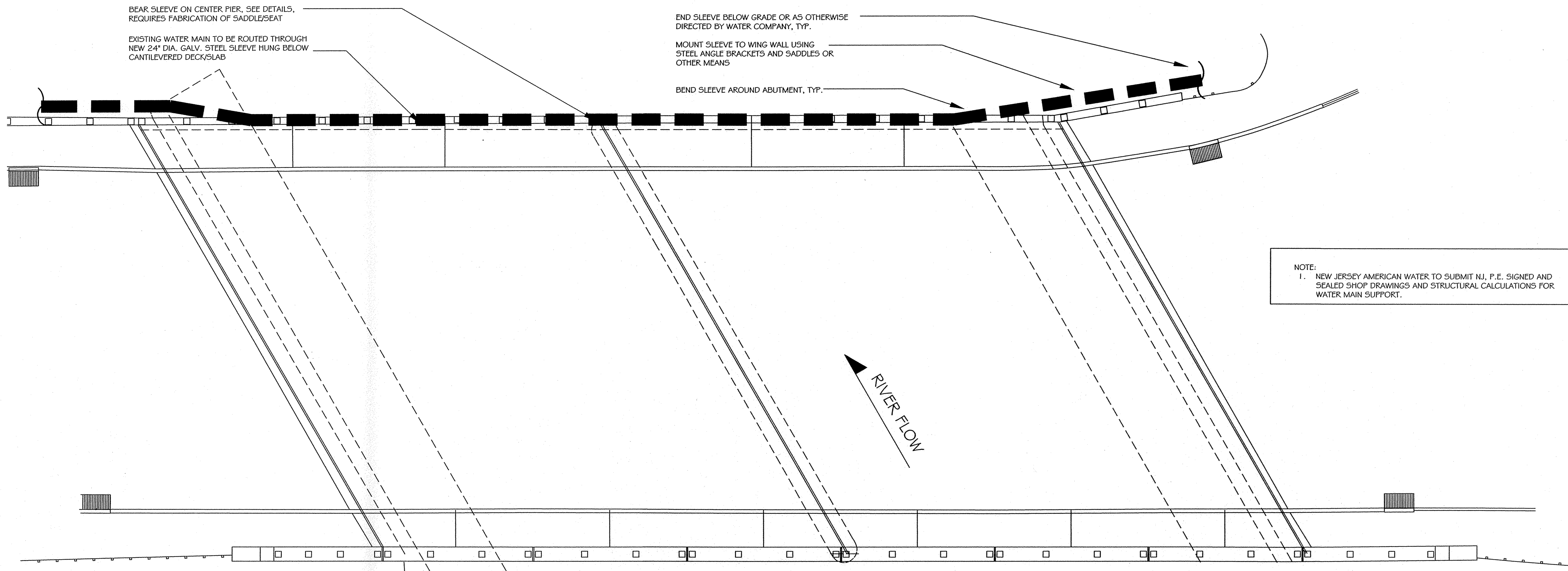
**SUBSTRUCTURE REPAIR DETAILS**

PASSAIC STREET (COUNTY ROAD 647)  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60



A PROJECT OF  
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CERT. OF AUTH. No. GA276890

