

COUNTY OF UNION

DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT

Joseph A. Graziano Sr., Director

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

MEMO TO: ALL PROSPECTIVE BIDDERS

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

DATE: May 24, 2017

RE: **CLARIFICATION NUMBER 1**
BA#1-2017 – Replacement of Netherwood Avenue Bridge
PI-37, City of Plainfield, County of Union, New Jersey
Union County Engineering Project #2014-002

The following is a response received for the above referenced project:

- Q1. "In reference to piles and steel sheeting being permanent on the water side of the bridge abutments. If we use a different method for a cofferdam are the piles and steel sheathing required still as part of the bridge design?"
- R1. The purpose of the permanent cofferdam is to provide permanent scour protection for the front face or water side of the proposed bridge abutment footings, as indicated in the Schematic Cofferdam Section on Sheet 23 of 33 and by the permanent and temporary cofferdam limits shown on Sheet 31 of 33. This plan requirement for permanent scour protection cannot and will not be waived. However, the Contract Plans only indicate one possible means of cofferdam construction using a combination of steel H-piles and steel sheeting. The contractor may elect to provide a different or alternate type of cofferdam to facilitate the demolition of the existing bridge substructure and the construction of the new bridge substructure. However, introducing an alternate type of cofferdam does not relieve the contractor of providing the aforementioned permanent scour protection for the new bridge.

As indicated on Sheet 23 of 33, the contractor's Engineer must provide all design calculations and shop drawings required to show that the proposed cofferdam is designed to withstand the anticipated loads during demolition / construction utilizing the soil properties that will be encountered at the site, as indicated on the boring logs shown on Sheet 33 of 33. The shop drawings must also indicate a water seal and/or other sufficient means by the contractor to maintain a dry working site free from water intrusion through, over and/or under the proposed cofferdam. All calculations and shop drawings must be signed and sealed by a licensed Professional Engineer currently registered in the State of New Jersey retained by the contractor and submitted to the County for review and approval prior to fabrication and/or construction.

Clarification Number 1
May 24, 2017

**SPECIFICATIONS
FOR
REPLACEMENT OF NETHERWOOD AVENUE BRIDGE, PL-37
CITY OF PLAINFIELD, COUNTY OF UNION, NEW JERSEY
BA#1-2017; UNION COUNTY ENGINEERING PROJECT #2014-002**

JUNE 2017

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**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:
CME Associates
Consulting & Municipal Engineers
3141 Bordentown Avenue
Parlin, New Jersey 08859
T: 732-727-8000
F: 732-727-3989**

**COUNTY OF UNION
NOTICE TO BIDDERS**

Sealed bids will be received by the director of the Division of Purchasing, or her designee, at the County of Union, New Jersey on June 15, 2017 at 10:30 a.m., prevailing time, in the 3rd Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**REPLACEMENT OF NETHERWOOD AVENUE BRIDGE, PL-37
CITY OF PLAINFIELD, COUNTY OF UNION, NEW JERSEY
BA#1-2017; UNION COUNTY ENGINEERING PROJECT #2014-002**

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.

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.S.A.C. 17:27.

LAURA M. SCUTARI, QPA, MPA, DIRECTOR OF PURCHASING

**UNION COUNTY BOARD
OF CHOSEN FREEHOLDERS**

We're Connected to You!

NB-1

**REPLACEMENT OF NETHERWOOD AVENUE BRIDGE, PL-37, CITY OF PLAINFIELD
COUNTY OF UNION, NEW JERSEY**

BA#34-2016; Union County Engineering Project #2014-002

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**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, 6th Floor
10 Elizabethtown Plaza
Elizabeth, New Jersey 07207

ADDRESS BIDS AND SUBMIT TO:

Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Laura M. Scutari, QPA, MPA, Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548

TITLE OF PROJECT:

BIDDER: Bidder shall be a single overall contract bidder

ENGINEER: **CME Associates, Consulting & Municipal Engineers**
3141 Bordentown Avenue
Parlin, New Jersey 08859

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

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 Contractor'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 Michael M. Yuska, QPA,

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, Michael M. Yuska, QPA, 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. 34:11-56a.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 statutes 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 NJSA 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 NJSA 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 NJSA 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 NJSA 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 NJSA 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 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 NJSA 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 NJSA 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 - (NJSA 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 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.

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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 NJSA 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 NJSA 19A:44A-1 et. seq. are NOT REQUIRED to be provided with the bids.

55. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION

Pursuant to NJSA 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," (NJSA 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).

ALFRED J. FAELLA
COUNTY MANAGER

LAURA M. SCUTARI, QPA, MPA
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.

- _____ 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 – 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 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

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

**REPLACEMENT OF NETHERWOOD AVENUE BRIDGE, PL-37
CITY OF PLAINFIELD, COUNTY OF UNION, NEW JERSEY
BA#1-2017; UNION COUNTY ENGINEERING PROJECT #2014-002**

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:

ITEM	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization	LS	1		
2	Silt fence	LF	880		
3	Haybale	UNIT	2		
4	Inlet Filter, Type 1	SF	17		
5	Sediment control bag	SF	17		
6	Breakaway barricade	UNIT	17		
7	Drum	UNIT	10		
8	Traffic cone (if and where directed)	UNIT	10		
9	Construction sign	SF	517		
10	Construction barrier curb	LF	121		
11	Fuel price adjustment	ALL	1	\$1,000.00	\$1,000.00
12	Asphalt price adjustment	ALL	1	\$1,000.00	\$1,000.00

ITEM	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
13	Clearing site	LS	1		
14	Excavation, test pit (if and where directed)	CY	71		
15	Excavation, unclassified	CY	1,491		
16	Excavation, regulated material (if and where directed)	CY	1,355		
17	Disposal of regulated material (if and where directed)	TON	2,379		
18	I-11 Soil aggregate	CY	649		
19	I-14 Soil aggregate	CY	113		
20	2" to 2-1/2" clean stone subbase 6" thick including excavation, unclassified (if and where directed)	CY	64		
21	Soil support fabric (if and where directed)	SY	383		
22	Dense graded aggregate base course, 4" thick	CY	94		
23	Dense graded aggregate, Backfill	CY	53		
24	Tack coat	GAL	294		
25	Prime coat	GAL	421		
26	Polymerized Joint Adhesive	LF	209		
27	Hot Mix Asphalt 9.5M64 surface course	TON	99		
28	Hot Mix Asphalt 19M64 base course	TON	296		
29	Temporary Shielding	LS	1		
30	Maintenance and Protection of Stream Flow	LS	1		

ITEM	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
31	Vibration monitoring	LS	1		
32	Reinforcement steel, galvanized	LB	68,393		
33	Concrete footing	CY	242		
34	Concrete wingwall	CY	66		
35	Concrete abutment wall	CY	121		
36	Epoxy waterproofing	SY	66		
37	Prestressed concrete box beam, (Type BI-48), 48"x27"	LF	708		
38	Concrete bridge sidewalk	CY	30		
39	Reinforced elastomeric bearing assembly	UNIT	48		
40	Concrete bridge deck	CY	132		
41	Sawcut grooving for bridge decks	SY	264		
42	Deck protective coating	SY	275		
43	Balustrade parapet	LF	153		
44	Bridge plaque	UNIT	2		
45	8" Corrugated steel underdrain pipe	LF	143		
46	No Item	LF	0		
47	15" RCP storm sewer, Class V	LF	32		
48	18" RCP storm sewer, Class V	LF	43		

ITEM	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
49	Manhole 4' dia.	UNIT	4		
50	Reconstruct Manhole	UNIT	1		
51	Reset Existing Casting	UNIT	3		
52	Television inspection of storm sewer lines	LF	990		
53	12" Thick stoned filled, PVC coated reno mattress	CY	79		
54	3' x 3' Gabion basket	CY	21		
55	Erosion Control Blanket, Excelsior curlex II or approved equal	SY	47		
56	Pressure Treated Lattice Fence	LF	36		
57	Concrete sidewalk, Reinforced, 4" thick	SY	49		
58	Concrete reinforced driveway, 6" thick	SY	14		
59	Hot mix asphalt driveway, 2" thick	SY	29		
60	Detectable warning surface	SY	3		
61	10" x 20" concrete vertical curb	LF	288		
62	Regulatory and warning signs	SF	15		
63	Non-vegetative surface, hot mix asphalt	SY	44		
64	Thrie beam guide rail, bridge	LF	31		
65	Controlled release anchorage terminal	UNIT	4		
66	Beam Guiderail	LF	44		

ITEM	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
67	Traffic stripes, long life, "thermoplastic", 4" wide, with glass beads	LF	110		
68	Traffic stripes, long life, "thermoplastic", 24" wide, with glass beads	LF	21		
69	Temporary Trench Repair	SY	66		
70	Reset water valve box (if and where directed)	UNIT	3		
71	Topsoiling, 4" thick	SY	921		
72	Fertilizing and seeding, Type G	SY	692		
73	Fertilizing and seeding, Type 2, Riparian Zone	SY	229		
74	Straw mulching	SY	692		
75	Live branch cuttings (if and where directed)	UNIT	20		
76	Eastern white pine (Pinus Strobus), 8'-10' height, B&B (if and where directed)	UNIT	5		
77	Spreading Yew (Taxus x Media 'Densiformis'), 30"-36" B&B (if and where directed)	UNIT	5		
78	Abandon existing storm sewer pipe and fill with grout (if and where directed)	LF	900		
79	Post and Rail Fence	LF	77		
80	Replacement Trees (if and where directed)	UNIT	10		
81	Replacement Shrubs (if and where directed)	UNIT	10		
82	Replacement Perennials (if and where directed)	UNIT	15		
83	Shredded Hardwood Bark Mulching (if and where directed)	SY	675		
84	Municipal Police Allowance	ALL	1	\$200,000.00	\$200,000.00

ITEM	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
85	River Birch (Multi-Stem)	UNIT	1		
86	Balsam Fir	UNIT	1		
87	Red Dogwood	UNIT	1		
88	American Holly (Male & Female) (Dark Green Leaves)	UNIT	2		
89	Golden Twig Dogwood	UNIT	1		
90	Rhododendron	UNIT	1		
91	Vinca	UNIT	15		
92	Window Washing	UNIT	1		

Written

Figures

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

ONE HUNDRED FIFTY THOUSAND DOLLARS AND NO CENTS

Written

\$150,000.00

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 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.

Bidder's Name _____

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)**

STATEMENT OF OWNERSHIP DISCLOSURE - CONTINUED

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

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

STATEMENT OF OWNERSHIP DISCLOSURE - CONTINUED

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.**

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:	

Bidder's Name _____

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.

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

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. 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	
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:	
	20041014112623533

STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS	DEPARTMENT OF TREASURY DIVISION OF REVENUE PO BOX 302 TRENTON, NJ 08646
TAXPAYER NAME:	TRACE NAME:
TAX REGISTRATION TEST ACCOUNT	CLIENT REGISTRATION
TAXPAYER IDENTIFICATION:	SEQUENCE NUMBER:
010-007-382/000	0107510
ADDRESS:	ISSUANCE DATE:
847 ROEBLING AVE TRENTON NJ 08611	07/14/04
EFFECTIVE DATE:	<i>John S. Tully</i>
09/01/01	Accepted
FORM BR000(04)	<small>This Certificate is NOT assignable or transferable. It must be temporarily employed at above address.</small>

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

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.

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. 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
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

Bidder's Name _____

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.S12.101 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 _____

Bidder's Name _____

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?

Bidder's Name _____

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

16. Bank Reference. (Name, Address, Phone, Representative) _____
17. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the proper agency? _____
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.
17. 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.

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.

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.

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 contract for goods or services with a public entity?

_____ yes _____ no If yes, please provide full, detailed explanation.

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.

Bidder's Name _____

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

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

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 300 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

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

Solicitation Number: _____ Bidder/Offeror: _____

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 the person or entity, or one of the person or entity's parents, subsidiaries, or affiliates, is not identified on a list created and maintained by the Department of the Treasury as a person or entity engaging in investment activities in Iran. If the Director finds a person or entity to be in violation of the principles which are the subject 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 person or entity.

I certify, pursuant to Public Law 2012, c. 25, that the person or entity listed above for which I am authorized to bid/renew:

is not providing goods or services of \$20,000,000 or more in the energy sector of Iran, including a person or entity that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipe lines used to transport oil or liquefied natural gas, for the energy sector of Iran,
AND

is not a financial institution that extends \$20,000,000 or more in credit to another person or entity, for 45 days or more, if that person or entity will use the credit to provide goods or services in the energy sector in Iran.

In the event that a person or entity is unable to make the above certification because it or one of its parents, subsidiaries, or affiliates has engaged in the above-referenced activities, a detailed, accurate and precise description of the activities must be provided in part 2 below to the Division of Purchase under penalty of perjury. Failure to provide such 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 FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN. You must provide, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

Name _____ Relationship to Bidder/Offeror _____

Description of Activities _____

Duration of Engagement _____ Anticipated Cessation Date _____

Bidder/Offeror Contact Name _____ Contact Phone Number _____

Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above referenced person or entity. I acknowledge that Union County is relying on the information contained herein and hereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the County to notify the County in writing of any changes to the answers of information contained herein. I acknowledge 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 recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with Union County, New Jersey and that the County at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print) _____ Signature _____

Title _____ Date _____

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 (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

	03/01/17
Journeyman (Mechanic)	W37.48 B22.91 T60.39

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 Wage	

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

	01/01/17
Foreman	W48.70 B41.32 T90.02
General Foreman	W50.70 B42.30 T93.00
Journeyman	W43.70 B39.72 T83.42

Craft: Boilermaker APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	65%	70%	75%	80%	85%	90%	95%			
1000 Hours										
Benefit =	33.58	34.50	35.38	36.24	37.12	37.49	38.85			

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

	01/01/17
Foreman	W32.54 B16.17 T48.71
General Foreman	W33.04 B16.17 T49.21
Mechanic	W31.04 B16.17 T47.21

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

	11/01/16	05/01/17	05/01/18
Deputy Foreman	W43.00 B30.91 T73.91	W44.10 B31.94 T76.04	W0.00 B0.00 T78.23
Foreman	W46.00 B30.91 T76.91	W47.10 B31.94 T79.04	W0.00 B0.00 T81.23
Journeyman	W40.00 B30.91 T70.91	W41.10 B31.94 T73.04	W0.00 B0.00 T75.23

Craft: Bricklayer, Stone Mason

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	50%	55%	60%	65%	70%	75%	80%		
6 Months										
Benefits	3.72	4.65	5.12	5.58	20.48	21.83	23.18	24.52		

Ratio of Apprentices to Journeymen - 1:5

Craft: Bricklayer, Stone Mason

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE AS OF 5-1-17:

INTERVAL	PERIOD AND RATES									
6 Months	40%	50%	55%	60%	65%	70%	75%	80%		
Benefits	3.80	4.75	5.23	5.70	21.16	22.55	23.95	25.33		

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

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

County - UNION

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.

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

	11/01/16	05/01/17	11/01/17	05/01/18	11/01/18
Foreman	W53.42	W0.00	W0.00	W0.00	W0.00
	B30.44	B0.00	B0.00	B0.00	B0.00
	T83.86	T85.04	T86.04	T87.29	T88.54
Journeyman	W46.45	W0.00	W0.00	W0.00	W0.00
	B26.48	B0.00	B0.00	B0.00	B0.00
	T72.93	T74.23	T75.23	T76.48	T77.73

Craft: Carpenter

APPRENTICE RATE SCHEDULE

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

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

	11/01/16	05/01/17	11/01/17	05/01/18	11/01/18
Foreman	W53.42	W0.00	W0.00	W0.00	W0.00
	B30.44	B0.00	B0.00	B0.00	B0.00
	T83.86	T85.04	T86.04	T87.29	T88.54
Journeyman	W46.45	W0.00	W0.00	W0.00	W0.00
	B26.48	B0.00	B0.00	B0.00	B0.00
	T72.93	T74.23	T75.23	T76.48	T77.73

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			

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: Dockbuilder PREVAILING WAGE RATE

	11/29/16	05/01/17	11/01/17	05/01/18	11/01/18
Foreman	W51.29 B44.37 T95.66	W0.00 B0.00 T96.79	W0.00 B0.00 T97.99	W0.00 B0.00 T99.24	W0.00 B0.00 T100.49
Foreman (Concrete Form Work)	W50.14 B31.56 T81.70	W0.00 B0.00 T82.90	W0.00 B0.00 T84.10	W0.00 B0.00 T85.35	W0.00 B0.00 T86.60
Journeyman	W44.60 B44.37 T88.97	W0.00 B0.00 T90.17	W0.00 B0.00 T91.37	W0.00 B0.00 T92.62	W0.00 B0.00 T93.87
Journeyman (Concrete Form Work)	W43.60 B31.56 T75.16	W0.00 B0.00 T76.36	W0.00 B0.00 T77.56	W0.00 B0.00 T78.81	W0.00 B0.00 T80.06

Craft: Dockbuilder APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	17.84	22.30	28.99	35.68						
Benefit	29.95	for all	intervals		Concrete	Form Work	Only Ben.	= 21.81	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

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.

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.

**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, 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

	05/01/16	05/01/17
Foreman	W42.55 B23.10 T65.65	W44.30 B22.60 T66.90
General Foreman	W44.45 B23.10 T67.55	W46.20 B22.60 T68.80
Journeyman	W38.75 B23.10 T61.85	W40.50 B22.60 T63.10

Craft: Drywall Finisher

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	9.85	Intervals	4 to 6 =	12.28	Intervals	7 to 9 =	14.95	

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

	05/30/16	05/29/17	05/28/18
Cable Splicer	W58.71 B33.74 T92.45	W60.08 B34.53 T94.61	W61.52 B35.35 T96.87
Foreman	W59.77 B34.34 T94.11	W61.17 B35.15 T96.32	W62.64 B35.98 T98.62
Journeyman	W53.37 B30.67 T84.04	W54.62 B31.39 T86.01	W55.93 B32.13 T88.06

Craft: Electrician

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 2:3

Craft: Electrician

COMMENTS/NOTES

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:

- On any job where there are 1 to 10 Journeymen electricians, 1 shall be designated a 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.

**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.

**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

	11/01/16
Master Technician/General Foreman	W52.18 B28.69 T80.87
Senior Technician/Lead Foreman (21-30 Workers on Job)	W47.77 B26.26 T74.03
Technician A/Foreman (11-20 Workers on Job)	W45.76 B25.16 T70.92
Technician B/Working Foreman (4-10 Workers on Job)	W43.75 B24.06 T67.81
Technician C/Journeyman (1-3 Workers on Job)	W40.14 B22.07 T62.21

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

APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
6 Months	20.14	21.48	23.72	26.41	29.54	32.23	35.36	38.49		
Benefits	7.85	8.38	9.25	10.29	11.52	12.56	13.79	15.01		

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	17.90	19.25	21.48	24.17	27.30	29.99	33.12	36.26	
Benefits	6.98	7.51	8.38	9.42	10.65	11.69	12.92	14.13	

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

	05/30/16	05/29/17	05/28/18
Cable Splicer	W58.99 B33.46 T92.45	W60.37 B34.24 T94.61	W61.82 B35.06 T96.88
Certified Welder	W56.31 B31.94 T88.25	W57.62 B32.68 T90.30	W59.01 B33.47 T92.48
Equipment Operator	W53.63 B30.42 T84.05	W54.88 B31.13 T86.01	W56.20 B31.88 T88.08
Foreman (1-10 Journeyman workers on job)	W60.07 B34.07 T94.14	W61.47 B34.86 T96.33	W62.94 B35.70 T98.64
Foreman (11-20 Journeyman workers on job)	W61.67 B34.98 T96.65	W63.11 B35.79 T98.90	W64.63 B36.66 T101.29
General Foreman (21-30 Journeyman workers on job)	W63.28 B35.89 T99.17	W64.76 B36.73 T101.49	W66.32 B37.61 T103.93
General Foreman (31-60 Journeyman workers on job)	W68.65 B38.94 T107.59	W70.25 B39.84 T110.09	W71.94 B40.80 T112.74
General Foreman (61+ Journeyman workers on job)	W69.72 B39.54 T109.26	W71.34 B40.46 T111.80	W73.06 B41.44 T114.50
Groundman	W32.18 B18.26 T50.44	W32.93 B18.68 T51.61	W33.72 B19.13 T52.85
Journeyman Lineman/Technician	W53.63 B30.42 T84.05	W54.88 B31.13 T86.01	W56.20 B31.88 T88.08
Sub-Foreman	W60.07 B34.07 T94.14	W61.47 B34.86 T96.33	W62.94 B35.70 T98.64

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

County - UNION

Craft: Electrician- Outside Commercial

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	65%	70%	75%	80%	85%	90%			
Benefits	56.4% of	Journey	man	wage	+.01					

Craft: Electrician- Outside Commercial

COMMENTS/NOTES

EFFECTIVE 5-30-16- The apprentice benefit rate shall be 56.7% + \$.01.
 EFFECTIVE 5-29-17- The apprentice benefit rate shall be 56.7% + \$.01.
 EFFECTIVE 5-28-18- The apprentice benefit rate shall be 56.7% + \$.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:

On jobs where there are 2 Journeymen, one shall be a Foreman. The following number of Foreman, General Foreman, Assistant General Foreman and Sub-Foreman shall be required with respect to number of Journeymen on site:

- 2-10 Journeymen (1 Foreman)
- 11-20 Journeymen (1 Foreman and 1 Sub-Foreman)
- 21-30 Journeymen (1 Foreman and 2 Sub-Foremen)

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	62.5% 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.

**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	27.37	29.65	31.93	34.21	36.49	38.77	41.05			
Benefits	24.01	25.34	26.73	28.09	29.43	30.80	32.18			

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

	03/17/17	03/17/18
Journeyman	W62.64 B41.56 T104.20	W64.48 B43.36 T107.84

Craft: Elevator Constructor APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	27.22	33.53	39.62	45.72						
Benefits	31.75	32.88	34.41	35.93						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Constructor COMMENTS/NOTES

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 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

	03/17/17	03/17/18
Journeyman	W49.14	W50.49
	B39.91	B41.66
	T89.05	T92.15

Craft: Elevator Modernization & Service

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	27.22	26.35	31.14	35.93						
Benefits	31.68	31.99	33.37	34.74						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service

COMMENTS/NOTES

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.

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

	06/20/16
Foreman	W47.39 B23.26 T70.65
General Foreman	W49.39 B23.50 T72.89
Journeyman	W43.39 B22.78 T66.17

Craft: Glazier APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	6.51	Intervals	4 to 6 =	9.33	Intervals	7 to 9 =	11.67	

Ratio of Apprentices to Journeymen - 1:4

Craft: Glazier COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AS OF 5-1-14:

INTERVAL	PERIOD AND RATES							
6 Months	50%	55%	60%	65%	70%	75%	80%	90%
Benefits	8.10	8.10	10.34	10.34	11.51	11.51	14.62	14.62

Hazard/Height Pay: +\$1.00 per hour

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 rate.

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

County - UNION

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

	10/17/16
Foreman	W52.52 B30.17 T82.69
General Foreman	W55.07 B31.28 T86.35
Journeyman	W51.24 B29.61 T80.85

Craft: Heat & Frost Insulator

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	23.77	28.19	34.05	39.96						
Benefits	17.83	21.08	23.21	25.16						

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

	10/17/16
Asbestos Helper Abatement	W33.52 B22.69 T56.21
Firestop/Hazmat	W26.93 B9.25 T36.18
Foreman	W52.52 B30.17 T82.69

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

	08/02/16	07/01/17
Rod /Fence Foreman	W42.24 B44.27 T86.51	W0.00 B0.00 T88.51
Rod/Fence Journeyman	W39.24 B44.27 T83.51	W0.00 B0.00 T85.51
Structural Foreman	W44.54 B44.27 T88.81	W0.00 B0.00 T90.56
Structural Journeyman	W41.54 B44.27 T85.81	W0.00 B0.00 T87.56

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

	01/26/17
Journeyman (Handler)	W30.88 B21.91 T52.79

Craft: Laborer - Asbestos & Hazardous Waste Removal

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	18.53	21.62	24.70	27.79						
Benefits	20.26	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 between 6:00 AM and 6:00 PM.

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.
- When the owner (Public Body) mandates that work is to be performed on Sunday, those hours may be worked at straight time, up to 8 hours per day, up to 40 hours per week.
- 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.

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

County - UNION

Craft: Laborer - Building

PREVAILING WAGE RATE

	11/01/16	05/01/17	11/01/17	05/01/18
Class A Journeyman	W31.55	W0.00	W0.00	W0.00
	B27.22	B0.00	B0.00	B0.00
	T58.77	T59.67	T60.72	T62.57
Class B Journeyman	W31.05	W0.00	W0.00	W0.00
	B27.22	B0.00	B0.00	B0.00
	T58.27	T59.17	T60.22	T62.07
Class C Journeyman	W26.43	W0.00	W0.00	W0.00
	B27.22	B0.00	B0.00	B0.00
	T53.65	T54.55	T55.60	T57.45
Foreman	W35.46	W0.00	W0.00	W0.00
	B27.22	B0.00	B0.00	B0.00
	T62.68	T63.58	T64.63	T66.48
General Foreman	W39.38	W0.00	W0.00	W0.00
	B27.22	B0.00	B0.00	B0.00
	T66.60	T67.50	T68.55	T70.40

Craft: Laborer - Building

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefit	23.97	23.97	23.97	23.97						

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	19.53	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

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

	04/01/17
* Skilled Tradesman (only applies to Modular Construction)	W25.55 B5.45 T31.00
Foreman (person directing crew, regardless of his skill classification)	W25.55 B5.45 T31.00
Laborer	W21.55 B5.45 T27.00
Laborer (for single family and stand-alone duplex owned by single owner)	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, including basement levels. Please note the construction must be residential in nature for ALL FLOORS at an elevation of no more than FOUR (4) FLOORS, INCLUDING BASEMENT. 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 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 in nature for ALL STORIES at an elevation of no more than FOUR (4) STORIES. 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,

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

County - UNION

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: Millwright PREVAILING WAGE RATE

	11/01/16
Foreman	W53.53 B31.65 T85.18
Journeyman	W46.55 B27.60 T74.15

Craft: Millwright APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
Benefits	58% of	Appren	tice	Wage	Rate	for all	intervals	+ \$.60		

Ratio of Apprentices to Journeymen - 1:3

Craft: Millwright COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- When there are 2 or more Millwrights on a job, 1 shall be designated as a Foreman.
- When there are 21 or more Millwrights 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 will be observed the following Monday.

**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

	05/01/16	05/01/17
Foreman	W57.38 B26.92 T84.30	W61.13 B25.67 T86.80
General Foreman	W59.38 B26.92 T86.30	W63.13 B25.67 T88.80
Journeyman	W52.38 B26.92 T79.30	W56.13 B25.67 T81.80

Craft: Painter - Bridges

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	50%			60%	70%		80%	90%	
6 Months										
Benefits	Intervals	1 to 2 =	8.88	Intervals	3 to 4 =	10.81	Intervals	5 to 6 =	13.48	

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

	12/29/16
Apprentice (1st year)	W24.45 B10.75 T35.20
Apprentice (2nd year)	W28.45 B16.80 T45.25
Foreman (Charge Person)	W36.60 B17.08 T53.68
Journeyman 1 (at least 1 year of working exp. as a journeyman)	W32.33 B17.08 T49.41
Journeyman 2 (at least 2 years of working exp. as a journeyman)	W36.10 B17.08 T53.18

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

	05/01/16	05/01/17
Foreman	W42.26 B22.94 T65.20	W44.39 B22.35 T66.74
General Foreman	W46.10 B23.40 T69.50	W48.43 B22.81 T71.24
Journeyman	W38.42 B22.49 T60.91	W40.36 B21.90 T62.26

Craft: Painter - New Construction

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	8.00	Intervals	4 to 6 =	10.00	Intervals	7 to 9 =	11.00	

Ratio of Apprentices to Journeymen - 1:4

Craft: Painter - New Construction

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM ON 5-1-14:

INTERVAL	PERIOD AND RATES							
6 Months	40%	45%	55%	65%	70%	75%	80%	90%
Benefits	8.00	8.00	10.00	10.00	11.00	11.00	14.00	14.00

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.

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

County - UNION

- 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- Containment

PREVAILING WAGE RATE

	05/01/16	05/01/17
Journeyman	W33.43 B23.92 T57.35	W37.68 B22.92 T60.60

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

	05/01/16	05/01/17
Foreman	W47.17 B24.17 T71.34	W50.92 B22.92 T73.84
General Foreman	W49.17 B24.17 T73.34	W52.92 B22.92 T75.84
Journeyman	W42.17 B24.17 T66.34	W45.92 B22.92 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

	05/01/16	05/01/17
Foreman	W46.12 B24.51 T70.63	W49.87 B23.26 T73.13
General Foreman	W48.12 B24.51 T72.63	W51.87 B23.26 T75.13
Journeyman	W41.12 B24.51 T65.63	W44.87 B23.26 T68.13

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

	05/01/16	05/01/17
Foreman	W43.25 B22.59 T65.84	W45.32 B21.44 T66.76
Journeyman	W39.32 B22.59 T61.91	W41.20 B22.01 T63.21

Craft: Paperhanger - New Construction

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
4 Months	30%	40%	50%	60%	70%	75%	80%	85%	90%	
Benefits	Intervals	1 to 3 =	8.00	Intervals	4 to 6 =	10.00	Intervals	7 to 9 =	11.00	

Ratio of Apprentices to Journeymen - 1:4

Craft: Paperhanger - New Construction

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM ON 5-1-14:

INTERVAL	PERIOD AND RATES								
6 Months	40%	45%	55%	65%	70%	75%	80%	90%	
Benefits	8.00	8.00	10.00	10.00	11.00	11.00	14.00	14.00	

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

	05/01/16	05/01/17
Foreman	W32.39 B18.96 T51.35	W35.06 B18.53 T53.59
Journeyman	W29.45 B18.96 T48.41	W31.88 B18.53 T50.41

Craft: Paperhanger - Renovation

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	PAPER-	HANGER	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

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

	05/04/16
Foreman	W55.52 B32.99 T88.51
General Foreman	W59.12 B32.99 T92.11
Journeyman	W51.41 B32.99 T84.40

Craft: Plumber APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	30%	45%	55%	65%	75%					
Benefits	12.77	18.77	20.44	22.13	23.80					

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

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 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 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 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

	06/06/16
Foreman	W36.52 B25.03 T61.55
Journeyman	W35.52 B25.03 T60.55

Craft: Roofer APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	14.21	17.76	21.31	24.86	28.42	31.97				
Benefits	2.10	2.10	22.28	22.28	22.28	22.28				

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

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 Worker

PREVAILING WAGE RATE

	08/02/16	06/01/17
Foreman	W49.99 B38.73 T88.72	W0.00 B0.00 T91.22
General Foreman	W50.99 B38.73 T89.72	W0.00 B0.00 T92.22
Journeyman	W46.49 B38.73 T85.22	W0.00 B0.00 T87.72

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

	01/01/17	07/01/17	01/01/18	07/01/18	01/01/19
Foreman	W62.93 B26.12 T89.05	W64.93 B26.12 T91.05	W64.38 B26.67 T91.05	W66.63 B26.67 T93.30	W66.08 B27.22 T93.30
General Foreman	W65.93 B26.12 T92.05	W67.93 B26.12 T94.05	W67.38 B26.67 T94.05	W69.63 B26.67 T96.30	W69.08 B27.22 T96.30
Journeyman	W58.83 B26.12 T84.95	W60.83 B26.12 T86.95	W60.28 B26.67 T86.95	W62.53 B26.67 T89.20	W61.98 B27.22 T89.20

Craft: Sprinkler Fitter

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	9.50	11.25	50%	55%	60%	65%	70%	75%	80%	85%
1000 Hours	9.50	11.25	50%	55%	60%	65%	70%	75%	80%	85%
Benefits	10.67	10.67	21.22	21.22	21.22	21.22	Intervals	7 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	10.67	10.67	21.22	21.22	21.22	21.22	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 Thursday, 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 Setter - Marble

PREVAILING WAGE RATE

	01/01/17	07/01/17	01/01/18
Tile Setter	W57.74 B34.26 T92.00	W58.18 B35.27 T93.45	W58.53 B36.37 T94.90

Craft: Tile Setter - Marble

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
750 Hours	50%	55%	65%	70%	75%	85%	90%	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

	01/01/17
Grinder or Assistant	W50.86 B34.14 T85.00
Mechanic	W52.46 B34.16 T86.62

Craft: Tile Setter - Mosaic & Terrazzo

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
750 Hours	50%	55%	65%	70%	75%	85%	90%	95%		

Ratio of Apprentices to Journeymen - 1:5

Craft: Tile Setter - Mosaic & Terrazzo

COMMENTS/NOTES

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

	11/01/16	05/01/17	11/01/17	05/01/18	11/01/18
Bucket, Utility, Pick-up, Fuel Delivery trucks	W36.40 B33.01 T69.41	W36.83 B33.78 T70.61	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Dump truck, Asphalt Distributor, Tack Spreader	W36.40 B33.01 T69.41	W36.83 B33.78 T70.61	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Euclid-type vehicles (large, off-road equipment)	W36.55 B33.01 T69.56	W36.98 B33.78 T70.76	W36.98 B34.58 T71.56	W37.41 B35.40 T72.81	W37.81 B35.80 T73.61
Helper on Asphalt Distributor truck	W36.40 B33.01 T69.41	W36.83 B33.78 T70.61	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W36.40 B33.01 T69.41	W36.83 B33.78 T70.61	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Straight 3-axle truck	W36.45 B33.01 T69.46	W36.88 B33.78 T70.66	W36.88 B34.58 T71.46	W37.31 B35.40 T72.71	W37.71 B35.80 T73.51
Tractor Trailer (all types)	W36.55 B33.01 T69.56	W36.98 B33.78 T70.76	W36.98 B34.58 T71.56	W37.41 B35.40 T72.81	W37.81 B35.80 T73.61
Vacuum or Vac-All truck (entire unit)	W36.40 B33.01 T69.41	W36.83 B33.78 T70.61	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Winch Trailer	W36.65 B33.01 T69.66	W37.08 B33.78 T70.86	W37.08 B34.58 T71.66	W37.51 B35.40 T72.91	W37.91 B35.80 T73.71

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): + \$2.50 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: + \$2.50 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, Presidents' 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: Truck Driver-Material Delivery Driver

PREVAILING WAGE RATE

	05/01/12
Driver	W22.90 B10.17 T33.07

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 : 06/30/2017**

{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, 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 : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
47.63	30.63	78.26

CLASSIFICATIONS:

- A-Frame
- Backhoe (combination)
- Boom Attachment on loaders (Except pipehook)
- Boring & Drilling Machine
- Brush Chopper, Brush Shredder, Tree Shredder
- 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 (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)
- Hydraulic Crane (10 tons & under)
- Hydro-Axe
- Hydro-Blaster
- Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)
- Log Skidder

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
47.63	30.63	78.26

CLASSIFICATIONS:

- 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)
- Vacuum Truck
- Whiphammer
- Winch Truck (hoisting)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
45.72	30.63	76.35

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 : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
45.72	30.63	76.35

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
- Grader & Motor Patrols
- Grout Pump
- Gunnite Machine (Excluding nozzle)
- Hammer - Vibratory (in conjunction with generator)
- Heavy Equipment Robotics - Operator/Technician
- Hoist (roof, tugger, aerial platform hoist, house car)
- Hopper
- Hopper Doors (power operated)
- Ladder (motorized)
- Laddervator

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
45.72	30.63	76.35

CLASSIFICATIONS:

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)

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

Tug Captains

Tug Master (Power Boats)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
45.72	30.63	76.35

CLASSIFICATIONS:

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:

02/15/2017

Rate	Fringe	Total
42.38	30.63	73.01

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

Effective Dates:

02/15/2017

Rate	Fringe	Total
39.80	30.63	70.43

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2017

Effective Dates:

02/15/2017

Rate	Fringe	Total
49.96	30.63	80.59

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
49.22	30.63	79.85

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
- 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
- Pavement & Concrete Breaker (Superhammer & Hoe Ram)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
49.22	30.63	79.85

CLASSIFICATIONS:

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

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
44.09	30.63	74.72

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 : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
44.09	30.63	74.72

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:

02/15/2017

Rate	Fringe	Total
51.04	30.63	81.67

CLASSIFICATIONS:

Helicopter Pilot/Engineer

Effective Dates:

02/15/2017

Rate	Fringe	Total
55.72	30.63	86.35

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

Effective Dates:

02/15/2017

Rate	Fringe	Total
54.72	30.63	85.35

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
51.22	30.63	81.85

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

Effective Dates:

02/15/2017

Rate	Fringe	Total
53.72	30.63	84.35

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

Effective Dates:

02/15/2017

Rate	Fringe	Total
50.22	30.63	80.85

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 : 06/30/2017**

{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, 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:

02/15/2017

Rate	Fringe	Total
52.85	30.63	83.48

CLASSIFICATIONS:

Helicopter Pilot or Engineer

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
48.79	30.63	79.42

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

Effective Dates:

02/15/2017

Rate	Fringe	Total
46.13	30.63	76.76

CLASSIFICATIONS:

Aerial Platform Used On Hoists

Apprentice Engineer/Oiler with Compressor or Welding Machine

Captain (Power Boats)

Compressor (2 or 3 in battery)

Conveyor or Tugger Hoist

Elevator or House Car

Fireman

Forklift

Generator (2 or 3)

Maintenance Utility Man

Tug Master (Power Boats)

Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
44.60	30.63	75.23

CLASSIFICATIONS:

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

Effective Dates:

02/15/2017

Rate	Fringe	Total
42.84	30.63	73.47

CLASSIFICATIONS:

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Effective Dates:

02/15/2017

Rate	Fringe	Total
50.41	30.63	81.04

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

Effective Dates:

02/15/2017

Rate	Fringe	Total
39.80	30.63	70.43

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

Effective Dates:

02/15/2017

Rate	Fringe	Total
49.55	30.63	80.18

CLASSIFICATIONS:

Field Engineer-Chief of Party

Effective Dates:

02/15/2017

Rate	Fringe	Total
57.74	30.63	88.37

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) over 100 tons and Tower Cranes.

Effective Dates:

02/15/2017

Rate	Fringe	Total
56.08	30.63	86.71

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), over 100 tons and Tower Crane.

Effective Dates:

02/15/2017

Rate	Fringe	Total
53.24	30.63	83.87

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:

02/15/2017

Rate	Fringe	Total
51.58	30.63	82.21

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 : 06/30/2017

Effective Dates:

02/15/2017

Rate	Fringe	Total
53.24	30.63	83.87

CLASSIFICATIONS:

Helicopter Co-Pilot

Helicopter Communications Engineer

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST **Rates Expiration Date : 06/30/2017**

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, 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:

02/15/2017

Rate	Fringe	Total
49.22	30.63	79.85

CLASSIFICATIONS:

Driller

Effective Dates:

02/15/2017

Rate	Fringe	Total
42.38	30.63	73.01

CLASSIFICATIONS:

Driller's Helper

FREE AIR TUNNEL JOBS **Rates Expiration Date : 08/31/2017**

{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 \$2.50 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:

03/01/2017

Rate	Fringe	Total
41.50	29.03	70.53

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.20	29.03	70.23

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

FREE AIR TUNNEL JOBS **Rates Expiration Date : 08/31/2017**

Effective Dates:

03/01/2017

Rate	Fringe	Total
40.70	29.03	69.73

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
43.20	29.03	72.23

CLASSIFICATIONS:

Blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
40.15	29.03	69.18

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.80	29.03	68.83

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:

03/01/2017

Rate	Fringe	Total
39.65	29.03	68.68

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 : 08/31/2017

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.15	29.03	68.18

CLASSIFICATIONS:

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

DRILL FOR GROUND WATER SUPPLY **Rates Expiration Date : 06/30/2017**

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:

02/15/2017

Rate	Fringe	Total
47.97	30.63	78.60

CLASSIFICATIONS:

Driller

Effective Dates:

02/15/2017

Rate	Fringe	Total
41.13	30.63	71.76

CLASSIFICATIONS:

Driller's Helper

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2018**

NOTE: 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:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
37.25	13.78	51.03	52.51

CLASSIFICATIONS:

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
32.22	13.38	45.60	46.95

CLASSIFICATIONS:

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
30.33	13.23	43.56	44.86

CLASSIFICATIONS:

Certified Welder

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2018**

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
29.50	12.86	42.36	43.64

CLASSIFICATIONS:

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
28.54	12.78	41.32	42.58

CLASSIFICATIONS:

Boat Operator

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
23.71	12.10	35.81	36.92

CLASSIFICATIONS:

Shoreman, Deckhand, Rodman, Scowman

MICROSURFACING/SLURRY SEAL Rates Expiration Date : 02/28/2018

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 : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
30.30	21.27	51.57

CLASSIFICATIONS:

Cleaner, Taper

ASPHALT LABORERS - SOUTH Rates Expiration Date : 08/31/2017

"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 \$2.50 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:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

Paving Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.55	29.03	68.58

CLASSIFICATIONS:

Head Raker

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.40	29.03	68.43

CLASSIFICATIONS:

Raker, Screedman, Luteman

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ASPHALT LABORERS - SOUTH Rates Expiration Date : 08/31/2017

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.15	29.03	68.18

CLASSIFICATIONS:

Tampers, Smoothers, Kettlemen,
Painters, Shovelers, Roller Boys

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.25	29.03	68.28

CLASSIFICATIONS:

Milling Controller

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

Traffic Control Coordinator

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH **Rates Expiration Date : 10/16/2018**

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:

11/01/2016			10/17/2017
Rate	Fringe	Total	Total
30.96	24.76	55.72	57.17

CLASSIFICATIONS:

Helper (4th year helper)

Effective Dates:

11/01/2016			10/17/2017
Rate	Fringe	Total	Total
38.82	24.76	63.58	65.24

CLASSIFICATIONS:

Driller

Effective Dates:

11/01/2016			10/17/2017
Rate	Fringe	Total	Total
44.64	24.76	69.40	71.28

CLASSIFICATIONS:

Foreman

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date : 08/31/2017**

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 \$2.50 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:

03/01/2017

Rate	Fringe	Total
38.75	29.03	67.78

CLASSIFICATIONS:

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; traffic director/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:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

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 : 08/31/2017**

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.70	29.03	68.73

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:

03/01/2017

Rate	Fringe	Total
43.25	29.03	72.28

CLASSIFICATIONS:

"A" Rate:

blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
42.00	29.03	71.03

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

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 \$2.50 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:

03/01/2017

Rate	Fringe	Total
38.75	29.03	67.78

CLASSIFICATIONS:

basic, landscape, or railroad track laborer; utility meter installer; traffic director/flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofers

tree cutter, timberman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

wagon drill or drill master helper; powder carrier; magazine tender; signal man

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

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:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

wagon or directional drill operator; drill master

Effective Dates:

03/01/2017

Rate	Fringe	Total
43.25	29.03	72.28

CLASSIFICATIONS:

blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
42.00	29.03	71.03

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 : 08/31/2017

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.70	29.03	68.73

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 : 06/04/2017

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:

06/01/2016

Rate	Fringe	Total
54.56	26.59	81.15

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 : 06/04/2017

Effective Dates:

06/01/2016

Rate	Fringe	Total
54.56	26.59	81.15

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

06/01/2016

Rate	Fringe	Total
32.99	18.73	51.72

CLASSIFICATIONS:

Pipeline Helper

PIPELINE - GAS DISTRIBUTION **Rates Expiration Date : 10/31/2017**

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:

11/01/2016

Rate	Fringe	Total
57.58	21.55	79.13

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

11/01/2016

Rate	Fringe	Total
57.58	21.55	79.13

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

11/01/2016

Rate	Fringe	Total
37.16	15.74	52.90

CLASSIFICATIONS:

Pipeline Helper

ASPHALT LABORERS- NORTH **Rates Expiration Date : 08/31/2017**

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 \$2.50 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:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

Asphalt Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.70	29.03	68.73

CLASSIFICATIONS:

Asphalt Screedman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

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 : 08/31/2017

Effective Dates:

03/01/2017

Rate	Fringe	Total
38.75	29.03	67.78

CLASSIFICATIONS:

Asphalt Laborer

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date : 12/03/2017**

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:

12/04/2016

Rate	Fringe	Total
52.26	35.01	87.27

CLASSIFICATIONS:

Chief Lineman

Effective Dates:

12/04/2016

Rate	Fringe	Total
49.31	33.03	82.34

CLASSIFICATIONS:

Journeyman Lineman

ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date : 12/03/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
49.31	33.03	82.34

CLASSIFICATIONS:

Special License Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
48.81	32.70	81.51

CLASSIFICATIONS:

Transit Man

Effective Dates:

12/04/2016

Rate	Fringe	Total
47.33	31.71	79.04

CLASSIFICATIONS:

Line Equipment Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
41.42	27.75	69.17

CLASSIFICATIONS:

Dynamite Man

Effective Dates:

12/04/2016

Rate	Fringe	Total
58.18	38.98	97.16

CLASSIFICATIONS:

General Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
56.70	37.98	94.68

CLASSIFICATIONS:

Assistant General Foreman

ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date : 12/03/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
55.22	36.99	92.21

CLASSIFICATIONS:

Line Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
39.94	26.75	66.69

CLASSIFICATIONS:

Straight Light Mechanical Leader

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.97	25.43	63.40

CLASSIFICATIONS:

Groundman Winch Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.97	25.43	63.40

CLASSIFICATIONS:

Groundman Truck Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.47	25.10	62.57

CLASSIFICATIONS:

Straight Light Mechanic

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.47	25.10	62.57

CLASSIFICATIONS:

Line Equipment Mechanic

TERRITORY
ENTIRE STATE

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

ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date : 12/03/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
32.05	21.47	53.52

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
29.58	19.81	49.39

CLASSIFICATIONS:

Groundman 1st Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
48.81	32.70	81.51

CLASSIFICATIONS:

Line Equipment Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 12/02/2017**

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:

12/04/2016

Rate	Fringe	Total
58.38	45.19	103.57

CLASSIFICATIONS:

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 12/02/2017**

Effective Dates:

12/04/2016

Rate	Fringe	Total
52.00	41.37	93.37

CLASSIFICATIONS:

Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
49.26	39.74	89.00

CLASSIFICATIONS:

Small Job Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Heavy Equipment Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Cable Splicer

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Journeyman Welder

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 12/02/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Journeyman Painter

Effective Dates:

12/04/2016

Rate	Fringe	Total
36.49	32.08	68.57

CLASSIFICATIONS:

Light Equipment Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
31.93	29.37	61.30

CLASSIFICATIONS:

Groundman Truck Driver

Effective Dates:

12/04/2016

Rate	Fringe	Total
29.65	27.99	57.64

CLASSIFICATIONS:

Groundman 3rd Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
27.37	26.66	54.03

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
25.09	25.29	50.38

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 : 12/02/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
20.07	22.27	42.34

CLASSIFICATIONS:

Flagman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date : 08/31/2017

****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 \$2.50 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:

03/01/2017

Rate	Fringe	Total
62.25	29.03	91.28

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

03/01/2017

Rate	Fringe	Total
61.80	29.03	90.83

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date : 08/31/2017**

Effective Dates:

03/01/2017

Rate	Fringe	Total
61.05	29.03	90.08

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
64.80	29.03	93.83

CLASSIFICATIONS:

Blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
60.23	29.03	89.26

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
59.70	29.03	88.73

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:

03/01/2017

Rate	Fringe	Total
59.48	29.03	88.51

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

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date : 08/31/2017

Effective Dates:

03/01/2017

Rate	Fringe	Total
58.73	29.03	87.76

CLASSIFICATIONS:

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)

TECHNICAL SPECIFICATIONS

**SPECIAL PROVISIONS
FOR
STATE AID PROJECTS
REPLACEMENT OF NETHERWOOD AVE BRIDGE PL-37
CITY OF PLAINFIELD, UNION COUNTY**

AUTHORIZATION OF CONTRACT

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

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

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. 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 contraction agency for any excess costs occasioned thereby.

GENERAL

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 disqualification 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.

Soil Erosion and Sediment Control Plan Certification:

The contractor is advised that a permit from the Somerset - Union Soil Conservation District is pending. Verify same prior to any ground disturbance on site.

The contractor shall provide a minimum of 72 hours notice to the Somerset - Union Soil Conservation District at (908) 526-2701, prior to the start of ground disturbance. This notice shall be immediately followed by a written notice to the Somerset - Union Soil Conservation District.

NJDEP Permit DLUR file No.: #0000-16-0005.1 (FHA 160001 IP & FWW 160001 GP10A):

The Contractor is required to review the enclosed permits and adhere to and comply with all the requirements indicated.

The Contractor, in entering into this contract with the County of Union, accepts full responsibility for any fines, penalties, work stoppages and permit revocations resulting from the Contractor's or subcontractor's failure to adhere to the requirements of the above listed permits.

The Contractor is required to secure any and all other permits, including but not limited to building permits, electrical permits and road opening permits, that may be necessary to perform the work and complete the improvements for this project.

The contractor shall schedule his construction operations such that no work associated with the above items is started or scheduled to be started until he has been informed by the Engineer that the necessary permits and approvals have been received.

DIVISION 100 – GENERAL PROVISIONS

SECTION 101 – GENERAL INFORMATION

101.03 TERMS

THE FOLLOWING IS ADDED TO THE FIRST SENTENCE OF THIS SECTION:

It is the intent of these amendments to the terms to change all reference to the State of New Jersey (and various Departments and offices thereof) to the County of Union except in those circumstances where the State has jurisdiction.

THE FOLLOWING TERMS ARE CHANGED.

Completion.

(3) IS CHANGED TO:

3. the Contractor has satisfactorily executed and delivered to the RE all documents, including federal form FHWA47 “Contractor’s Statement of Materials and Labor” according to 23CFR 635, certifications, and proofs of compliance required by the Contract Documents, it being understood that the satisfactory execution and delivery of documents, certificates, and proofs of compliance is a requirement of the Contract.

Contract Time. The number of days allowed to complete the work for a milestone or the number of working days allowed to complete the work for a milestone, or the date by which work must be completed, as provided in the Contract and as modified by Change Order. When Interim Completion and Completion requirements are specified as a specific date instead of the number of days or working days, achieve Interim Completion or Completion on or before that date. See Page 10 for allowable Contract Time.

Holiday. A legal holiday as recognized by the County of Union.

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.

Plans.

THE SECOND SENTENCE IS CHANGED TO:

This includes the latest version of the Standard Details in effect at the time of advertisement.

Project Limits.

The areas of construction operations and areas used by the Contractor to perform the work. If only a portion of a lane or shoulder of a road is being constructed, the Project Limits include all lanes and shoulders of the roadway. Where only one direction of a road is being constructed, and the road is divided by a median, island, or barrier curb, the Project Limits include all of the lanes in that direction and the median. Otherwise, the Project Limits include all lanes in both directions.

The longitudinal Project Limits include all safety devices and signs excluding signs greater than 1600 feet outside the Project Limits.

Areas within the R.O.W. provided for Contractor’s use.

THE FOLLOWING TERMS ARE ADDED:

Notice to proceed. Form submitted by Owner authorizing Contractor to proceed with the Work under the Contract.

101.04 INQUIRIES REGARDING THE PROJECT

THE TEXT OF THIS SUBSECTION IS CHANGED TO:

Submit inquiries regarding discrepancies, errors, or omissions, or concerns regarding the intent or meaning of the Contract to the Owner as follows:

1. Before Award of Contract. Submit inquiries by e-mail or by separate letter directly to the County Engineer, Thomas Mineo, Union County Department of Engineering, Public Works & Facilities, 2325 South Avenue, Scotch Plains, NJ 07076, (908) 789-3675, tmineo@ucnj.org.

Include the following in each inquiry:

1. Name of bidder.
2. Telephone Number, fax number, e-mail address, and contact person.
3. Specifics of the inquiry, including anticipated results.

The County will investigate the information provided in the inquiry and, if the County determines that a change or response is necessary, the County will issue an addendum. Requests for postponement of bids will not receive a response. The County will issue an addendum postponing bids if warranted.

2. After Award of Contract. Submit inquiries to the County representative identified at the preconstruction meeting with a copy to the County Engineer.

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.01 QUALIFICATION TO BID

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

102.02 BIDDER REGISTRATION AND DOWNLOADING OF THE PROPOSAL DOCUMENTS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

102.03 REVISIONS BEFORE SUBMITTING A BID

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

102.04 EXAMINATION OF CONTRACT AND PROJECT LIMITS

1. Evaluation of Subsurface and Surface Conditions.

THE FIRST PARAGRAPH IS CHANGED TO:

The Bidder may inspect the records of the County's subsurface investigation, if available. This investigation is not a substitute for the Bidder's own evaluation or judgment in preparing a bid. The Bidder should not rely on any estimates or quantities included in these investigations. The conditions indicated by such investigations or records thereof, and as shown by the cross-sections in the Plans may not be representative of those existing throughout such areas. The Bidder may encounter materials other than, or in proportions different from, those indicated.

2. Utility Agreements.

THE ENTIRE TEXT IS CHANGED TO:

In addition to what is specified in 105.07, the Bidder may inspect or request, if available, the Utility agreements, modifications, and orders relating to the Contract. The Bidder shall obtain information regarding existing utilities, proposed construction of utilities, or relocation of utilities through the respective Utility.

3. Existing Plans and As-Builts.

THE ENTIRE TEXT IS CHANGED TO:

The Bidder may inspect as-built plans, if available, of County owned facilities upon written request. The Bidder shall obtain plans of Municipality owned facilities through the Municipality. The Bidder shall verify information obtained from the existing documents with respect to its application to bidding and performing the Contract.

102.07 PREPARATION OF THE BID

THE TEXT OF THE FIRST, THIRD, FOURTH AND FIFTH PARAGRAPHS IS DELETED.

102.09 PROPOSAL BOND

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

102.10 SUBMISSION OF BIDS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

102.11 WITHDRAWAL OF BIDS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

102.16 REJECTION OF ALL BIDS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

SECTION 103 – AWARD AND EXECUTION OF CONTRACT

103.01 AWARD OF CONTRACT

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

103.02 CANCELLATION OF AWARD

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

103.03 RELEASE OF PROPOSAL BOND

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

103.04 EXECUTION OF THE CONTRACT

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

103.05 ESCROW OF BID DOCUMENTS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

103.06 FAILURE TO EXECUTE CONTRACT

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

103.07 ACQUISITION OF DOCUMENTS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

SECTION 104 – SCOPE OF WORK

104.02 VALUE ENGINEERING

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

104.03 CHANGES TO THE CONTRACT

104.03.01 Authority To Make Changes

2. Change Orders

THE SECOND AND THIRD PARAGRAPHS ARE DELETED.

104.03.03 Types Of Changes

1. Quantity Increases and Decreases

THE FIFTH PARAGARPH IS DELETED.

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. 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.

SECTION 105 – CONTROL OF WORK

105.01 AUTHORITY OF THE DEPARTMENT

105.01.01 RE

ITEM 1 OF THE SECOND PARAGRAPH IS DELETED.

105.02 RESPONSIBILITIES OF THE CONTRACTOR

105.02.02 Superintendent

THE FOLLOWING IS ADDED:

The Superintendent shall not be removed from the work or replaced without acceptance by the RE of a satisfactory replacement as Superintendent.

105.04 PLANS AND SPECIFICATIONS

THE FOLLOWING IS ADDED:

Field conditions may require modifications in the plans and quantities of work involved. Work under all pay items must be carried out to meet field conditions to the satisfaction of the RE.

105.05 WORKING DRAWINGS

ALL REFERENCES TO 22" X 36" SHEETS ARE REVISED TO 24" X 36" SHEETS.

THE SECOND PARAGRAPH IS CHANGED TO:

Ensure that working drawing submissions also conform to the NJDOT design manuals and other NJDOT standards for the proposed work. Ensure that working drawings are signed and sealed by a Professional Engineer.

THE SECOND SENTENCE OF THE THIRD PARAGRAPH IS CHANGED TO:

Submit 5 copies of working drawings to the Engineer for review. Provide additional copies for Contractor's use depending on the number of sets to be retained by the Engineer.

THE LAST SENTENCE OF THE SEVENTH PARAGRAPH IS CHANGED TO:

The RE's notations of "No Exception Taken" or "Approved as Noted," does not constitute an approval of any materials noted.

THE EIGHTH PARAGRAPH IS CHANGED TO:

The RE's notations of "No Exception Taken" or "Approved as Noted," on working drawings signifies only that the drawings are in general conformance with the contract. These notations do not relieve the Contractor from responsibility for errors and omissions in the working drawings and their correction.

THE NINTH PARAGRAPH IS CHANGED TO:

Submit working drawings as specified in Table 105.05-1. This list is not all inclusive.

TABLE 105.05-1:

REVISE THE HEADING OF TABLE 105.05-1 TO WORKING DRAWING SUBMISSIONS.

DELETE THE HEADINGS "CERTIFIED" AND "APPROVED."

ADD THE FOLLOWING:

Concrete Mix Designs

THE TENTH, ELEVENTH, TWELFTH AND THIRTEENTH PARAGRAPHS ARE CHANGED TO:

The following is a list of additional working drawings required for this project:

- . Cofferdam
- . Reinforcing Steel, Galvanized
- . All Concrete Reinforcing Steel Placement, including, but not limited to, the following: footings, abutments, wingwalls, parapets, barriers, decks, approach slabs, sidewalks, prestressed concrete box beams and diaphragms.

Each working drawing submitted shall have a unique submission number assigned to it and clearly indicated on each sheet of the working drawings. For working drawings submitted on 24"x 36" sheets, each working drawing sheet shall include a blank space a minimum of 5" in height and 3-1/2" in width for the RE's review stamp. For working drawings submitted on 8 1/2" x 11" sheets (except design calculations), include a blank space a minimum of 5" in height and 3 1/2" in width for the RE's review stamp on the cover sheet.

The RE will require 7 days for review of each submission. The review time shall commence running on the day that the submission is received, except that for any submission received after 12:00 Noon, the review time shall commence running on the following day.

Upon receipt of each submission, the RE will review the submission for conformance with the Contract. The RE may take no exception to the submission, approve the submission as noted with no resubmission required, approve the submission as noted with resubmission required or reject the submission. The RE will sign and stamp the submission as follows:

- "No Exception Taken"
- "Approved as Noted"
- "Note Exception and Confirm in Writing"
- "Revise and Resubmit"
- "Rejected See Remarks"

For submissions that are stamped "No Exception Taken", the RE will retain three (3) sets for record purposes and return the remaining sets to the Contractor. No resubmission is required and the Contractor may proceed with ordering the materials which are the subject of the submission.

For submissions that are stamped "Approved as Noted," the RE will retain three (3) sets for record purposes and return the remaining sets to the Contractor. No resubmission is required. However, incorporate all comments in the production of the materials which are the subject of the submission. This does not relieve the Contractor of the responsibility for assuring that all comments are incorporated into the final product. If inspection reveals that the comments have not been incorporated into the final product, the work will be considered non conforming.

Do not deviate from the working drawings stamped "No Exception Taken" or "Approved as Noted," without obtaining prior written approval from the RE.

Furnish subcontractors and other contractors with accepted working drawings as required.

105.07 COOPERATION WITH UTILITIES

105.07.01 Working in the Vicinity of Utilities

A. Initial Notice

THE FIRST SENTENCE IS CHANGED TO:

Provide preliminary notice, in writing, to the utilities four (4) weeks before it is anticipated construction operations will commence. This notice may have to be provided in advance of any preconstruction meeting for the project. Follow up with subsequent written notice one (1) week before construction operations will commence. Provide copies of all correspondence to the County.

105.07.02 Work Performed by Utilities

THE FOLLOWING IS ADDED:

The following is a list of the work to be performed by each utility on the project and the estimated durations for performing this work:

(Netherwood Avenue):

New Jersey American Water

The attention of the Contractor is called to an existing 6" diameter water main at the project site which will be relocated. All test pits and temporary relocations, if needed, shall be performed by New Jersey American Water at no cost to the County.

Public Service Electric & Gas Company (Plainfield Gas Deliver)

The attention of the Contractor is called to an existing 4" diameter gas main at the project site which will be relocated. All test pits and temporary relocations, if needed, shall be performed by Public Service Electric & Gas Company at no cost to the County.

Public Service Electric & Gas Company (Electric)

The attention of the Contractor is called to an existing utility pole at the project site which will be relocated. All test pits and temporary relocations, if needed, shall be performed by Public Service Electric & Gas Company at no cost to the County.

Verizon Communications

The attention of the Contractor is called to an existing PSE&G utility pole which has Verizon aerial cables at the project site which will be relocated. All test pits and temporary relocations, if needed, shall be performed by Verizon Communications at no cost to the County.

Comcast of New Jersey

The attention of the Contractor is called to an existing PSE&G utility pole which may have Comcast aerial cables at the project site which will be relocated. All test pits and temporary relocations, if needed, shall be performed by Comcast of New Jersey at no cost to the County.

Bidders are advised to verify the above information as its accuracy and completeness is not guaranteed by the department. The contractor shall contact the New Jersey one call system at least three (3) full days before digging or completing any other work which may impact the utilities.

When the removal, relocation, de-energization or replacement of utility structures or facilities is deemed non-essential by the RE for carrying out the project, but is performed for the Contractor's convenience, the cost of such work shall be entirely the responsibility of the Contractor. Coordinate construction activities with those of the utility companies involved in the relocation or maintenance of existing or proposed utility facilities. Notify the RE, in writing, whenever it becomes apparent that completion of the project will be delayed because of delays in relocating, de-energizing, etc. of the existing utilities. In the absence of such notification, delays in the completion of work caused by the utilities will be solely the responsibility of the Contractor and liquidated damages will be assessed as elsewhere specified herein.

Valve box covers, which are either indicated on the construction plans or which are discovered during construction, shall be reset or relocated by the Contractor to the correct proposed elevation. All costs for this work shall be included in the lump sum price bid for all items requiring same as listed in the bid form.

It shall be the responsibility of the contractor to arrange for all utility work essential for the completion of the project and to coordinate the work carried out by the public utilities with his own work. The contractor shall cooperate with the utility company in the removal, relocation and replacement of utilities. Locations of relocated utilities shall be verified with the respective utility companies. Wherever underground utilities are encountered, the contractor shall take special precautions to prevent breakage and interruption of service.

No separate payment will be made for coordination with the utility companies and all costs thereof shall be included in the bid prices for the various items in this contract.

The contractor shall notify the all utility agencies at least one (1) week prior digging the test pits.