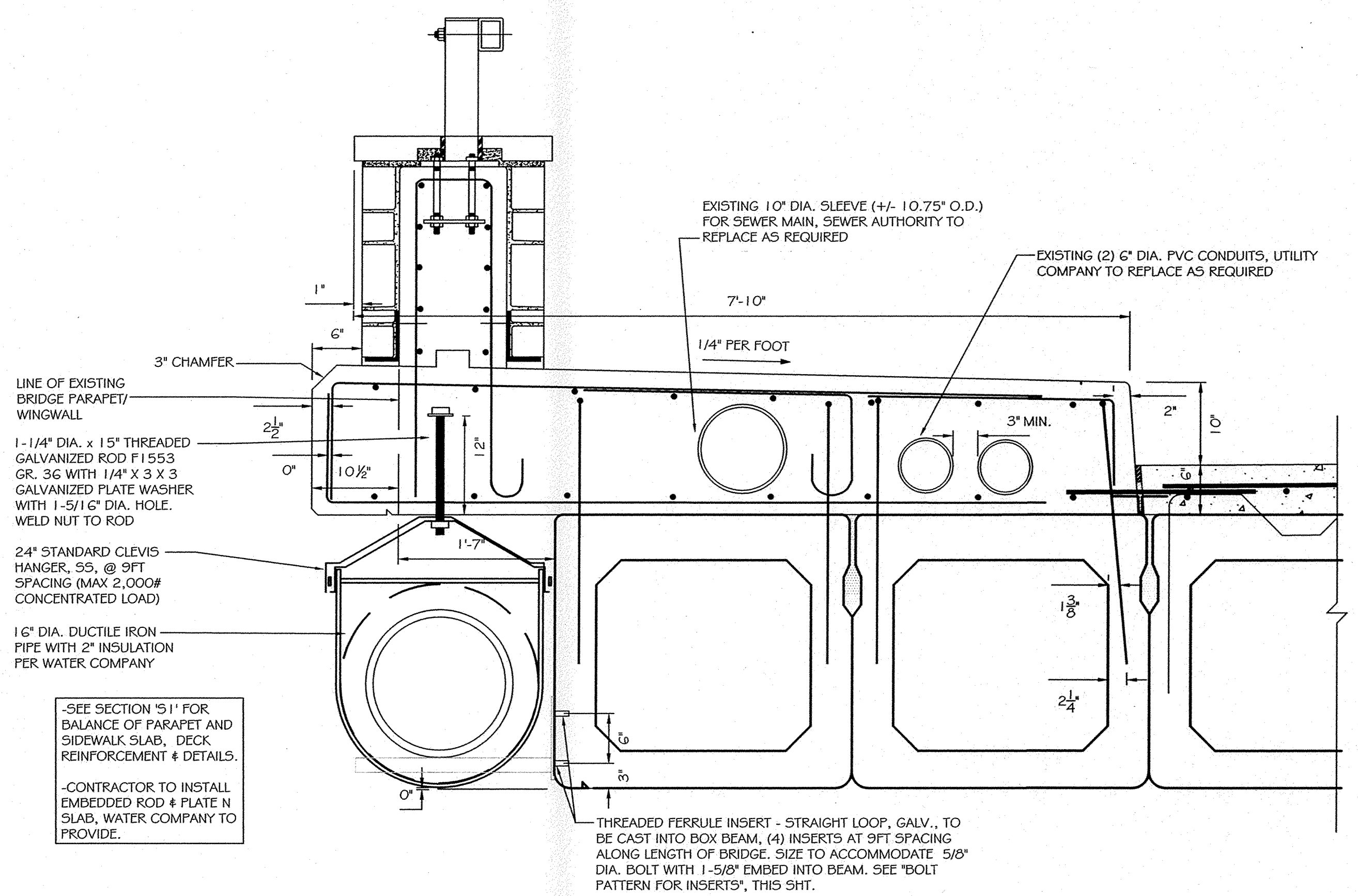
BRIDGE SHEET No. B12 OF B13



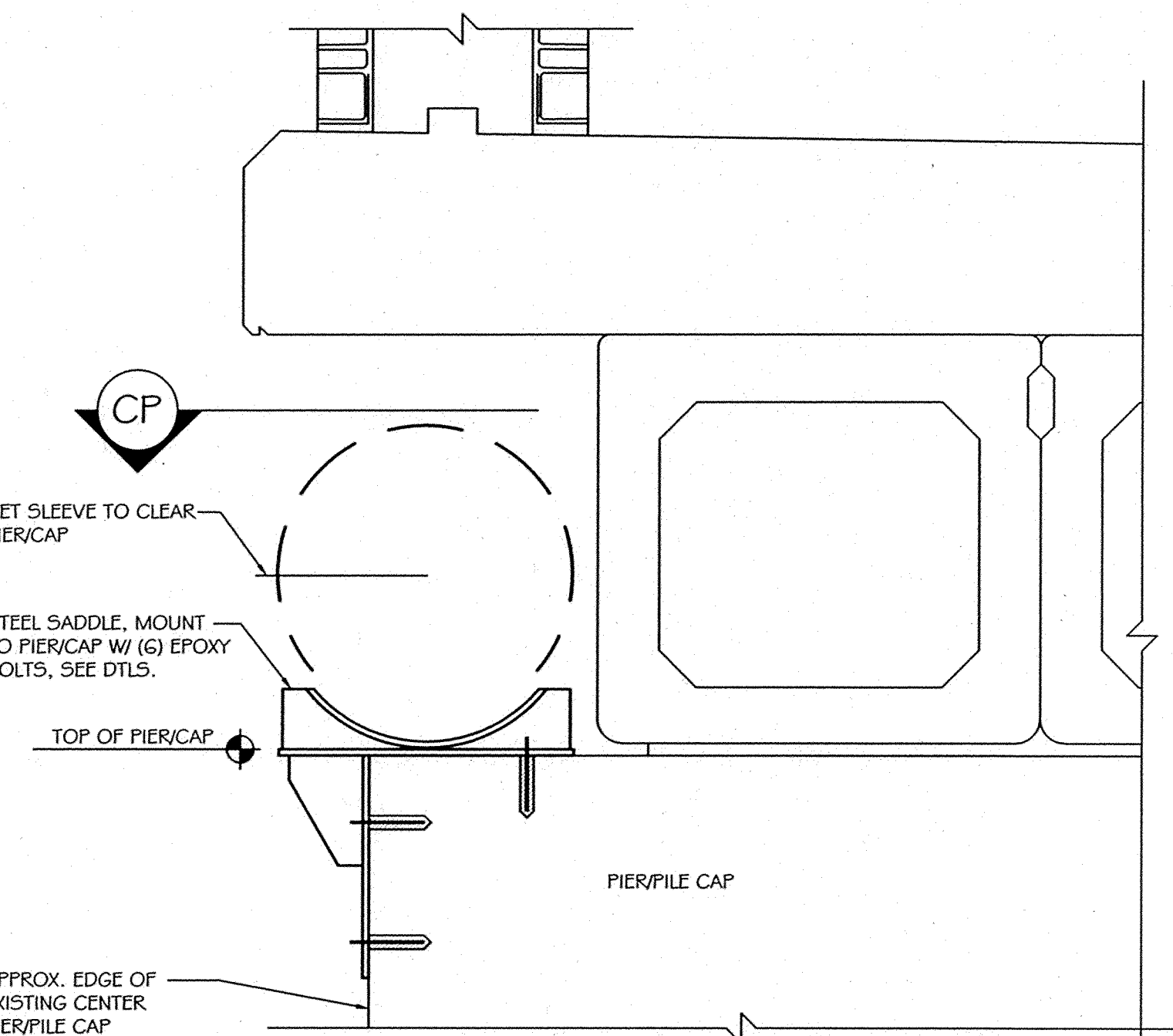
- WATER MAIN SUPPORT - PLAN NOTES:**
1. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH NJ AMERICAN WATER AND ALL OTHER UTILITY COMPANIES. CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN TEMPORARY SUPPORT OF ALL UTILITIES AT CROSSING.
  2. CONTRACTOR SHALL INSTALL THE HANGER RODS AND PLATES REQUIRED TO BE EMBEDDED IN CONCRETE. NJ AMERICAN WATER (NJAW) SHALL SUPPLY THE EMBEDDED ITEMS LISTED.
  3. NJAW SHALL PROVIDE AND INSTALL THE NEW WATER PIPE, INSULATION JACKET AND RELATED SUPPORT HARDWARE IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
  4. CONTRACTOR IS REFERRED TO SPECIFICATION SUB SECTION 055000 - METAL FABRICATIONS FOR FURTHER CLARIFICATION WITH REGARD TO HIS RESPONSIBILITIES.
  5. PAYMENT FOR SETTING EMBEDDED HARDWARE SHALL BE INCLUDED IN PAY ITEM "CONCRETE BRIDGE SIDEWALK, HPC".
  6. REFER TO DEMOLITION PLANS FOR PAYMENT WITH REGARD TO UTILITY RELATED WORK.

**NOTE:**  
1. NEW JERSEY AMERICAN WATER TO SUBMIT NJ, P.E. SIGNED AND SEALED SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR WATER MAIN SUPPORT.