Contacts:

Verizon

Chris Ogrodnik (732) 418-2620
6000 Hadley Road
South Plainfield, NJ 07080

Comcast Cablevision Company

Josheph Demeter (732) 602-7444
800 Rahway Ave.
Union, NJ 07083

PSE&G – Electric

Norman Garcia (732) 764-3194
472 Weston Canal Road (Electric)
Somerset, NJ 08873

NJ American Water Company

Kristen Jenkins (908) 791-3464
1341 North Avenue
Plainfield, NJ 07061

PSE&G – Gas

Joseph Biondo (908) 669-3838
40 Rock Avenue
Plainfield, NJ 07063

Public Works and Urban Development – Sewer

Eric Watson
515 Watchung Avenue
Plainfield, NJ 07060

105.10 USE OF EXPLOSIVES

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED. EXPLOSIVES WILL NOT BE PERMITTED ON THIS PROJECT.

SECTION 106 – CONTROL OF MATERIAL

106.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS

THE FOLLOWING IS ADDED:

Do not purchase or permit any subcontractor to purchase materials or supplies for the work which are subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work.

Nothing in these Special Provisions or in the Contract shall be considered as vesting in the Contractor any right or property in the materials used after they shall have been attached or affixed to the work or the soil, but all such materials shall upon being so attached or affixed become the property of the Owner.

Use only products and supplies listed on the QPL.

106.02 DEPARTMENT-FURNISHED MATERIAL

THE ENTIRE SUBSECTION TEXT IS DELETED.

106.05 MATERIALS, INSPECTIONS, TESTS, AND SAMPLES

THE THIRD PARAGRAPH IS DELETED.

106.07 CERTIFICATION OF COMPLIANCE

THE FOLLOWING IS ADDED:

If the RE orders sampling and analysis or tests of materials which are usually accepted on certification of the manufacturer but which appear defective or not conforming to the requirements of the Specifications, the County shall bear the reasonable costs of sampling, transportation, testing, and analysis of the material if it is found to be sound and in conformance with the Specifications. Otherwise, the Contractor shall bear all such costs if the material is found to be defective or not in conformance with the Specifications.

SECTION 107 – LEGAL RELATIONS

107.01 LEGAL JURISDICTION

107.01.02 Permits, Licenses, and Approvals

THE FOLLOWING IS ADDED:

Obtain the approval and acceptance of work that is to meet the requirements of persons, municipalities or bodies other than the County.

Apply for a permit to use water from hydrants or other outlets, and the use of water shall be subject to the charges, rules, and regulations of the Utility Owner.

107.01.03 Sovereign Immunity

THIS ENTIRE SUBSECTION TEXT IS DELETED. HOWEVER, THE DELETION OF THIS SUBSECTION IS NOT TO BE CONSTRUED AS ANY WAIVER OF THE COUNTY’S RIGHTS TO SOVEREIGN IMMUNITY.

107.03 AFFIRMATIVE ACTION, DISADVANTAGED BUSINESS ENTERPRISES, OR EMERGING SMALL BUSINESS ENTERPRISE

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

107.04 NEW JERSEY CONTRACTUAL LIABILITY ACT

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

107.05 LIMITATION OF LIABILITY

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

107.06 PERSONAL LIABILITY OF PUBLIC OFFICIALS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

107.09 INDEPENDENT CONTRACTOR

THE SECOND SENTENCE IS CHANGED TO:

It shall neither hold itself out as, nor claim to be, an officer or employee of the Department by reason hereof.

107.10 NON-THIRD PARTY BENEFICIARY CLAUSE

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

107.11 RISKS ASSUMED BY THE CONTRACTOR

Risks of Loss or Damage to the Construction.

THE FOLLOWING IS ADDED:

Except as provided otherwise herein, the liability of the Contractor hereunder for all injuries or damages to persons or to property is absolute and is not dependent upon any question or negligence on his part or on the part of his agents, servants or employees, and neither the approval of the RE of the methods of doing the work nor the failure of the RE to call attention to improper or inadequate methods or to require a change in methods, nor the neglect of the RE to direct the Contractor to take any particular precautions or to refrain from doing any particular task, shall excuse the Contractor in case of any such injury to persons or damages to persons or property.

The whole, or so much of the monies due under and by virtue of the Contract, as shall be considered necessary by the Owner may, at its option, be retained by the Owner until all suits or claims or demands for damages shall have been settled and evidence to that effect furnished to the satisfaction of the Owner.

107.12 THE CLAIMS RESOLUTION PROCESS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

107.13 LITIGATION OF CLAIMS BY THE CONTRACTOR

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

SECTION 108 – PROSECUTION AND COMPLETION

108.01 SUBCONTRACTING

THE FIRST AND SECOND PARAGRAPHS ARE DELETED.

108.02 COMMENCEMENT OF WORK

THE SUBPART 4 IN THE FIRST PARAGRAPH IS CHANGED TO:

4. Progress schedule as specified in 153.03

ALL REFERENCES TO EXECUTION OF CONTRACT ARE CHANGED TO NOTICE TO PROCEED.

108.04 WORK SITE AND STORAGE

THE FOLLOWING IS ADDED:

Provide the RE a copy of any lease for the use of private property.

Upon completion of all work and prior to the release of final retainage, provide the RE a copy of a letter of release from the property owner stating that the site has been restored in a satisfactory manner.

108.10 CONTRACT TIME

The Contractor must achieve Substantial Completion in 240 calendar days and Completion in 300 calendar days. Every effort shall be made by the Contractor to minimize the duration of the road closure.

108.11 MODIFICATIONS TO CONTRACT

108.11.01 Extensions to Contract Time

B. Types of Delays.

2. Excusable, Non-Compensable Delays.

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.

C. Submitting Time Impact Evaluation.

THE FIRST PARAGRAPH IS CHANGED TO:

If an excusable delay occurs, notify the RE, as specified in 104.03.04, detailing how the event or cause is affecting the approved progress schedule that is current at the time the delay occurred. When the full extent of the impact on the approved progress schedule can be determined, submit a request for an extension of Contract Time to the RE. Clearly identify how each change or delay is represented by an activity or group of activities.

108.12 RIGHT-OF-WAY RESTRICTIONS

THE FOLLOWING IS ADDED:

Make no claim for delays by reason that entry upon an Easement or right which is lesser than a fee interest is conditioned upon notice or is limited in duration. Schedule work accordingly and take such limitations into account when planning performance of the work.

Temporary Easements and/or temporary construction rights will in most cases contain a limitation as to the length of time that they are extant. Schedule the Work pursuant to Section 153 so as to accommodate the particular time limitations of an Easement or right which is lesser than a fee interest as reflected on the R.O.W. plans. Provide a written request to the RE that the County procure an extension from the owner of a particular temporary easement or right, which is lesser than a fee simple interest, so as to enable the Contractor to continue occupancy of or re-enter same in the future, beyond the initial time period set forth in the respective property description prior to the expiration thereof.

Where the Contractor fails to complete the work within an area of a temporary easement or right lesser than a fee interest during the time allowed under the property description, by reason of the Contractor's own fault; reimburse the County for the sum payable to the owner of the underlying fee interest for the extended period of occupancy use. The RE may deduct an amount equal to such payments from the monthly estimate of the Work performed after providing 30 day written notice to the Contractor of such action, including a breakdown of the costs sought or to be sought by reason of the delay in timely vacating a temporary easement or right lesser than a fee interest.

Any additional construction staging areas or access areas used by the Contractor not shown in the Plans, is the sole responsibility of the Contractor. The Department will not make payment for gaining and maintaining the access and staging areas and restoring areas. Provide the RE with a copy of the written permission to enter the property prior to the start of Work. Provide written proof from the owner that the property has been restored to the owner's satisfaction. The Department will not make payment for delays and/or claims resulting from gaining permission to enter properties.

The following is a list of all rights-of-way required to install the proposed stream bank stabilization work associated with this project that have not been secured and their approximate anticipated dates of availability are pending and the Contractor shall verify that the rights-of-way have been secured prior to working in these areas:

Properties:

Lot 9, Block 2.01, Borough of North Plainfield, Union County, New Jersey
Lot 10, Block 2.01, Borough of North Plainfield, Union County, New Jersey
Lot 1, Block 329, Borough of Plainfield, Union County, New Jersey

108.14 DEFAULT AND TERMINATION OF CONTRACTOR'S RIGHT TO PROCEED
LIST (1) OF THE FIRST PARAGRAPH IS CHANGED TO:

1. Fails to begin construction operations within 30 days of receiving notice to proceed.

108.19 COMPLETION AND ACCEPTANCE
THE FIRST, SECOND AND THIRD PARAGRAPHS ARE DELETED.

THE FOLLOWING IS ADDED:

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

SECTION 109 – MEASUREMENT AND PAYMENT

109.01 MEASUREMENTS OF QUANTITIES

THE SECOND AND EIGHTH (LAST) PARAGRAPHS ARE DELETED. ALL QUANTITIES WILL BE MEASURED.

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 EIGHTH AND NINTH PARAGRAPHS ARE DELETED.

DIVISION 150 – CONTRACT REQUIREMENTS

SECTION 151 – PERFORMANCE BOND AND PAYMENT BOND

151.01 DESCRIPTION

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

151.02 MATERIALS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

151.03 PROCEDURE

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

151.04 MEASUREMENT AND PAYMENT

THE TEXT OF THIS SUBSECTION IS CHANGED TO:

There will be no separate payment for performance bond and payment bond, distribute all costs among the other items in the proposal.

SECTION 152 – INSURANCE

152.01 DESCRIPTION

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

152.02 MATERIALS

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

152.03 PROCEDURE

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

152.04 MEASUREMENT AND PAYMENT

THE ENTIRE TEXT OF THIS SUBSECTION IS DELETED.

SECTION 153 – PROGRESS SCHEDULE

153.01 DESCRIPTION

THE FOLLOWING IS ADDED:

Submit a CPM Progress Schedule for this project.

153.03 PROCEDURE

153.03.01 CPM Progress Schedule

THE FIRST PARAGRAPH IS CHANGED TO:

If required in the Instructions to Bidders, provide a detailed CPM schedule using Primavera or equivalent program.
ITEM 15 OF THE FIFTH PARAGRAPH IS CHANGED TO:

15. Calculate the CPM schedule in days.

1. Preliminary Schedule Submission

THE SECOND PARAGRAPH IS CHANGED TO:

Submit four (4) paper copies of the preliminary schedule, Gantt Chart, as specified in 153.03.02.2e, and a network diagram (PERT) printed on 36"x 24" sheets detailing the activity relationships.

2. Baseline Schedule Submission

THE LAST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Submit four (4) paper copies of the baseline schedule on 36"x24" sheets.

ITEM 3 OF THE SECOND PARAGRAPH IS CHANGED TO:

3. Submit four (4) paper copies of the tabular reports, as specified in 153.03.02.2, and a printed network diagram (PERT) on 36"x 24" sheets detailing the activity relationships.

153.03.02 CPM Progress Schedule Updates

THE FIRST, SECOND AND THIRD PARAGRAPHS ARE CHANGED TO:

The RE will designate the due date for the first schedule update when the baseline schedule is approved. The RE will designate the data date to be used for each schedule update.

Schedule progress review meetings to be held approximately 7 days before the schedule update due date. Prepare activity progress in advance of each meeting. Revise the logic to reflect the actual sequence of work. Do not submit schedules showing work performed out of sequence. Provide the RE with a report detailing actual start and actual finish dates of activities in progress since the previous review meeting. At the progress review meeting, present and review the progress since the previous review meeting for incorporation into the schedule.

Within 3 days from the date of the progress review meeting, submit the schedule update to the RE for approval with the agreed upon changes. Within 3 days, the RE will review the update schedule and approve or reject the submission. If rejected, revise and resubmit the schedule update, within 3 days, to the RE for review and approval. The RE will review the revised schedule update submissions and approve or reject the resubmission with 3 days.

2. Tabular Reports

THE FIRST PARAGRAPH IS CHANGED TO:

Submit three (3) paper copies of the longest path sort, total float sort, responsibility sort, area sort, and Gantt chart. Include the following information for each.

ITEM 7 IS CHANGED TO:

Original activity duration and remaining activity duration in days.

THE LAST PARAGRAPH IS CHANGED TO:

If the project falls behind schedule for non-excusable delays so that the schedule indicates 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 direct acceleration.

153.03.03 Bar Chart Progress Schedule and Updates

A. Schedule.

THE FOLLOWING IS ADDED:

If the project falls behind schedule for non-excusable 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.

B. Updates.

THE THIRD SENTENCE OF THE FIRST PARAGRAPH IS DELETED.

153.04 MEASUREMENT AND PAYMENT

THIS ENTIRE SUBSECTION IS CHANGED TO:

No separate payment will be made for Progress Schedules, distribute all costs among the various items in the proposal.

The RE may withhold progress payments from the Contractor is scheduled updates and/or revisions are not submitted within the timeframes specified.

SECTION 154 – MOBILIZATION

154.01	DESCRIPTION	
154.02	MATERIALS	
154.03	PROCEDURE	
154.04	MEASUREMENT & PAYMENT	
	<u>ITEM</u>	<u>PAY UNIT</u>
	Mobilization	Lump Sum

SECTION 155 – CONSTRUCTION FIELD OFFICE

155.03.01 Field Office

THIS ENTIRE SUBPART IS CHANGED TO:

A field office will not be required for this Project. Provide the following equipment for the exclusive use of the RE. Damaged or lost equipment will be repaired or replaced throughout the duration of the Contract within 48 hours of notification. All equipment will be removed and retained by the Contractor when no longer required, unless purchased by the Department. The RE must approve all equipment and services prior to purchase and/or installation.

1. Communication Equipment.

- a. **Cell Phones.** Provide 1 cellular phone. Ensure the cellular phone plan provides for unlimited mobile to mobile in-network usage, unlimited push-to-talk/ walkie-talkie usage and an anticipated monthly usage of 900 any-time minutes for each phone. Ensure the phones are on the same plan. Ensure the cellular phone plan has a home rate with no roaming charges within the state. Ensure each cellular phone has the following features:

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

- c. **Computer System.** Provide a computer system meeting the following requirements:

- 1 computer configurations each meeting the following:
 1. Notebook computer, Intel core i5 2450M, 2.5GHz, 3m L3 cache, 500 GB hard drive, 4 GB RAM, 15.6" HD anti glare screen, CD/DVD combination drive, USB 2.0 compatible with four ports, 6 cell Lithium ion battery with spare battery provided.
 2. A high-speed broad band connection and service with a minimum speed of 1.5 mbps with a dynamic IP address.
 3. 1 TB external hard drive with backup software.
 4. An uninterruptible power supply with a surge protector.
 5. Six 4 GB USB jump memory drives.
 6. 100 CD-R 700MB recordable CD's compatible with CD drive and 100 recordable DVD's. Include four CD/DVD holders (each holds 50).
 7. One can of compressed air and screen cleaning solution every other month of the duration of the job.

Software as follows:

1. Microsoft Windows Operating System latest version with future upgrades for the duration of the entire project.
2. Microsoft Office Professional latest version.
3. Norton 360 Version 6.0, this includes anti-virus software.
4. Visio Professional 2010 Graphics Software for Windows.
5. Primavera Project Planner 6.0.
6. PaperPort 14.

THE THIRD PARAGRAPH IS CHANGED TO:

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

2. Office Equipment.

1. 1 digital camera(s). Ensure each digital camera has auto-focus, with rechargeable batteries and charger, 123 MB memory card, USB Memory Card Reader compatible with camera and field office computer, 1.5 inch LCD monitor, 5 mega pixel resolution, 3.0 X optical zoom lens, built in flash, image stabilization, computer connections, and a carrying case

3. Inspection Equipment.

1. 1 Calculators with trigonometric capability
2. 1 Date/ Received stamp and ink pad
3. 1 Electronic Smart level, 4 foot
4. 1 Carpenter rulers
5. 1 Steel tape, 100 feet
6. 1 Cloth tape, 100 feet
7. 0 Illuminated measuring wheel
8. 1 Plumb bob and cord
9. 1 Line level and cord
10. 1 Surface thermometer
11. 1 Concrete thermometer
12. 0 Digital infrared asphalt thermometer
13. 0 Direct Tension Indicator (DTI) Feeler Gage, 0.005 inch
14. 0 Sledge hammer, 8lb
15. 0 Self leveling laser level with range of 100 feet and an accuracy of ¼ inch per 100 feet
16. 3 Hard hats -orange, reflectorized hard hats according to ANSI Z89.1.
17. 3 Safety garments – orange, reflectorized, 360° high visibility safety garments according to ANSI/ISEA Class 3, Level 2 standards. To be replaced yearly for the duration of the contract.
18. 3 Sets of rain gear with reflective sheeting
19. 3 Sets of hearing protection with a Noise Reduction Rating of 22 dB
20. 3 Sets of eye protection according to ANSI Z87.1
21. 1 Set(s) of fall arrest equipment according to ANSI Z359.1 standards consisting of a full body harness, lanyard and anchor.
22. 0 Light meter -capable of measuring the level of luminance in foot-candles
23. 1 Lantern flashlight, 6V with monthly battery replacements
24. Testing equipment and apparatus conforming to AASHTO T23, T119, T152

155.03.02 Field Office Maintenance

THE LAST PARAGRAPH IS CHANGED TO:

Maintain the computer system, camera, cellular phone and equipment for the duration of the contract or until no longer required by the RE. Assume that the equipment and services will be required for a minimum of 3 months after Completion. Repair or replace inoperable or defective communication, office and inspection equipment within 24 hours.

155.04 MEASUREMENT AND PAYMENT

THE SECOND AND THIRD PARAGRAPHS ARE DELETED:

The Department will not make payment for FIELD OFFICE TYPE A SET UP, FIELD OFFICE TYPE A MAINTENANCE and TELEPHONE SERVICE

SECTION 156 – MATERIALS FIELD LABORATORY AND CURING FACILITY

NOT REQUIRED FOR THIS PROJECT.

SECTION 157 – CONSTRUCTION LAYOUT AND MONUMENTS

157.03 PROCEDURE

157.03.01 Construction Layout

THE FOLLOWING IS ADDED:

It shall be the Contractor's sole responsibility for construction of all items of work to the line and grades shown on the plans. Provide the necessary qualified personnel to correctly interpret the survey layout as provided by the licensed New Jersey Professional Land Surveyor.

Give the RE copies of all grade sheets, cut sheets and other data prepared by the licensed New Jersey Professional Land Surveyor prior to the start of any work. This data shall be given to the RE for informational purposes only. No responsibility will be assumed by the RE for its correctness.

Provide written as-built certification from the Licensed New Jersey Land Surveyor that certain phases and/or all of the work has been constructed in accordance with the line and grades shown on the plans prior to final payment as required by the RE.

If in the opinion of the RE, the project cannot be successfully completed with the quality of work performed, he shall order the work redone at the Contractor's expense.

In instances where the RE feels the impact of the defective work is less severe, the RE shall have the option to negotiate a credit to the Owner. If a credit cannot be successfully negotiated, redo the work at no additional cost.

The RE will make every effort to periodically check the work in progress for conformity to plan line and grade, however, no guarantee is implied that said checks will be performed at the Contractor's convenience. If any work is found to be defective, the RE shall within three (3) working days render a decision as to whether the work should be redone or if the RE wishes to negotiate a credit to the County.

When requested by the RE, make available a competent person from his construction force to assist the RE in any manner which may be necessary to check the grades and alignment as well as other features of the work. No extra payment will be made for the services of such an assistant, and payment for the assistance shall be deemed to be included in the various unit prices bid. Failure to comply with this provision shall be sufficient cause for the RE to stop work on unchecked sections.

157.04 MEASUREMENT AND PAYMENT

THE FOLLOWING TEXT IS ADDED TO THIS SUBSECTION:

No separate payment will be made for monuments, and as-built certification, distribute all costs among the other items in the proposal.

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

158.02 MATERIALS

THE FOLLOWING IS ADDED:

Calcium Chloride.....919.15

158.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEMS ARE ADDED:

<i>Item Pay</i>	<i>Pay Unit</i>
SILT FENCE	LINEAR FOOT
HAYBALE	UNIT
INLET FILTER, TYPE 1	SQUARE FEET
SEDIMENT CONTROL BAG	SQUARE FEET

SECTION 159 – TRAFFIC CONTROL

159.03.08 TRAFFIC DIRECTION

SUBPART B OF THIS SUBSECTION IS DELETED IN ITS ENTIRETY AND REPLACED AS FOLLOWS:

B. Traffic Safety Services. Uniformed Police Officers shall be employed by the Contractor for the protection of any equipment entering, leaving, or crossing active traffic lanes, or as may be required for the routing of traffic around or through the construction. The uniformed police officers shall be employed continuously for the full time such conditions shall exist and as determined by the Engineer. The Contractor is advised to contact the local authorities prior to bidding to determine specific requirements for this project.

The Contractor agrees that it shall make no claims against the County for extra costs resulting from any delays or interruptions to its operations attributable to the actions or inactions of police in the performance of traffic safety services. The Contractor further agrees that it has incorporated in its Proposal any costs that may be incurred by the Contractor as a result of the actions or inactions of police in the performance of traffic safety services, and agrees to bear the risk of loss for any costs not included in its Proposal.

Police providing traffic safety services shall maintain traffic flow at a signalized intersection when the signals are temporarily out of service or as may be required for the routing of traffic as determined by the Engineer.

159.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED TO THIS SECTION:

Payment will be made under:

<i>Item Pay</i>	<i>Pay Unit</i>
BREAKAWAY BARRICADE	UNIT
DRUM	UNIT
TRAFFIC CONE (IF AND WHERE DIRECTED)	UNIT
CONSTRUCTION SIGN	SQUARE FOOT
CONSTRUCTION BARRIER CURB	LINEAR FOOT
MUNICIPAL POLICE ALLOWANCE	LUMP SUM

Uniformed Police Officers will be measured by the hour, and paid at the rates set forth in the current local police contracts. Payment will be made from the lump sum allowance only for Uniformed Police Officers used. The Contractor must provide evidence of payment for reimbursement. The Contractor is not entitled for any profit, overhead or administrative fees on this pay item.

No payment will be made for any costs of the Uniformed Police Officers in excess of the lump sum allowance by the County without prior written approval.

SECTION 160 – PRICE ADJUSTMENTS

160.01 DESCRIPTION

160.02 MATERIALS

160.03 PROCEDURE

160.04 MEASUREMENT AND PAYMENT

Measurement and payment will be made under:

Pay Item

Pay Unit

FUEL PRICE ADJUSTMENT

ALLOWANCE

ASPHALT PRICE ADJUSTMENT

ALLOWANCE

SECTION 161 – FINAL CLEANUP

161.03 PROCEDURE

161.03.01 Final Cleanup

THE FOLLOWING IS ADDED:

Repair or replace in a manner acceptable to the RE any public or private property which may have been damaged or destroyed during the prosecution of the work; clean all drains, sewers, and ditches within and adjacent to the work which have been obstructed by construction operations. Leave the site and adjacent public and private property in a neat and presentable condition wherever his operations have disturbed conditions existing at the start of the work. Submit to the RE releases from affected property owners that his obligations with respect to their individual properties have been fulfilled.

The exterior of all windows found on the property located at 72 Netherwood Avenue shall be washed in a professional manner, to a condition to the satisfaction of the Owner and RE.

161.04 MEASUREMENT AND PAYMENT

THE SUBSECTION TEXT IS CHANGED TO:

No separate payment will be made for Final Cleanup. Payment for this work shall be included in the unit prices bid for all other items of work in the proposal.

No separate payment will be made for the Window Washing at the property located at 72 Netherwood Avenue. Payment for this work shall be included in the unit prices for bid for all other items of work related to the property restoration of 72 Netherwood Avenue.

DIVISION 200 – EARTHWORK

SECTION 201 – CLEARING SITE

201.02 MATERIALS

THE FOLLOWING IS ADDED:

Coarse Aggregate (No. 57)	901.03
DGA.....	901.03
Concrete Block.....	901.03
Timber for Structures.....	901.03
Timber Treatment.....	901.03
Topsoil.....	901.03
Plant Materials.....	901.03
Antidescicant.....	901.03
Herbicide.....	901.03
Water.....	901.03

201.03 CONSTRUCTION

201.03.01 Clearing Site

THE FOLLOWING SUBHEADINGS ARE ADDED:

- H. Landscape Restoration. Restore landscaping on private properties disturbed during construction activities. This work shall include but not be limited to restoration of landscape gardens, plantings, and landscape timbers. Contractor shall make note of existing landscape garden edging locations, including existing plant species, and shall replace in kind and in accordance with the requirements specified in Section 811. Existing stone and concrete landscape garden edging must be reused. Provide additional stone, if necessary, to complete the landscape stone wall. Landscape timbers shall be replaced in kind and shall conform to the requirements specified in Section 915.
- I. Temporary Driveway. Construct temporary driveways as directed by the RE, using dense-graded aggregate with a 6-inch thickness as designated on the Plans. Ensure that the driveways are at least 10 feet wide. Maintain the driveway by top dressing or by excavating and top dressing, as directed by the RE, with additional dense-graded aggregate. When the driveway is no longer required, remove the driveway, backfill with topsoil to adjacent ground elevation, seed and fertilize and restore the disturbed area to the original condition. Maintain driveway access at all times.
- J. Clearing Site, Bridge. Perform Work as specified in 201.03.02.

201.03.02 Clearing Site, Bridge and Clearing Site, Structure

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

The bridge work to be performed under this Contract includes removal and disposal of the existing bridge in its entirety, including but not limited to reinforced concrete bridge decks, sidewalks, curbs, parapets, deck joints, railings, center pier and foundations, abutments and foundations and conduit as shown on the Plans and as directed by the RE. Clearing Site Bridge shall also include but not be limited to the removal of trees, vegetative matter and other obstructions required to construct channel protection, retaining walls, and the bridge structure at no additional cost to the Owner.

Install temporary shielding below the existing bridge as specified in 201.03.03

Only the following equipment is permitted for the work:

1. **Pneumatic or Electric Equivalent Hand Operated Hammers.**
 - A. When demolishing concrete not closer than 6 inches to structural members: hammers weighing no more than 90 lbs (exclusive of bit), equipped only with chisel point bits.
 - B. When demolishing concrete within 6 inches of structural members: hammers weighing no more than 30 lbs (exclusive of bit).
2. **Saw Cutters.**
 - A. When cutting concrete within 6 inches of structural members: concrete cutters and concrete saws. While using water in the cutting operation, provide shielding beneath the cutting operation to prevent water

leakage. Continuously collect slurry and dispose of as specified in 201.03.09. Ensure that the slurry does not enter the structure or highway drainage system.

3. **Hydraulic Breakers.** Ram-hoe type breakers, hydraulic breakers, and demolition shears may be used with the following restrictions:
 - A. Submit required data to the RE for Department's analysis of stresses induced to the girders.
 - B. Delineate the centerline and limits of the top flange of girders before the equipment operation.
 - C. Do not use equipment within 6 inches of the delineated flanges.
 - D. Do not pull or twist the reinforcement steel.
4. **Hydraulic Splitters.** Hydraulic splitters.
5. **Other Equipment.** Obtain RE approval before use.

201.04 MEASUREMENT AND PAYMENT

Payment will be made under:

<i>Item Pay</i>	<i>Pay Unit</i>
CLEARING SITE	LUMP SUM
TEMPORARY SHIELDING	LUMP SUM

THE FOLLOWING IS ADDED:

The Department will not make payment for the Item CLEARING SITE in excess of 80% of the lump sum bid until Completion.

Include the cost for CLEARING SITE BRIDGE in the item Clearing Site.

SECTION 202 – EXCAVATION

202.02 MATERIALS

THE FIRST IN THE LIST IS CHANGED TO:

Coarse Aggregate (No. 57, or 67)..... 901.03

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.

202.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEMS ARE ADDED:

<i>Item Pay</i>	<i>Pay Unit</i>
EXCAVATION, TEST PIT (IF AND WHERE DIRECTED)	CUBIC YARD
EXCAVATION, UNCLASSIFIED	CUBIC YARD
EXCAVATION, REGULATED MATERIAL (IF AND WHERE DIRECTED)	CUBIC YARD
DISPOSAL OF REGULATED MATERIAL (IF AND WHERE DIRECTED)	TON

SECTION 203 – EMBANKMENT

203.01 DESCRIPTION

THE FOLLOWING IS ADDED:

This work includes the placement of soil aggregate behind the bridge abutments and wingwalls and placement of coarse aggregate below the bridge foundation.

203.02 MATERIALS

THE FOLLOWING IS ADDED:

Coarse Aggregate (No. 57)901.03

203.02.01 Materials

THIS SUBPART IS CHANGED TO:

Provide materials as specified:

Soil Aggregate (I-11, I-14).901.11

203.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEMS ARE ADDED:

<i>Item Pay</i>	<i>Pay Unit</i>
I-11 SOIL AGGREGATE	CUBIC YARD
I-14 SOIL AGGREGATE	CUBIC YARD

DIVISION 300 – SUBBASE AND BASE COURSES

SECTION 301 - SUBBASE

301.01 DESCRIPTION

301.02 MATERIALS

THE FOLLOWING IS ADDED:

Subbase shall be constructed using existing insitu granular soils or furnished and installed 2" to 2-1/2" clean stone, if and where directed by the engineer.

Soil support fabric, if and where ordered, shall conform to Subsection 919.01.

301.03 CONSTRUCTION

301.03.01 SUBBASE

A. Preparing Subgrade

Where directed by the Engineer, the contractor shall install a geotextile soil support fabric prior to the placing of the proposed dense graded aggregate base course and/or clean stone subbase. The subgrade shall be cleared of all large stones and sharp objects that could puncture the fabric prior to placement. The fabric should then be rolled out into the sub-grade by at least two men, beginning on the firmest soil of the site perimeter to establish an anchor point. Lateral and longitudinal seams should be overlapped 3' or more or sewn. Aggregate may be used to hold down the fabric until the sub-base can be placed. Ground securing pins may also be used on the overlap sections.

Once the fabric is in place, the aggregate subbase can be backdumped onto the fabric beginning on firm soil at a point just in front of the fabric. The aggregate should be spread in lifts to allow proper compaction while not overstressing the fabric. Where extremely soft subgrades exist, care should be taken during aggregate placement to insure that the fabric is not moved out of position. Deformations or ruts that appear in the subbase shall be filled with additional aggregate until stable. Areas of the fabric which are damaged or moved out of position during aggregate placement shall be exposed and covered with a fabric "patch" overlapping 3 to 4 feet onto unaffected areas.

B. Spreading and Grading

C. Compacting

301.04 MEASUREMENT AND PAYMENT

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

ITEM	PAY UNIT
2" to 2-1/2" Clean Stone Subbase 6" thick including Excavation, unclassified (if and where directed)	Cubic Yard
Soil Support Fabric (if and where directed)	Square Yard

SECTION 302 – AGGREGATE BASE COURSES

302.01 DESCRIPTION

This Subsection is changed to:

This section describes the requirements for constructing aggregate base courses and DGA, backfill for storm sewer trenches and miscellaneous construction.

302.02 MATERIALS

302.03 CONSTRUCTION

302.03.01 Aggregate Base Course

C. Aggregate Base Course Placement

The following is added:

Correct damage to the aggregate base course caused by construction activities, and maintain the corrected aggregate base course until the subsequent course is placed.

Do not allow traffic on the aggregate base course. Remove all standing storm water and obtain the RE's approval before constructing subsequent courses.

302.04 MEASUREMENT AND PAYMENT

This Subsection is changed to:

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

ITEM	PAY UNIT
Dense Graded Aggregate Base Course, 4" Thick	Cubic Yard
Dense Graded Aggregate, Backfill	Cubic Yard

The Department will not make separate payment for the test holes described in part 302.03.01.D.

The Department will measure DGA used for Dense Graded Aggregate, Backfill by cubic yard of material actually used in the work to stabilize unstable areas.

SECTION 303 – ASPHALT-STABILIZED DRAINAGE COURSE

- 303.01 DESCRIPTION
- 303.02 MATERIALS
- 303.03 CONSTRUCTION
- 303.04 MEASUREMENT AND PAYMENT

SECTION 304 – CONCRETE BASE COURSES

- 304.01 DESCRIPTION
- 304.02 MATERIALS
- 304.03 CONSTRUCTION
- 304.04 MEASUREMENT AND PAYMENT

SECTION 305 – RUBBLIZING CONCRETE PAVEMENT

305.01	DESCRIPTION
305.02	MATERIALS
305.03	CONSTRUCTION
305.04	MEASUREMENT AND PAYMENT

DIVISION 400 -PAVEMENTS

SECTION 401 – HOT MIX ASPHALT (HMA) COURSES

401.01 DESCRIPTION

401.02 MATERIALS

401.02.02 Equipment

The last paragraph is changed to:

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

401.03.03 HMA Courses

D. Transportation and Delivery of HMA.

The first paragraph is changed to:

Deliver HMA using HMA trucks in sufficient quantities and at such intervals to allow continuous placement of the material. Do not allow trucks to leave the plant within 1 hour of sunset unless nighttime lighting is provided as specified in 108.06. The RE will reject HMA 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 weight ticket from a fully automatic scale. Before unloading, submit for each truckload a legible weigh ticket that includes the following:

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

E. Spreading and Grading.

The third paragraph is changed to:

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

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

401.03.03 HMA Courses (Cont'd)

J. Ride Quality Requirements

The first paragraph is changed to:

The Department will evaluate the HMA surface course using the International Roughness Index (IRI) according to ASTM E 1926. The Department will use the measured IRI to compute the appropriate pay adjustment (PA). The PA may be positive for superior quality work or negative for defective work. The Department may exclude certain area as specified in the Special Provisions.

Subpart 3 of Second Paragraph is Changed to:

3. Preparation for IRI Testing. Provide the necessary traffic control when the Department 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, shoulder, and ramp to be tested. Submit the actual stationing for each traffic marking tape location to the RE.

401.04 MEASUREMENT AND PAYMENT

The following pay items are added:

<u>Item</u>	<u>Unit</u>
Tack Coat	Gallon
Prime Coat	Gallon
Polymerized Joint Adhesive	Linear Foot
Hot Mix Asphalt 9.5M64 Surface Course	Ton
Hot Mix Asphalt 19M64 Base Course	Ton

This Subsection is changed to:

The specified depth of the milling is measured from the original surface to the top of the high spots of the textured surface.

The Department will measure Hot Mix Asphalt Pavement Repair before overlay by the square yard of area bounded by the sawcuts.

The Department will measure Tack Coat by volume delivered, converted to the number of gallons at 60°F as calculated by the temperature-volume correction factors specified in 902.01.

The Department will measure Hot Mix Asphalt 9.5 M 64 Surface Course and Hot Mix Asphalt 19 M 64 Base Course by the ton as indicated on the certified weigh tickets, excluding unused material. When nominal maximum aggregate size 3/8-inch HMA surface course is directed for use in transition (run out) areas, the Department will include this weight with the weight for Hot Mix Asphalt 9.5 M 64 Surface Course.

The Department will not make payment for MTV, Quality Control Cores or additional cores for reset and a thin-lift nuclear density gauge.

401.04 MEASUREMENT AND PAYMENT (Cont'd)

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 = Air Void Lot Quantity

PPA = air void PPA as specified in 401.03.03I

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

The item Nighttime Milling shall include all additional costs over and above the cost of milling during daylight hours. The nightly unit amount shall include all additional costs, such as but not limited to, labor shift differential costs, premium labor costs for Police Traffic Directors, material acquisition and disposal costs, lighting, variable message signs and other equipment costs and additional maintenance and traffic control costs associated with equipment, signage and implementing detours to mill the entire project pavement area at night.

The item Nighttime Paving shall include all additional costs over and above the cost of paving during daylight hours. The nightly unit amount shall include all additional costs, such as but not limited to, labor shift differential costs, premium labor costs for Police Traffic Directors, plant operating costs, material acquisition and disposal costs, lighting, variable message signs and other equipment costs and additional maintenance and traffic control costs associated with equipment, signage and implementing detours to pave the entire project pavement area at night.

The items Nighttime Milling and Nighttime Paving shall include attendance by all necessary contractor personnel at a pre-paving meeting which shall take place no sooner than 20 days prior to the start of milling and paving operations.

Nighttime milling and paving shall be initiated upon written approval and at the sole discretion of the County.

Night work hours are defined between 8 PM to 5 AM the following morning.

SECTION 402 – HMA FRICTION COURSE

- 402.01 DESCRIPTION
- 402.02 MATERIALS
- 402.03 CONSTRUCTION
- 402.04 MEASUREMENT AND PAYMENT

The following is added:

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

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

Where:

BP = Bid Price

Q = Thickness Lot Quantity

PPA = air void PPA as specified in 401.03.03I

SECTION 403 – ULTRA-THIN FRICTION COURSES

403.01 DESCRIPTION

403.02 MATERIALS

403.02 CONSTRUCTION

403.03.01 Ultra-Thin Friction Course

E. Spreading and Grading.

The Second Paragraph is changed to:

Apply polymer modified tack 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 ± 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.

403.04 MEASUREMENT AND PAYMENT

The following is added:

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

SECTION 404 – STONE MATRIX ASPHALT (SMA)

404.01	DESCRIPTION
404.02	MATERIALS
404.03	CONSTRUCTION
404.04	MEASUREMENT AND PAYMENT

SECTION 405 – CONCRETE SURFACE COURSE

- 405.01 DESCRIPTION
- 405.02 MATERIALS
- 405.03 CONSTRUCTION
- 405.04 MEASUREMENT AND PAYMENT

DIVISION 450
CONCRETE PAVEMENT REHABILITATION
SECTION 451 - CONCRETE SLAB STABILIZATION

451.01	DESCRIPTION
451.02	MATERIALS
451.03	CONSTRUCTION
451.04	MEASUREMENT AND PAYMENT

SECTION 452
PARTIAL DEPTH CONCRETE PAVEMENT REPAIR

452.01	DESCRIPTION
452.02	MATERIALS
452.03	CONSTRUCTION
452.04	MEASUREMENT AND PAYMENT

SECTION 453
FULL DEPTH CONCRETE PAVEMENT REPAIR

453.01 DESCRIPTION

453.02 MATERIALS

453.03 CONSTRUCTION

453.03.01 Full Depth Repair Using Concrete

C. Setting Forms, Joint Ties, and Dowels.

The Third Sentence of the Seventh paragraph is changed to:

Slowly withdraw the tube as the hole is filled.

453.04 MEASUREMENT AND PAYMENT

SECTION 454
RETROFIT DOWEL BARS

454.01	DESCRIPTION
454.02	MATERIALS
454.03	CONSTRUCTION
454.04	MEASUREMENT AND PAYMENT

SECTION 455
DIAMOND GRINDING EXISTING CONCRETE PAVEMENT

455.01	DESCRIPTION
455.02	MATERIALS
455.03	CONSTRUCTION
455.04	MEASUREMENT AND PAYMENT

SECTION 456
SEALING EXISTING JOINTS IN CONCRETE PAVEMENT

456.01	DESCRIPTION
456.02	MATERIALS
456.03	CONSTRUCTION
456.04	MEASUREMENT AND PAYMENT

DIVISION 500 – BRIDGES AND STRUCTURES

SECTION 501 – SHEETING AND COFFERDAMS

501.01 DESCRIPTION

THE FOLLOWING IS ADDED

This section includes the construction of temporary cofferdams and cofferdams with permanent and temporary structural elements as described in Section Sub Part No. 501.03.05 and indicated on the drawings. Cofferdams shall be adequate to permit demolition of the existing bridge substructures and foundations, including the existing center pier, and to permit construction of the new abutments and wing walls.

Monitor vibration levels and the control of means and methods of construction.

501.03 CONSTRUCTION

THE FOLLOWING SUBPARTS ARE ADDED

501.03.05 Cofferdam

THE FOLLOWING IS ADDED TO THIS SECTION

- A. Working Drawings.** At least 30 days before beginning work, submit working drawings for approval. Include the following:
1. Method of supporting cofferdam base in rock. Method shall include but not be limited to the insertion of structural soldier pile elements in pre-drilled sockets to provide adequate toe resistance to the cofferdam. Soldier pile elements shall be fitted with sheet pile interlocks for attachment of interlocked steel sheeting between soldier piles to form an interlocked bulkhead.
 2. Size, cross-section, section modulus, and physical properties of the cofferdam that will provide the maximum longitudinal bending moment for proper functioning.
 3. Bracing design to protect workers, adjoining properties, and the public.
 4. The combined stress calculations to determine the maximum effect of the principal stresses on the cofferdam. Include a check for the principal stresses against the appropriate material yield point.
 5. The contractor may use the Hencky-Von Mises (Yield Distortion Energy) criterion to combine stresses and relate the principal stresses to a failure criterion (Material Yield Point)
 6. The effects of bending stresses in the longitudinal direction and the transverse direction.
 7. The maximum forces that the cofferdam is subjected to during construction operations.
 8. The maximum forces that the cofferdam is subjected to due to earth and hydrostatic loadings for both base flow and flood flow conditions.
 9. Method of attachment of permanent cofferdam sheeting to the new foundation.
 10. Method for removing obstructions.
 11. Method for addressing underground facilities and utilities that coincide with the sheeting including but not limited to providing temporary support of utilities and storm water discharge piping.
 12. Dewatering plan, including the method of dewatering and controlling sediment and contaminants from entering adjacent water bodies, wetlands, and environmentally sensitive areas. Do not use earthen berms as a method of dewatering.
- B. Construction.** The cofferdam shall consist of permanent and temporary structural members. The limits of the cofferdam that will remain shall consist of structural steel members joined together to form a water tight seal. The permanent cofferdam sheeting shall be seated in the rock. Soldier piles inserted and grouted in pre-

drilled holes shall be provided at maximum 8 feet intervals to provide reliable toe support to the cofferdams. Soldier piles shall be fitted with interlocks to maintain a tight interlock with the sheeting. Permanent cofferdam elements shall be anchored to the new abutment foundations.