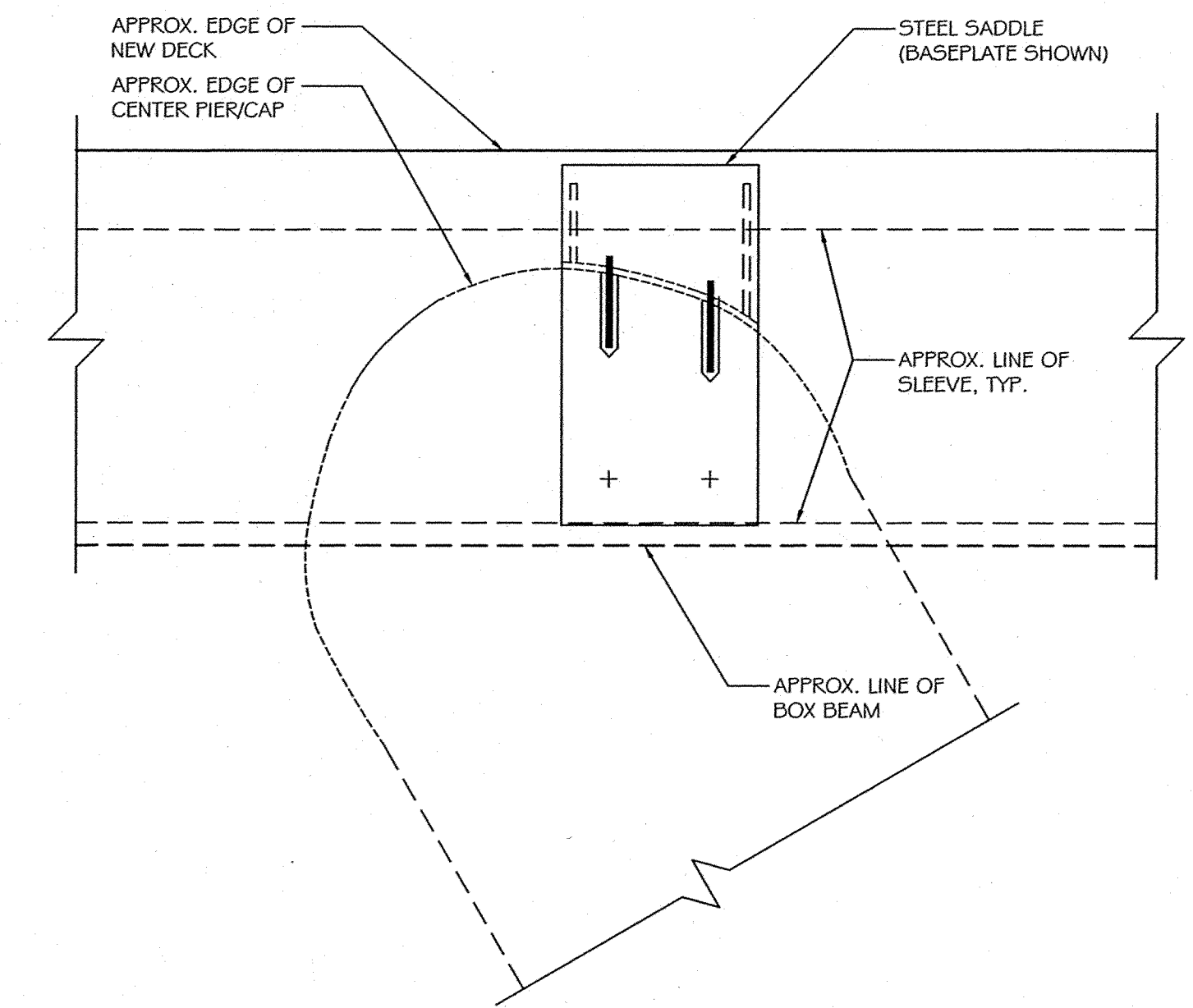
**WATER MAIN RELOCATION PLAN**  
SCALE: 1/8" = 1'-0"  
SCHEMATIC



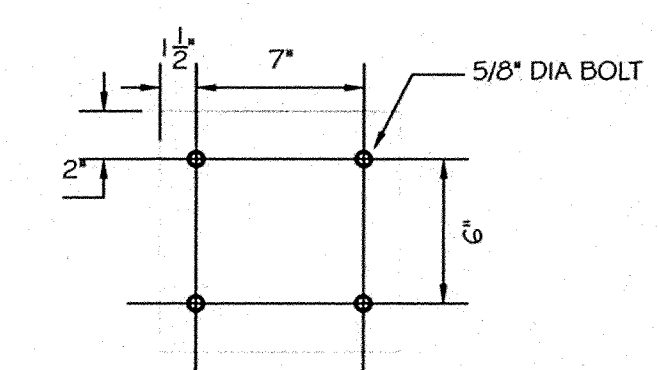
**S2 WATER MAIN SUPPORT DETAIL**  
SCALE: 1" = 1'-0"  
SECTION



**S3 WATER MAIN SUPPORT @ CENTER BRIDGE PIER**  
SCALE: 1" = 1'-0"  
SECTION - SCHEMATIC



**CP WATER MAIN SUPPORT @ CENTER BRIDGE PIER**  
SCALE: 1" = 1'-0"  
PLAN - SCHEMATIC



**BOLT PATTERN FOR INSERTS**  
SCALE: 1-1/2" = 1'-0"  
ELEVATION

REV.	DATE	REVISION DESCRIPTION	BY	CHECKED BY
△				
△				
△				
△				
△				
△	12/19/2016	ISSUED FOR BIDDING	MTD	MTD
△	5/31/2018	REVISED PER UNION COUNTY, MORRIS COUNTY AND NJDOT REVIEW COMMENTS	JER	MTD
△	3/12/2018	ISSUED FOR NJDOT REVIEW	JER	MTD
△	2/20/2018	ISSUED FOR COUNTY REVIEW	JER	MTD
△	10/31/2017	PRELIMINARY PLANS	JER	MTD
△				

STRUCTURAL DESIGN BY  
**DONLY ENGINEERING GROUP, INC.**  
CERT OF AUTH. 24GA28083900

**MICHAEL T. DONLY, P.E.**  
N.J.P.E. NO. GE44224

**NEW JERSEY DEPARTMENT OF TRANSPORTATION**  
**BUREAU OF STRUCTURAL ENGINEERING**

**WATER MAIN SUPPORT**  
PASSAIC STREET (COUNTY ROAD 647)  
OVER PASSAIC RIVER  
COUNTY BRIDGE No. NE-60

A PROJECT OF  
**NEGlia ENGINEERING ASSOCIATES**  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. **B13 OF B13**