Construct the cofferdam to ensure the stability of the excavation and to keep the excavation free of water. Construct the cofferdam with interior dimensions that allow clearance for the removal of the existing bridge foundations, construction and inspection of forms for the new abutment foundations, and handling and pumping of water outside the footing area. Seat the cofferdam in rock below the footings and brace cofferdams in all directions and ensure that they are maintained free of water until the subsequent work has been completed.

Do not install within 200 feet of concrete that is being placed or has been placed within the previous 24 hours unless approved by the RE.

Maintain adequate drainage/channel flow during all phases of construction including construction of cofferdams.

- C. **Placing Concrete Seal.** Provide minimum 12 inch thick concrete seal over the rock subgrade for the cofferdam located beneath the abutments. Submit a plan of operation to the RE for approval at least 30 days before placing concrete seal. Include the following in the plan:

1. Method of placing concrete.
2. Methods of controlling water and sediment intrusion.
3. Equipment models and quantity. Include backup equipment within the Project Limits at all times.
4. Size and description of crew.
5. Corrective action plan for equipment breakdown or cofferdam failure.

Coordinate inspection of the rock foundation with the the RE prior to placing concrete. Remove loose rock fragments, soil, and mud from the subgrade prior to placing concrete.

Maintain still water at the point of deposit: Do not place concrete in running water. Ensure that plastic concrete does not come in contact with water outside of the confines of the cofferdam. Place concrete in 1 continuous operation. To prevent segregation, place the concrete in a compact mass in its final position. Do not disturb the concrete after placement. If unable to dewater, place concrete under water using 1 of the following methods.

1. **Tremie Method.** When using a tremie, ensure that the tube is at least 10 inches in diameter, and constructed in sections having flanged couplings fitted with gaskets. Support the tremie to allow free movement of the discharge end over the entire placement area and to allow its being lowered rapidly to choke off or retard the flow. Ensure that the discharge end is completely submerged in concrete at all times and the tremie tube contains sufficient concrete to prevent water entry.
2. **Bottom-Dump Bucket Method.** When using a bottom-dump bucket to place concrete, ensure that the bucket has a capacity of at least ½ cubic yard and loose fitting top covers. Gradually lower the bucket until it rests upon the prepared foundation subgrade or upon concrete already placed. Then gradually raise the bucket while discharging the concrete to maintain as near still water as possible at the point of discharge.

Ensure that depressions in the top of the seal are less than 6 inches below the specified elevation and peaks are less than 6 inches above the specified elevation. The RE will take soundings during final placement of the final lift in each seal before initial set. Cut areas exceeding the 6 inch tolerance to within the permissible height above the theoretical top of the seal.

Roughen and key the surface that the foundations will rest on before the concrete seal cures.

If and where indicated, place 2' thick concrete between the foundation and cofferdam that will remain. Pour the abutment neat to the sheeting if and where indicated on the drawings.

- D. Predrilling.** Backfill the void between the cofferdam and the prebored hole with granular material.
- E. Dewatering.** Submit a dewatering plan to the RE for approval. Include the method of dewatering and controlling sediment and contaminants from entering adjacent water bodies, wetlands, and environmentally sensitive areas. Do not use earthen berms as a method of dewatering. Before placing tremie seal, clear the bottom of excavation of objectionable material.

Do not begin dewatering a sealed cofferdam until the seal has cured to withstand the hydrostatic pressure. Dewater the cofferdam and clean the seal of laitance.

- F. Removal.** Remove the cofferdam except for the portion of the cofferdam that will remain, as indicated on the plans, when it is no longer required. Remove the portion of the cofferdam to remain even with the top of the foundation. Backfill voids left from the cofferdam to provide uniform finish grades.

501.03.06 Cofferdam Vibration Monitoring

- A. Monitor Vibration.** Monitor vibration levels and the control of means and methods of construction. This work consists of the following:
 - 1. Pre-construction and post construction inspections including report preparation of all structures within 50 feet of proposed cofferdam.
 - 2. Development and implementation of a program to limit the construction vibrations to preclude damage to any existing structures.
 - 3. Development and implementation of a program to monitor the ambient and construction vibrations at the structures within 50 feet of the proposed cofferdam.
- B. Quality Assurance.** The firm performing this work must have a minimum of five (5) years of demonstrated experience in vibration monitoring. Perform work under the direct supervision of a professional engineering registered in the State of New Jersey. The engineer must have a minimum of five (5) years of demonstrated experience in similar work and have professional level capability in related geotechnical and structural evaluations and engineering.

Submit for approval the following information at least 60 calendar days prior to commencement of the proposed cofferdam work:

- 1. Name of firm engaged to perform all vibration monitoring, inspections, and report work.
 - 2. Qualifications of firm including list of similar project experience for previous 5 years.
 - 3. Qualifications / resumes for all key personnel performing work.
 - 4. List of all structures to be inspected / monitored.
 - 5. Schedule for the inspections for all structures with anticipated submission dates for the pre-construction inspection report, vibration monitoring, construction control report, and post construction inspection report.
 - 6. Proposed list of equipment to be used on the project including at least two seismographs. Seismographs must be capable of measuring and recording the peak particle velocities and three components of ground vibration. Seismograph information shall include a certificate of calibration, dated within the previous twelve (12) months on its anticipated use on the project. Certificate of calibration shall be directly traceable to the US Bureau of Standards. The seismographs shall have both a visual and paper (or electronic) readout.
- C. Pre-construction Inspections.** Identify all structures / residences within 50 feet of proposed cofferdam work and shall coordinate with owners to enter the structures for the purpose of taking photographs, visual inspection, and measurements necessary to assess vibration susceptibility. The contractor shall make a detailed pre-construction inspection of the interior and exterior of these structures. The pre-construction inspection report shall include the following:
 - 1. General description of structure, type of construction, and materials used.

2. Any pertinent information required to assess vibration susceptibility.
3. Complete interior and exterior photographs of the foundation and walls with close-ups of existing damage.
4. Detailed written notes indicating existing cracks, crack widths, crack lengths, displacements, and other evidence of existing damage or structural deficiencies.

The pre-construction inspection report shall be in 8.5" x 11" format including an index, names, and responsibility of the inspection party, notes, and photographs with date, location, and defect captions. Copies of the report shall be submitted to the RE for review in accordance with Subsection 105.05 at least 30 calendar days prior to commencement of propose cofferdam work.

- D. **Vibration Monitoring and Control Program.** Prepare a vibration monitoring and control program to assess the vibration susceptibility of existing structures in relation to predicted construction vibration levels, and determine which structures may be susceptible to vibration damage. Submit to the RE for review in accordance with subsection 105.05 at least 30 days prior to commencement of proposed cofferdam work copies of the vibration monitoring and control program report.

1. Summary of program.
2. Assessment of vibration susceptibility of the structures within the 50 foot zone.
3. Identification of structures that could be damaged by the construction vibrations.
4. Description of monitoring program including list of equipment to be used to measure and record vibration at the structures.
5. Predicted construction vibrations at these locations, including estimated damage threshold particle velocities.
6. If necessary, description of modifications to construct equipment or methods to prevent structural damage.

All construction operations and vibration monitoring shall be performed in accordance with the approved program. Changes in the program must be approved by the RE prior to implementation.

At least two properly functioning seismographs shall be on-site at all times during cofferdam activity.

A concise, daily report shall be prepared and submitted to the RE for review at the end of each day with pile driving activity. The report shall include the following:

1. Seismograph recording including the date and times.
2. Make, model, and serial number of the seismograph(s).

- E. **Post Construction Inspection.** Coordinate with owners to enter the structures within the 50-foot zone for purposes of taking photographs and for visual inspection and measurements to assess the post construction condition of the structures. Perform a detailed inspection of the inside and outside of structures. The post construction report shall be in the same format as the pre-construction report with the following inclusions:

1. Note any changes or damage or the absence of change or damage to the structures.
2. Include photographs similar to those taken for the pre-construction report.

In the case of change or damage note the cause and remedial action to be undertaken.

Submit for review copies of the report in accordance with subsection 105.05 no later than 60 calendar days after completion of the cofferdam work.

- F. **Repairs.** Damage to structures due to vibrations created by cofferdam or other work by the Contractor and its Subcontractors is the sole responsibility of the Contractor. The Contractor at no cost to NJDOT shall repair any and all damage.

501.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEMS ARE ADDED:

<i>Item</i>	<i>Pay Unit</i>
MAINTENANCE AND PROTECTION OF STREAM FLOW	LUMP SUM
VIBRATION MONITORING	LUMP SUM

The Department will not make separate payment for the temporary or permanent portion of the MAINTENANCE AND PROTECTION OF STREAM FLOW. Include the cost in the Item MAINTENANCE AND PROTECTION OF STREAM FLOW.

The Department will not make separate payment for repairs required to restore damaged structures. Include the cost in the Item MAINTENANCE AND PROTECTION OF STREAM FLOW.

The Department will make payment for VIBRATION MONITORING as follows: 25% upon submission and acceptance of pre-inspection report; 50% upon completion of cofferdam installation; and 25% upon submission and acceptance of post inspection report.

SECTION 505 – PRECAST AND PRESTRESSED STRUCTURAL CONCRETE

505.03 CONSTRUCTION

505.03.01 Prestressed Concrete Structures

THE FOLLOWING SUBPART IS ADDED:

- G. Inserts. Install stainless steel inserts for utility bracket attachment.

SECTION 507 – CONCRETE BRIDGE DECK AND APPROACHES

507.01 DESCRIPTION

THE FOLLOWING IS ADDED:

This Section describes the requirement for saw cutting and sealing the joint between the bridge deck and approach.

507.02 MATERIALS

507.02.01 Materials

THE FOLLOWING IS ADDED:

Joint Sealer, Hot-Poured.....
914.02

507.03 CONSTRUCTION

507.03.02 Construction Bridge Decks

THE FOLLOWING IS ADDED:

- P. Saw cutting and Sealing Deck Joint. Make saw cuts between 1 and 5 days after placement of the HMA. Saw cut as specified in the plans. Saw cut the HMA adjacent to the concrete deck the full width of the traveled way and shoulders. After saw cutting, immediately collect the slurry from the saw cut cavity and surrounding pavement.

Clean saw cuts with a 150-pounds-per-square-inch water blast to remove remaining debris in the saw cut cavity, and then blow saw cuts with a hot-air lance to provide a dry surface. Immediately after blowing, seal saw cuts.

Seal joints with hot-poured joint sealer prepared according to the manufacturer’s recommendations. Do not heat joint sealer at the pouring temperature for more than 6 hours and do not reheat. Fill the saw cuts so that after cooling the level of the sealer is not more than ¼ inch above, or less than 1/8 inch below, the surface. Do not spread sand or other fine material on the sealed joints. Before opening to traffic, allow joint sealer to cure to prevent pickup.

507.04 MEASUREMENT AND PAYMENT

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

THE FOLLOWING SECTION IS ADDED:

SECTION 515 – BALUSTRADE PARAPET

515.01 DESCRIPTION

This Section describes the requirements for manufacturing, furnishing, and erecting precast concrete balustrade parapet sections and constructing cast-in-place concrete pylons on the bridge deck and wingwalls.

515.02 MATERIALS

Provide materials as specified:

Concrete.....	903.03
Curing Materials.....	903.10
Reinforcement Steel.....	905.01
Grout.....	Non-Shrink 903.08.02.A
Structural Precast Concrete.....	904.03
Structural Steel.....	906.01
Bolts and Bolting Materials.....	908.04
Epoxy Waterproofing.....	912.02.02

515.03 CONSTRUCTION

515.03.01 Balustrade Parapet

- A. Working Drawings.** Submit working drawings for approval that show plan, elevation, and sections as well as details for all appurtenances such as parapet supports, slide rails, form liners, chamfers, and v-grooves. Submit color charts to the county for selection prior to fabricating the Test Panel. Provide erection details including handling points and support locations and method of installing the units.
- B. Shipping and Storing.** Notify the RE at least 5 days before shipping. Ship and store precast units according to the manufacturer’s recommendations.
- C. Erection Plan.** Submit a plan of operations to the RE for approval at least 30 days before erection. Include at a minimum:
 - 1. Number and type of manpower and equipment.
 - 2. Shipping procedures.
 - 3. Lifting procedures.
 - 4. Temporary bracing.
- D. Erecting.** Ensure that the concrete deck has cured for at least 14 days before beginning precast balustrade or pylon construction. Construct molding, panel work, and bevel strips true to line and grade with neatly mitered joints. Ensure that corners in the finished work are true, clean cut, and free from cracks, spalls, and other defects. Construct pylon using the fixed form method. Set precast concrete balustrade parapet on top of concrete deck/wingwall, set horizontal alignment, set vertical alignment with top of deck/wingwall. Leveling bolts shall be adjusted as shown on the plans or stainless steel shims shall be used. Each leveling pad shall be adjusted independently as to maintain a proper elevation for setting the parapet sections.

Care shall be taken during hoisting and handling of the precast units to prevent cracking or damage. Units damaged by improper handling shall be replaced at the Contractor's expense.

After the precast parapet sections are set, pour the sidewalk to fill the void between the precast concrete parapet and the deck. All gaps beneath the railing sections should be completely filled. The sidewalk must be poured in one monolithic pour from the roadway to the outside face of the coping.

Construct cast-in-place concrete pylons after the sidewalk is poured. Construct forms as specified in 504.03.02.B. Ensure that the reinforcement steel is placed as specified in 504.03.01. Place concrete as specified in 504.03.02.D. Remove the forms as soon as the concrete holds its shape and immediately apply the Class 2 finish as specified in 504.03.02.H.2. Ensure that the application of the Class 2 finish is completed within 48 hours of placing concrete. The pylons shall be constructed using formliners, chamfers, and v-grooves as indicated in the plans.

- E. Test Panel.** Prior to starting work on the precast concrete balustrade parapet a 6'-6" precast parapet and 3'-2" cast-in-place pylon shall be constructed for approval on construction methods. The test panel shall incorporate all of the actual materials to be used during construction including the railing supports, formliners, chamfers, v-grooves, and slide joints. If the test panel is accepted by the RE, it may be used in the construction of the concrete parapets. If the test panel is damaged between the time it is approved by the RE and the time it will be installed, it will not be used.
- F. Epoxy Waterproofing.** For concrete waterproofing, use 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. The concrete tinting waterproof coating shall be applied to all exposed concrete surfaces of the parapet sections. The application of the epoxy waterproofing on the concrete parapets shall conform to section 504.03.03. The color of the epoxy waterproofing to be used on the concrete parapets shall be as directed by the Resident Engineer. The contractor shall use the concrete tinting waterproof coating on the concrete parapet test panel that is required to be submitted to the Engineer for approval.

515.04 MEASUREMENT AND PAYMENT

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

<i>Item</i>	<i>Pay Unit</i>
BALUSTRADE PARAPET	
LINEAR FOOT	

The Department will not make separate payment for the cast-in-place or precast portion of the BALUSTRADE PARAPET or for the test panel. Include the cost in the Item BALUSTRADE PARAPET.

The Department will not make separate payment for the epoxy waterproofing necessary for the concrete tinting waterproof coating on the BALUSTRADE PARAPET or for the epoxy waterproofing for the test panel. Include the cost in the Item BALUSTRADE PARAPET.

The Department will make payment for sidewalk concrete under CONCRETE BRIDGE SIDEWALK as specified in 507.04.

The Department will make payment for reinforcement steel under REINFORCEMENT STEEL, GALVANIZED as specified in 504.04.

THE FOLLOWING SECTION IS ADDED:

SECTION 517 – BRIDGE PLAQUE

517.01 DESCRIPTION

This Section describes the requirements for fabricating, furnishing, assembling, and erecting bronze plaques insured with text as directed by the RE.

This Section also describes the requirements for removing, refurbishing, and installing the existing bridge plaque.

517.02 MATERIALS

Plaque is to be cast in one piece of statuary bronze. Background shall be in dark oxidized hard matted surface having a stippled appearance; borders and tops of letters to have a smooth, burnished finish. Concealed anchorage shall be 4-1/2” diameter threaded expansion type anchor bolts, non-corroding type.

517.03 CONSTRUCTION

517.03.01 Bridge Plaque

Prior to constructing the Plaque, submit a full sized drawing of the plaque showing size and arrangement of letters for the approval of the RE. Block letters shall be used. Plaque having dimensions shown on the drawing shall be set in concrete at locations determined by the RE.

Remove the existing bridge plaque and have it refurbished to its original condition. Install the existing plaque in the concrete pylon as directed by the RE.

517.04 MEASUREMENT AND PAYMENT

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

<i>Item</i>	<i>Pay Unit</i>
BRIDGE PLAQUE	UNIT

DIVISION 600 – MISCELLANEOUS CONSTRUCTION

SECTION 601 – PIPE

601.01 DESCRIPTION

This Section is changed to:

This section describes the requirements for constructing storm drains for surface drainage, for constructing subbase outlet drains and underdrains, and for cleaning existing pipe.

601.02 MATERIALS

The following is added in the list:

Dense Graded Aggregate	901.10
Polyvinyl Chloride Perforated Drainage Pipe	909.02.03
Flexible Watertight Gasket	919.15
Ductile Iron Water Pipe	909.02.08
Grout	903.08.02

601.03 CONSTRUCTION

601.03.01 Installing Pipe

B. Excavating

The following is added to the second paragraph:

Excavate as specified in 202.03.03. Dispose of excess material as specified in 202.03.07. Dispose of removed materials and debris as specified in 201.03.09.

The following is added to the third paragraph:

Maintain the grade of the trench during excavation to provide positive drainage in the trench.

The second sentence of the last paragraph is changed to:

Do not leave trenches open overnight under any circumstances. Backfill and restore all trenches to its original condition:

C. Bedding.

The second sentence of the first paragraph is changed to:

Provide Class “C” bedding for storm drains. Use coarse aggregate No. 57 as specified in 901.03. Excavate trench at least six (6) inches below the bottom of storm drains along the full width of the trench to receive Class “C” bedding.

D. Installing Pipe.

The following is added:

Remove and replace storm drains damaged during installation. Remove and relay storm drains found to be out of vertical and horizontal alignment.

601.03.01 Installing Pipe (Cont'd)

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E. Joining Pipe

The first paragraph is changed to:

Join all rigid pipes using flexible watertight gaskets as specified in AASHTO M 198. With RE approval the contractor may use other types of watertight joint material except mortar that is recommended by the pipe manufacturer.

The following is added to the fourth paragraph:

Avoid bumping the gasket and thus displacing it or covering it with dirt and other foreign materials. Remove and replace gasket if damaged or displaced. Align storm drain before joints are forced home. Support storm drain by a lifting equipment to maintain concentricity until the gasket is properly compressed in the joint space. Apply sufficient pressure in making the joint to assure that the joint is home. See evidence of a slight squeeze out of the gasket at the outside or inside of the pipe joint.

F. Backfilling.

The first paragraph and second paragraph are changed to:

Backfill entire trench with dense graded aggregate as specified in 901.10.

Place dense graded aggregate backfill material symmetrically on each side of the pipe in lift not exceeding six (6) inches thick, loose measurement. Compact as follows:

1. Use vibratory plate compactors for dense graded aggregate backfill to two (2) feet above the top of the pipe.
2. May use a roller for dense graded aggregate backfill two (2) feet above the pipe.

601.03.03 Underdrains and Subbase Outlet Drains.

A. Excavating.

The last sentence of the third paragraph is changed to:

If the RE determines that the bottom of the trench is unstable, undercut as directed by the RE and backfill with Class "C" bedding.

The following is added under Subpart A.

Excavate as specified in 202.03.03. Dispose of excavated material as specified in 202.03.07 and 201.03.09. Excavate a depth of six (6) inches below the invert grade of the underdrain and subbase outlet drain. Maintain the grade of the trench during construction to provide positive drainage in the trench.

B. Installing.

The following is added under Subpart B.

Cut and trim subsurface drainage geotextile to meet required dimensions with sufficient size to provide an overlap of the underdrain pipe and backfill material.

C. Backfilling.

The following is added under Subpart C.

Use coarse aggregate No. 57 as specified in 901.03.

601.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
8" Corrugated Steel Underdrain Pipe	Linear Foot
15" RCP Storm Sewer, Class V	Linear Foot
18" RCP Storm Sewer, Class V	Linear Foot
Abandon Existing Storm Sewer Pipe and Fill with Grout (if and where directed)	Linear Foot

The following is added:

The Department will not measure flexible watertight gaskets, Class "C" bedding, subsurface drainage geotextile and cleaning existing pipes of the various sizes. The Department will not make payment for flexible watertight gaskets, Class "C" bedding, subsurface drainage geotextile and cleaning existing pipes of the various sizes.

The Department will not measure excavation and disposal of excavated, unusable, and unsuitable material from storm drain trenches. The Department will not make payment for excavation and disposal of excavated material, unusable, and unsuitable material from storm drain trenches.

SECTION 602 – DRAINAGE STRUCTURES

602.01 DESCRIPTION

602.02 MATERIALS

602.03 CONSTRUCTION

602.03.02 Inlets and Manholes

The following is added under Subpart 1:

All precast bases shall be set on a six (6) inch bed of compacted coarse aggregate No. 57.

The heading and first four sentences under Subpart 2 are changed to:

- 2. Concrete Block Construction. Lay concrete block with staggered joints. Fill with mortar horizontal joints, concrete block vertical joints and concrete block key ways. Ensure that horizontal joints and vertical joints in concrete block are not more than 3/8 inch wide.

602.03.03 Setting Castings, Resetting Castings, and Reconstructing Inlets and Manholes

The following is added:

When surrounding existing pavement grade in the travelled way and shoulder is lower than inlet grate or manhole cover, construct hot mix asphalt surface course transition ramp, four (4) feet from the edge of the casting. Remove hot mix asphalt surface course transition ramp prior to placement of final hot mix asphalt surface course.

Return unused existing castings to Union County Public Works, Monroe, NJ.

602.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Manhole 4' Dia.	Unit
Reconstruct Manhole	Unit
Reset Existing Casting	Unit

The following is added:

The Department will not measure installation and removal of hot mix asphalt surface course transition ramp, coarse aggregate bedding No. 57 under precast structure, opening and closing temporary drainage openings into the drainage structures, and cleaning existing drainage structure.

The Department will not make payment for the installation and removal of hot mix asphalt surface course transition ramp, coarse aggregate bedding #57 under precast drainage structures, to provide opening and closing temporary drainage openings into the drainage structure, and cleaning existing drainage structure.

SECTION 603 – SLOPE AND CHANNEL PROTECTION

- 603.01 DESCRIPTION
- 603.02 MATERIALS
- 603.03 CONSTRUCTION
- 603.03.05B NYLON MAT SLOPE/CHANNEL STABILIZATION

Nylon mat slope/channel stabilization shall be installed as follows:

Site Preparation: Grade surface of installation areas so ground is smooth and compact. When seeding prior to installation, prepare surface by loosening 2" (5.08 cm) to 3" (7.62 cm) of topsoil. All gullies, rills, and any other disturbed areas must be fine graded prior to installation. Spread seed before mat installation for erosion control and after mat installation for turf reinforcement. (IMPORTANT: Remove all large rocks, dirt clods, stumps, roots, grass clumps, trash and other obstructions from lying in direct contact with the soil surface and the mat.)

Initial and terminal anchor trenches are required at the mat ends and intermittent trenches must be constructed across the channel at 40' (12.2m) intervals. Initial and terminal anchor trenches should be a minimum 12" (30.48 cm) deep and 6" (15.24 cm) wide while intermittent trenches need be only 6" (15.24 cm) deep and 6" (15.24 cm) wide.

Channel Installation: Excavate initial and terminal trenches, 12" (30.48 cm) deep and 6" (15.24 cm) wide, across the channel at the upper and lower end of the lined channel sections and excavate intermittent trenches, 6" (15.24 cm) wide and deep, across the channel at 40' (12.2m) intervals. Excavate longitudinal trenches 6" (15.24 cm) deep and wide along channel edges in which to bury the outside mat edges. Place the first mat at the downstream end of the channel. Place the end for the first mat in the initial trench and pin it at 1' (0.305 m) intervals along the bottom of the trench. (Note: The mat should be placed upside down in the trench - loops against the ground - with the roll on the downstream side of the trench.) Once pinned and backfilled, the mat is deployed by wrapping over the top of the trench and unrolling upstream with the loops now facing up. If the channel is wider than 12" (3.7 m), place ends of adjacent rolls in the terminal trench, overlapping the adjacent rolls a minimum of 6" (15.24 cm). Side slope shingling should be avoided. Pin at 1' (0.305 m) intervals, backfill and compact. Unroll mat in the upstream direction until reaching the first intermittent trench. Unroll the mat back over itself, positioning the roll on the downstream side of the trench, and allowing the mat to conform to the trench. Then pin the mat (two layers) to the bottom of the trench, backfill and compact. Continue up the channel (wrapping over the top of the intermittent trench) repeating this step at other intermittent trenches, until reaching the upper terminal trench. At the upper terminal trench, allow the mat to conform to the trench, secure with pins or staples, backfill, compact and then bring the mat back over the top of the trench and onto the existing mat (2' (0.61 m) to 3' (0.915 m) overlap in the downstream direction, and pin at 1' (0.305 m) intervals across the mat.

Slope Installation: Place mat 2' (0.61 m) to 3' (0.915 m) over the top of the slope and into an excavated trench measuring at least 6" (15.24 cm) deep and wide. Pin the mat at 1' (0.305 m) intervals along the bottom of the trench, backfill and compact. (See note above for details of mat placement in trench.) Unroll the mat down the slope maintaining intimate contact between the

soil and the smooth side of the mat (loops up). Overlap adjacent rolls a minimum of 6" (15.24 cm). Pin the mat to ground using staples or pins in a 3' (0.915 m) pattern. Less frequent stapling/pinning is acceptable on moderate slopes.

Securing Devices: 11 gauge, 6" (15.24 cm) x 1" x 6" (15.24 cm) metal staples or 18" (45.72 cm) pins, having 3/16" (.476 cm) shank diameter and an attached 1 1/2" (3.81 cm) washer, are recommended for fastening mat to the ground. Drive staples or pins so that the top of the staple or washer is flush with ground surface. Staple or pin each mat every 3' (0.915 m) along its center. Longitudinal overlaps must be a minimum of 3" (7.62 cm) and uniform along the entire length of the overlap and stapled or pinned every 3' (0.915 m) along the overlap length. Roll ends may be spliced by overlapping 1' (0.305 m) (in the direction of water flow), with the upstream mat placed on top of the downstream mat. This overlap should be secured by staples or pins at 1' (0.305 m) spacing across the mat.

603.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
12" Thick Stoned Filled, PVC Coated RENO Mattress	Cubic Yard
Erosion Control Blanket, Excelsior Curlex II or approved equal	Square Yard

SECTION 604 – GABION WALLS

- 604.01 DESCRIPTION
- 604.02 MATERIALS
- 604.03 CONSTRUCTION
- 604.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
3' x 3' Gabion Basket	Cubic Yard

SECTION 605 - FENCE

- 605.01 DESCRIPTION
- 605.02 MATERIALS
- 605.03 CONSTRUCTION
- 605.05 REMOVE, REFURBISH AND RESET EXISTING FENCE

Wood or Timber Fences

Wood and timber fences shall be constructed of southern yellow pine grade "dense select structural" or approved equal. The wood and timber fences shall be pressure treated wood with "ACQ" or "Copper Azole" or approved equal Arsenic free materials and procedures approved by Environmental Protection Agency (EPA).

- 605.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Pressure Treated Lattice Fence	Linear Foot
Post and Rail Fence	Linear Foot

SECTION 606 – SIDEWALKS, DRIVEWAY, AND ISLANDS

606.01

DESCRIPTION

The following is added:

The term ADA curb ramp shall be inclusive of parallel curb ramps, perpendicular curb ramps, knee wall or similar, flared sides, turning spaces, blended transitions and clear spaces.

Knee wall or similar shall be any earth retaining structure in conjunction with ADA curb ramps.

Working Drawings for Sidewalk curb ramps; Said Working Drawings shall include the following information: layout including break lines, elevations at all intersecting lines of the layout, top and bottom of curb elevations at all intersecting lines of the layout, top and bottom of curb elevations, slopes and dimensions, and locations and elevations of junction boxes, pedestrian pushbuttons, and foundations, as shown in Section 606.03.02K. The drawings shall be approved by signature of the contractor and contain a Certification signed and sealed by a Professional Engineer licensed in the State of New Jersey retained by the contractor.

- ADA Working Drawing
- ADA As-Built Drawing for sidewalk curb ramp said as-built.

606.02

MATERIALS

The following is added on the list of materials:

Removable Cap Strip

Tack Coat 902.01

Joint Sealer 914.02

606.03

CONSTRUCTION

606.03.02

CONCRETE SIDEWALKS, DRIVEWAYS, AND ISLANDS

A. Underlayment Preparation:

The following is added under Subpart A

Provide a four (4) inch thick bedding of dense graded aggregate when the RE approved the depth of excavation and the material at the bottom of the excavation. Compact using the directed method as specified in 203.03.02.C. Backfill the undercut with dense graded aggregate.

D. Welded Wire Mesh.

The following is added under Subpart D

Use chairs and ties to support and maintain welded wire mesh in position during the placement of concrete.

E. Expansion Joints.

The first sentence under Subpart E is changed to:

Construct ½-inch wide expansion joints, placed at intervals of approximately eight (8) feet, with preformed joint filler and a cap strip in the top of expansion joints.

606.03.02 CONCRETE SIDEWALKS, DRIVEWAYS, AND ISLANDS (Cont'd)

F. Placing Concrete

The first sentence is deleted and replaced with the following:

Obtain RE approval of the forms as described in 606.03.02.B and joint placement as described in 606.03.02.E before placing concrete.

The components of the ADA compliant curb ramp shall be poured separately, no monolithic pours. The slope of the components of the curb ramps, shall follow the Revised ADA Regulations implementing Title II, the 2010 ADA Standards for Accessible Design and the interim PROWAG. It is recommended that the curb ramp slope not exceed 7.5% and the turning spaces slope not exceed 1.5% in either the running slope or the cross slope. It is recommended that the turning spaces be constructed first.

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 T23.

I. Removable Cap Strip.

Remove cap strip after the concrete sets and fill cap strip area with joint sealer according to the manufacturer's recommendations.

The following Subpart J is added:

J. Weather Limitations.

Do not place concrete if it is precipitating. Do not place concrete when precipitation is imminent as determined by the RE. Do not place concrete when the ambient temperature is below 30°F or above 100°F. Do not pour concrete sidewalks, driveway, and islands between November 15th to March 15th.

The following subpart K is added:

K. ADA Compliant Curb Ramp Design and as-built Certification.

1. ADA Compliant Curb Ramp As-Built Certification.

An as-built plan and certification shall also be provided after installation of the ramps stating the curb ramp was installed in accordance with the Revised ADA Regulations implementing Title II and the 2010 ADA Standards for Accessible Design requirements. This certification shall include the as-built plan layout of each ramp and be signed by the contractor, and signed and sealed by a Professional Engineer registered in the State of New Jersey. The as-built shall show the same information listed as item a-n above. Any deviations in the information contained in the design certification shall be noted.

NJDOT standard curb ramp details shall not be allowed for plan layout.

A County representative shall not inspect the ramp until the ramp is completed and the as-built drawings and certification have been submitted to the Engineer. The Engineer shall then check the initial working drawing and as-built for compliance with the ADA regulations.

At the traffic signal curb ramps shall be coordinated with the traffic signal equipment to ensure accessibility of the traffic signal equipment and the intersection.

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606.03.03 DETECTABLE WARNING SURFACES

Replace this Section with the following:

Detectable Warning Surfaces shall be of the type which can be set into uncured cast-in-place concrete. Glue/stick-on type warning surfaces shall not be allowed.

606.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>ITEM</u>	<u>PAY UNIT</u>
Concrete Sidewalk, Reinforced, 4" Thick	Square Yard
Concrete Reinforced Driveway, 6" Thick	Square Yard
Hot Mix Asphalt Driveway, 2" Thick	Square Yard
Detectable Warning Surface	Square Yard

Contractor prepared ADA working drawings and as-built drawing with certification will not be measured separately.

Knee walls or similar will not be measured separately.

The following is added:

The Department will not measure dense graded aggregate, welded wire mesh, removable cap strip, expansion joints and joint sealer.

The Department will not make payment for dense graded aggregate, welded wire mesh, removable cap strip, expansion joints, and joint sealer.

Reject and replace concrete sidewalks, driveways, and islands if the following occur or exist.

- a. Staining and discoloration of the concrete.
- b. Sidewalks, driveways, and islands are out of horizontal and vertical alignment.
- c. Improper joints and improper broom finish.
- d. Protrude expansion joints and joint sealer above the surface of the concrete.
- e. Failure to install removable cap strip and joint sealer.
- f. Failure to request inspection prior to pouring the concrete.
- g. Improper vibration of the concrete and segregation of the concrete during its initial set.
- h. Vandalism occurs during its initial set.
- i. Occur chips, cracks, and other damage during construction period and maintenance period.
- j. Failure to comply with the Revised ADA Regulations implementing Title II and the 2010 ADA Standards for Accessible Design and interim PROWAG.

No separate payment shall be made for contractor prepared plans and certification. The cost of the Contractor retained Engineer, plans and certification shall be included in the unit prices of Concrete Sidewalk, reinforced, 4" thick and Concrete Driveways, reinforced 6" thick respectively as appropriate.

No separate payment will be made for knee walls or similar. The cost thereof shall be included in the unit prices of Concrete Sidewalk Reinforced 4" Thick and Concrete Driveways, Reinforced 6" Thick, respectively.

No payment will be made for any sidewalk which is part of an ADA ramp until the as-built plan and engineer's certification is submitted to the engineer and the ramp has been inspected and found to be in accordance with the as-built plan.

SECTION 607 – CURB

607.01 DESCRIPTION

607.02 MATERIALS

The following is added to the list of materials:

Dense Graded Aggregate	901.10
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607.03 CONSTRUCTION

607.03.02 Concrete Vertical Curb and Concrete Slopping Curb

A. Underlayer Preparation

The following is added to Subpart A.

Install a five (5) inch thick bedding of dense graded aggregate when the RE approves the depth of the excavation and the suitability of subgrade material at the bottom of the excavation. Compact using the directed method as specified in 203.03.02.C. Backfill the undercut with dense graded aggregate.

H. Weather Limitations.

The following Subpart H is added:

Do not place concrete when precipitation is imminent as determined by the RE. Do not place concrete when the ambient temperature is below 30°F or above 100°F. Do not pour curb between November 15th to March 15th.

607.04 MEASUREMENT AND PAYMENT

The last paragraph is changed to:

The Department will measure curb along the face at the gutterline excepting the length of curb pieces of inlet castings.

The following is added:

The Department will not measure dense graded aggregate bedding placed under the curb.

The Department will not make payment for dense graded aggregate.

Reject and replace concrete curb if the following occur or exist.

- a. Staining and discoloration of concrete.
- b. Curb is out of horizontal and vertical alignment.
- c. Protrude preformed joint filler. Do not flush with the top and face of the curb.
- d. Improper finish of the top and the face of the curb.
- e. Cracks, chips, and other damage occur during construction period and maintenance period.
- f. Vandalism occurs during its initial set.
- g. Failure to request inspection prior to pouring the concrete.
- h. Improper vibration of the concrete and segregation of the concrete during placement.
- i. Settlement of the curb.
- j. Concrete Cradle is not provided at the compliant curb ramp.

The following Pay Item is added:

<u>ITEM</u>	<u>PAY UNIT</u>
10" x 20" Concrete Vertical Curb	Linear Foot

SECTION 608 – NON-VEGETATIVE SURFACES

- 608.01 DESCRIPTION
608.02 MATERIALS
608.03 CONSTRUCTION
608.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Non-vegetative Surface, Hot Mix Asphalt	Square Yard

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SECTION 609 – BEAM GUIDE RAIL

609.01 DESCRIPTION

The following is added:

This section also describes the requirements for installing terminals and anchorages.

609.02 MATERIALS

609.03 CONSTRUCTION

609.03.03 Terminals and Anchorages

The following is added:

Use FLEAT 350 (Flared Energy Absorbing Terminal)

Slotted Guide Rail Terminals as manufactured by Road Systems, Inc.

Use SKT 350 Extruder Terminals as manufactured by Road Systems, Inc.

Use CAT 350 Telescoping Guide Rail End Terminals as manufactured by Trinity Highway Safety Products, Inc.

Use Brakemaster 350 Telescoping Guide Rail Terminals as manufactured by Energy Absorption Systems, Inc.

609.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Thrie Beam Guide Rail, Bridge	Linear Foot
Controlled Release Anchorage Terminal	Unit
Beam Guide Rail	Linear Foot

The following is added:

The Department will not measure Removal of Beam Guide Rail.

The Department will not make payment for Removal of Beam Guide Rail. The Department will include payment for Removal of Beam Guide Rail under Pay Item Clearing Site.

SECTION 610
TRAFFIC STRIPES, TRAFFIC MARKINGS, AND RUMBLE STRIPS

610.01 DESCRIPTION

610.02 MATERIALS

610.02.02 Equipment.

The following is added to the list of equipment:

LTL-2000 Retroreflectometer

610.03 CONSTRUCTION

610.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>ITEM</u>	<u>PAY UNIT</u>
Traffic Stripes, Long-Life, "Thermoplastic" 4" wide, with glass beads	Linear Foot
Traffic Stripes, Long-Life, "Thermoplastic" 24" wide, with glass beads	Linear Foot

SECTION 611 – CRASH CUSHIONS

611.01	DESCRIPTION
611.02	MATERIALS
611.03	CONSTRUCTION
611.04	MEASUREMENT AND PAYMENT

SECTION 612 - SIGNS

612.01 DESCRIPTION

612.02 MATERIALS

612.03 CONSTRUCTION

612.03.02 Regulatory and Warning Signs and Type GA “U” Post Support Guide Signs

The following is added:

Lay out the locations of all signs before installing to ensure proper placement. Obtain RE approval of sign locations before beginning installation operations. Confirm that the sign meets the requirements specified in 911.01.

612.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Regulatory and Warning Signs	Square Foot

THE FOLLOWING SECTION IS ADDED:

SECTION 613 – NAME PLAQUE

613.01 DESCRIPTION

This Section describes the requirements for fabricating and erecting bronze plaques.

613.02 MATERIALS

613.03 CONSTRUCTION

613.03.01 Bronze Plaque

Submit a full sized drawing of the plaque showing size, coloring, surface finish, and arrangement of letters to the RE for approval. Use block letters. Panel contains name of the structure, names of current elected officials, names of Infrastructure Management Department Head, County Engineer, County Counsel and Clerk of Board. Ensure that the plaque is cast true and straight in a single unit of the statutory bronze. Ensure that background is dark oxidized matted surface having a stippled appearance. Ensure that borders and tops of letters to have a smooth, burnished finish. The plaque shall be cast into the parapet and tied to the reinforcement steel as detailed on the plans.

613.04 MEASUREMENT AND PAYMENT

ITEMPAY UNIT

<u>ITEM</u>	<u>PAY UNIT</u>
Bronze Name Plaque	Unit

THE FOLLOWING SECTION IS ADDED:

SECTION 614 – REFLECTORIZED MAST ARM STREET NAME SIGNS

614.01 DESCRIPTION

This section describes the requirements for erecting reflectORIZED mast arm street name signs and mounting sign panels on traffic signal mast arm.

614.02 MATERIALS

614.02.01 Materials

Provide materials as specified in

Aluminum Components.....911.01.01

Sign Panels.....911.01.02

Mounting Materials.....911.02.05

Miscellaneous Hardware.....908

614.03 CONSTRUCTION

614.03.01 ReflectORIZED Mast Arm Street Name Signs

- A. Working Drawings. At least 30 days before beginning of work, submit working drawings for the approval's of RE.
- B. Size of Sign. Use sign height between 18 inches and 36 inches. Determine the length of the sign by the number of letters and physical limitations of the mast arm.
- C. Size and Series of Letters.

Use street names in lower-case with initial upper-case letters. Use 12-inches high for upper-case letters and 9-inches high for lower-case letters. Use "D" series when size of the legend 62 inches or smaller. Use "C" series when size of the legend exceed 62 inches.

Abbreviate cardinal directions (west, east, north and south) and use in the same manner as street names legend. Abbreviate roadway denominations (St., Ave., Rd., Dr., Ct.) and use lower-case letters with the initial upper-case letters. Use 7.5-inches high for the upper-case letters and 5.5 inches high for lower-case letters.
- D. Letter, Spacing, Border Width and Corners.

Use size and space in accordance to the "Standard Alphabets for Highway Signs". Use 2 to 4 inch spacing between the street name and its denominations. Use 5 inches for end margins. Use 1-inch for all borders. Set legend vertically to provide equal spacing between legend and the top and bottom borders. Round the panel corners to a radius of 1.5 inches.

If the street name signs are found to be defective because of ragged edges, cracks, scales, blisters, deformation or irregularities, remove and replace the defective signs as directed by the RE.

614.03.01 Reflectorized Mast Arm Street Name Signs (Cont'd)

- E. Abbreviations. Obtain the approval's of RE for the abbreviations if necessary. Follow following abbreviation during fabrication of sign legends.

Alley	Aly	Parkway	Pkwy
Avenue	Ave	Place	Pl
Boulevard	Blvd	Plaza	Plz
Circle	Cir	Road	Rd
Court	Ct	Run	Run
Drive	Dr	South	S
East	E	Street	St
Highway	Hwy	Terrace	Ter
Lane	La	Turnpike	Tpk
North	N	Way	Way
Park	Pk	West	W

- F. Layout of Legend. Label street name, roadway denomination, County route marker, cardinal direction from left to right. Label County route marker foremost to the right. Use green background with white label and border for all mast arm signage. Use pentagon shape with a yellow County name and route marker on a blue background. Place yellow square or rectangular behind County route marker (M1-6) to improve contrast on green sign. Use 18 x 18 inch size for County route markers.

- G. Installation:

Install all street name signs on previously installed traffic signal mast arm. Ensure that all signs are packaged so that they are protected from moisture and damage during shipment and storage. Provide minimum 2 brackets that allow free swinging movement. One bracket shall be adjustable to allow the signs to be hung horizontally. Ensure the signs swivel freely. All signs in excess of 72 inches shall have a minimum 3 brackets. Maintain a height clearance of 15-feet between the bottom of the signs and the finished pavement. Ensure that the brackets are adjustable to allow mounting of sign faces at any angle between a truly vertical position and 3 degrees from vertical. Obtain this angle by rotating the front lower edge of the sign forward of the top edge. Fabricate brackets to lengths equal to the height of the signs being supported. Submit mill certifications for the brackets. Provide signs mounting bolts that are sized to extend beyond the end of each nut by no more than $\frac{3}{4}$ inches when fully tightened. The RE will reject signs not fabricated according to the approved drawings. The RE will ensure that finished signs are clear and legible without smudging, blisters, delamination, loose edges or other blemishes. The RE will also ensure that the colors have consistent chromaticity across all signs of the same color. Provide copies of certification of compliance for the sign sheeting.

If signs cannot be suspended use a rigid connection using appropriate connection and bracket assemblies. Provide working drawing for a rigid connection to the RE for the approval. Evaluate an impact a wind load on the mast arm resulting from a rigid installation.

614.03.01 Reflectorized Mast Arm Street Name Signs (Cont'd)

Mast arms making an angle of less than 75 degrees with the path of traffic from whom the street name sign is intended shall be rotated so that this angle exceeds 75 degrees.

Approval from the Re is needed for all changes to the mast arm locations.

Use adjustable length swing sign brackets or fixed length non-adjustable swing sign bracket. Ensure signs bracket assembly to fit small and large diameter tubes or poles. Ensure bracket provide unobstructed center opening allowing electrical wiring to pass from the supporting structure through the center of the bracket.

Use all casting conforming to ASTM B-26-713 aluminum, minimum ½” thickness and 1 ½” wide. Use hardware ½ - 13, 18/18 stainless steel conforming to 908.04. All aluminum parts shall have an Alodine 1200 finish and all steel parts shall have a yellow zinc di-chromate finish.

614.04 MEASUREMENT AND PAYMEN

THE FOLLOWING SECTION IS ADDED:
SECTION 631 – ROADWAY TRENCH REPAIR

631.01 DESCRIPTION

Provide all necessary labor, materials, and equipment to construct the trench repair as shown on the drawings or as directed by the Engineer, and as specified below and in other applicable sections of this specification.

The contractor is herein advised that the use of imported recycled material as an alternate backfill material is subject to the submission of gradation test results and acceptable TAL/TCL+30 test results indicating the material is acceptable for the intended use in accordance with NJDEP criteria and requirements. One set of test results per source shall be provided for every 1000 cubic yards of imported material provided that a minimum of one set of results is submitted per street. Further, any recycled material to be utilized must come from a State licensed recycling facility.

631.02 CONSTRUCTION

Do not leave trench openings open overnight under any circumstances. Make backfill in roadways with dense graded aggregate. Use suitable previously excavated materials for backfill in other areas unless otherwise shown on the plans.

Maintain the roadways where storm drains are installed in good serviceable condition, and immediately repair all abrupt depressions to the satisfaction of the Engineer.

Construct any necessary ditches or trenches to keep the site and the work sufficiently drained at all times during progress of the work.

Mechanically compact to the material's optimum density as shown on the construction detail drawings.

The contractor is herein advised that the Owner intends to utilize as much of the existing in-situ granular soils as possible and accordingly, the work shall consist of the segregation of portions of the excavated material to optimize the reuse of these granular soils. The contractor is specifically directed not to backfill with clayey or silty soils. Where these soils are encountered, segregate these soils from the granular material and dispose of at approved locations.

The contractor is further advised that the work also includes the drying of the excavated saturated granular soils, if necessary, and that compensation for this work should be included in the prices bid for the various items included in the bid form and requiring the same.

Where unsuitable soils are encountered, furnish and install backfill materials as specified in other applicable sections of these specifications and on the construction details.

The maximum payment width for the imported backfill materials utilized for trench backfill shall be 6 feet. Should additional select fill beyond the 6' payment width be

required due to the contractor's methods or operations, the cost for this material will be borne by the contractor and no compensation for same will be made.

The work under this section also requires the contractor to protect all existing structures adjacent to the proposed construction areas. He shall also be required to monitor the stability of potentially affected structures and to implement any corrective measures necessary if stability of said structures is affected. The contractor is also encouraged to make indoor inspections, where deemed necessary, and to take preconstruction photos of these structures prior to the commencement of work.

The contractor is specifically advised that no separate payment for dewatering shall be made and that dewatering may include in trench dewatering, well points, deep wells and/or whatever methods are necessary to adequately maintain the groundwater level at a minimum of 2' below the prevailing excavation bottom during the pipe installation and backfill. Payment for dewatering shall be included in the prices bid for the various items included in the bid form and requiring same.

631.02.01 TEMPORARY TRENCH REPAIR

Construct temporary trench repair prior to the end of each working day following the installation of the proposed sanitary sewer mains and laterals. Temporary trench repair shall consist of the construction of 2" of hot mix asphalt 9.5M64 surface course on top of the compacted trench backfill. Construct the temporary trench repair such that the finished surface matches the existing elevation of the adjacent pavement.

Continuously maintain the trench area as directed by the owner or Engineer at no additional cost until such time as the roadway is to be excavated in accordance with the plans. At that time, excavate the roadway, re-compact the trench area, and install the roadway pavement section.

631.03 MEASUREMENT AND PAYMENT

Measurement and payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Temporary Trench Repair	Square Yard

Payment for roadway trench repair and temporary trench repair in accordance with the contract drawings shall include all work as outlined above and required to satisfactorily complete same.

Payment for trench repair shall be based on a maximum payment width of six (6) feet.

Bidders are advised that prior to the end of each working day, all open trenches must be backfilled and repaired. If permanent or temporary pavement is unavailable, then 6" of NJDOT Type 57 stone shall be installed in the trench until the asphalt is available subject to the approval of the Engineer; however, in no case shall the trench be left unrepaired, without asphalt, for more than 48 hours. Compensation for the 6" Type 57 stone, if required, shall be included under the prices bid for temporary trench repair.

Measurement and payment for imported backfill shall be made based on the in-place cubic yardage actually installed, compacted, and measured in place by the Engineer or his authorized representative.

The maximum payment width for the imported backfill materials utilized for trench backfill shall be 6 feet. Should additional select fill beyond the 6 feet payment width be required due to the contractor's operations or methods, the cost for this material will be borne by the contractor and no compensation for same will be made.

Payment for HMA pavement milling shall be made in accordance with Section 401.

Separate payment will not be made for segregating, drying, installing and compacting excavated materials from the site that are utilized for backfill.

Payment for hot mix asphalt surface course with the exception of temporary trench repair shall be made in accordance with Section 401.

THE FOLLOWING SECTION IS ADDED:
SECTION 637 – VIDEO INSPECTION OF SEWERS

WORK INCLUDED

The Contractor shall furnish all material, labor and equipment required to video inspect the storm sewers indicated on the plans. Video inspection shall be performed after cleaning of the pipes. Recommended trenchless rehabilitation method shall be provided for each observed defect. Televised inspection of sewers shall be conducted in accordance with the standards of NASSCO Pipeline Assessment and Certification Program (PACP). When performing television inspection, the maximum depth of flow shall not exceed that 15% of the pipe diameter, as measured in the downstream manhole.

Video inspection required includes, but is not limited to, the following:

1. All material, labor and equipment necessary for the video inspection of the sewers by the use of closed circuit, color television equipment;
2. All appurtenances required for the complete internal inspection of the sewers to the limits shown;
3. Portable television studios, color television cameras, audio equipment and monitors;
4. Power winches;
5. Traffic control equipment;
6. Color DVD, photographs and inspection log records; and
7. All other work and tools incidental to the closed circuit video inspection, as shown or specified.

Flow plugging and bypassing is the responsibility of the Contractor.

STANDARDS

The Contractor shall be aware that this Contract requires work in live sewer manholes and shall follow all Federal, State and local requirements for safety when in confined spaces. The Contractor is specifically referred to recommendations in the National Institute for Occupational Safety and Health Publication No. 80-106, "Working in Confined Spaces."

Contractor shall have experience in television inspection of both small diameter and large diameter sewers. Documentation of prior experience shall be furnished upon request.

SUBMITTALS

Submit the following to Engineer for review:

1. Specifications on the studio to be used for the television inspection of the sewers; and
2. Plans for flow control to allow for video inspection of the sewer in accordance with the details herein.
3. Recommended trenchless rehabilitation method(s) for correction of observed defects.

EQUIPMENT

The Contractor shall provide equipment capable of televising the main line sewer.

The Contractor shall provide mobile television studios, each large enough to accommodate 6 people and which will allow the comfortable seating of two viewing personnel authorized by the Owner or Engineer in addition to the operator, for the purpose of viewing the monitor while inspection is in progress. Each studio shall be parked in a location near an access manhole where disruption of traffic will be minimized. Unless winching and bypassing are remotely controlled from the studios, portable telephones or other suitable means of communication shall be set up between the two winches, the flow control and the monitor.

Each color television camera used for the inspections shall be especially designed and constructed for partially filled pipeline inspection with 360 deg minimum wide angle lens capable of operating continuously in 100

percent humidity condition and shall have its own lighting system which shall produce light levels from 50-100 ft-candles, which allows a clear in-focus picture of a minimum of 60 lineal feet of the inner periphery of the sewer.

The Contractor shall provide the capability of adjusting the brilliance of the lighting and the focus of the television camera by remote control from each studio. Focal length shall be adjustable from 6 in. to infinity.

The view seen by the television cameras shall be transmitted to monitors of not less than 17 in. Picture quality shall be such as to produce a continuous clear and stable 650-line resolution picture, free of electrical interference showing the entire periphery of the pipe. To ensure picture stability, the equipment used shall be constructed in such a manner as to withstand shock and vibration. A target shall be mounted in front of each camera to serve as a reference point for all sewer conditions noted. The target and supports shall conform to the details shown. In addition, the target shall be suitable for use with a laser, as specified elsewhere in these specifications.

All units shall display on their monitors the following information: time, date, job code, footage, flow direction indicator, and stationing of camera. All data may be displayed separately or together. The information display shall be able to be moved horizontally and vertically over the face of the monitor and light intensity varied at will.

Each unit shall be designed so that the correct footage information is always available. The correct footage shall always be indicated on the monitor to the nearest tenth of a foot.

The video and audio information provided on the monitors shall be capable of being recorded on the DVD systems, so that the information becomes a permanent record along with the pipe condition recorded during the inspection, and shall include the infiltration information specified.

The need for accuracy of measurements cannot be stressed too strongly.

EXECUTION

Video inspection, as specified for each sewers reach shall be performed as soon as possible after the cleaning of that reach. In no case shall more than 72 hours elapse between cleaning and video inspection. Manholes within and at the ends of each reach shall also be completely video inspected.

The internal inspection of each sewer shall be made by pulling the television camera through the sewer line to ascertain the internal conditions or features of the sewers (manhole to manhole) as shown in the Appendix. The Contractor shall supply the Engineer with typewritten logs noting the precise stationing of each defect in the reach. The logs shall also contain estimates of the amount of infiltration and notations of all variable leaks with a summary at the end of each reach.

Inspection shall be by a closed-circuit, color television and shall be performed in one reach at a time, suitably isolated from any excessive upstream flows by use of sewer plug flow restrictors or, if necessary, bypass pumping. The plugs shall be designed so that all or any portion of the sewage flows in excess of the maximum specified flow depths can be restricted or bypassed. Sewers shall have flows reduced to a minimum to allow video inspection of the top 70 percent of the sewer.

Once the camera is installed in the pipeline, the distance from the camera target to the center of the manhole shall be measured. This measurement shall be set on an above ground meter, measuring cable length so that the centerline of the entry manhole is Station 0+00. The meter shall be accurate to within 0.2 ft of length measured. The meter shall be checked daily against a steel tape. In addition, the Contractor shall set a laser beam at a predetermined height below the crown of the pipe in each sewer reach, and shall adjust and record the height of the target on the camera sled such that accurate data concerning the level of remaining sediment between manholes may be obtained. The Contractor shall prepare records of such data and submit them with the record drawings.

The camera shall be moved through the pipe in either direction at a uniform rate using inelastic towing cables, stopping when necessary to insure proper documentation of the sewer's condition. In no case shall the camera be pulled at a speed greater than 10 fpm. Manual winches, power winches, TV cable and power rewinds or other

devices that do not obstruct the camera's view or interfere with the proper documentation of the sewers conditions shall be used to move the camera through the sewers reach.

If an obstruction of the camera is encountered along a reach, the Contractor shall attempt access from a manhole on the opposite side of the obstacle. If more than one obstacle is encountered between manholes and all attempts by the Contractor to remove the obstacles have failed, the section between the obstacles may be deleted, at the discretion of the Engineer.

Printed television inspection logs shall be recorded by the Contractor which clearly show the exact locations (stationing), in relation to the centerline of the entry manhole and circumferential position of each building connection, pipe replacement, cured-in-place pipe, point repair, unusual condition, storm sewer connection, or other features.

Digital, 35 mm or other standard size color photographs of the image on the television monitor, or of problem areas, shall be taken by the Contractor upon request of the Owner or Engineer unless such photographing interferes with the Contractor's operation, in which case the cameras and film will be made available to the Engineer to perform the photography.

The Engineer will have a field representative with the television monitoring crew. No inspection shall be made without the presence of this field representative unless otherwise notified in writing by the Engineer. A color DVD recording shall be made of the entire length of the sewers inspection. The video/audio shall identify the run by lower and upper manhole or starting and ending point. Stationing and where applicable, circumferential position will be given by audio recording at all points and sewers features and conditions identified in the printed log as they are encountered. The audio portion of the composite signal shall be sufficiently free from electrical interference and background noises to provide complete intelligibility of the oral report. Stationing shall be given by audio recordings at intervals of no less than 10 ft in any event. The stationing at the end of the run versus the ground measured distance from starting to ending points shall be audio recorded.

The DVD-recorder shall have sound dubbing facilities that will permit audio track to be added to existing video recording.

The Contractor shall present all DVD's, satisfactorily indexed in plastic boxes to the Engineer and Owner promptly after recording. Each DVD and box shall be labeled with the DVD number, municipal name, reach number, upstream Station 0+00 manhole number, stationing included on the DVD and date of recording. The Contractor shall supply an overall index of all completed DVDs in number order indicating all data on the labels. The Contractor shall also prepare an overall index listing all Contract sewers reaches in order of reach number and upstream manhole numbers, indicating the DVD number, stationing and date of recording. Both indices shall be continuously updated and submitted to the Engineer on a weekly basis.

Ownership of the DVD's of the video inspection shall remain with the Owner.

The Contractor shall keep records of all television investigation performed. These records shall be on a printed form approved by the Engineer, showing the Owner's name, name of project, Contractor's name, date, manhole and section location, pipe size, length of section, type of video equipment used, crushed, broken or cracked pipe, recommendation for rehabilitation of defects, and any special remarks concerning the condition of the pipe. Four typewritten copies of each shall be submitted to the Engineer on a weekly basis.

MEASUREMENT AND PAYMENT

Measurement and payment will be made under:

Payment for video inspection of main line sewers shall be included in the prices bid for Bid Item- Television Inspection of Sewer Lines.

Pay Item
Television Inspection Of Storm Sewer Lines

Pay Unit
Linear Foot

DIVISION 650 – UTILITIES

SECTION 651 – WATER

THIS SECTION IS DELETED

SECTION 652 – SANITARY SEWERS

THIS SECTION IS DELETED

SECTION 653 – GAS

THIS SECTION IS DELETED

DIVISION 800 – LANDSCAPING

SECTION 801 – SELECTIVE VEGETATION REMOVAL

801.01 DESCRIPTION

801.02 MATERIALS

801.03 CONSTRUCTION

THE FOLLOWING SUBPART IS ADDED

801.03.03 Application of Herbicides

Comply with the requirements and procedures of N.J.A.C. 7:30-1 Et. Seq. for the application of herbicides.

801.04 MEASUREMENT AND PAYMENT

THIS SUBSECTION IS CHANGED TO:

The Department will not measure and will not make payment for SELECTIVE THINNING AND SELECTIVE TRIMMING.

SECTION 802 – TRIMMING AND REMOVING TREES

802.01 DESCRIPTION

802.02 MATERIALS

802.03 CONSTRUCTION

802.03.01 Trimming Existing Trees

THE FOLLOWING IS ADDED THIS PART.

Comply the requirements and procedures of N.J.A.C. 7:30-1 Et. Seq. for the application of herbicides.

Remove trees and shrubs that interfere with the construction of the various items. Backfill stump holes with Dense Graded Aggregate within proposed pavement area, curb and sidewalk areas.

802.04 MEASUREMENT AND PAYMENTS

THIS SUBSECTION IS CHANGED TO:

The Department will not measure and will not make payment for TRIMMING AND REMOVAL OF TREES. The Department will include payment for these items under Item CLEARING SITE. The Department will not measure and will not make payment for Dense Graded Aggregate.

SECTION 803 – PREPARATION OF EXISTING SOIL

- 803.01 DESCRIPTION
- 803.02 MATERIALS
- 803.03 CONSTRUCTION
- 803.04 MEASUREMENT AND PAYMENT

THIS SECTION IS CHANGED TO:

The Department will not measure and will not make payment for PREPARATION OF EXISTING SOIL.

The Department will include payment for PREPARATION OF EXISTING SOIL under Item TOPSOILING, 4” THICK.

SECTION 804 - TOPSOILING

804.01 DESCRIPTION

This Section is Changed to:

This section describes the requirements for preparing, screening and placing topsoil stripped from the project site if deemed acceptable for use as topsoil. This Section also describes the requirement for preparing, screening and placing topsoil imported from off-site approved sources.

804.02 MATERIALS

804.03 CONSTRUCTION

804.03.01 Topsoiling.

THE FOLLOWING IS ADDED TO SECOND PARAGRAPH:

If on-site stripped topsoil is deemed acceptable, screen first the stripped topsoil to remove all stones larger than ½ inch or larger in any dimension and other debris such as tree roots, clods, lumps, wires, cables, piece of concrete, piece of asphalt and other deleterious substances. Add pulverized limestone at the rate of 100 lbs. per 1,000 square feet to all screened topsoil, on-site and off-site. Bring screened topsoil in excess of that obtained from stripping.

804.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Topsoiling, 4" Thick	Square Yard

THE FOLLOWING IS ADDED:

If on-site material is approved to use as topsoiling, the UNIT PRICE FOR THIS ITEM IN THE PROPOSAL shall be reduced by 50%. The Department will not include additional payment for the preparing, screening and including the addition of pulverized limestone to the on site stripped topsoil from the job site.

SECTION 805 – TURF REPAIR STRIP

- 805.01 DESCRIPTION
- 805.02 MATERIALS
- 805.03 CONSTRUCTION
- 805.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS DELETED:

<u>Item</u>	<u>Pay Unit</u>
Turf Repair Strip	Linear Foot

The Department will not measure and will not make payment for TURF REPAIR STRIP.

The Department will include payment for this item under various pay items in the proposal.

SECTION 806 – FERTILIZING AND SEEDING

806.01 DESCRIPTION

806.02 MATERIALS

The following is added:

Seed Mixture Type “G”			
Kind of Seed	Minimum Purity %	Minimum Germination %	Application Rate pounds/acre
‘Millennium’ Tall Fescue	95	80	150
‘Brooklawn’ Kentucky Bluegrass	95	85	50
‘Manhattan 4’ Perennial Rye	95	85	50
Total			250 pounds/acre

Seed Mixture Type “G” is available through F.M. Brown’s Sons, Inc., 205 Woodrow Avenue, P.O. box 2116, Sinking Springs, PA 19608, telephone 800-345-3344, fax 610-678-7023, or approved equal. Tags and/or identification slips clearly denoting the mix shall be supplied to the Project Landscape Architect before sowing.

806.03 CONSTRUCTION

806.03.01 Turf Seeding.

THE FIRST SENTENCE OF SUBPART “C” OF THIS PART IS CHANGED TO:

C. Seed and Fertilizer Application

Sow grass seed mixtures at the rate of 250 pounds per acre.

The following is added:

Turf Seeding Mixture Type “G” shall be placed near the conclusion of construction and shall be accomplished via slit or drill seeder methods only. The seeds shall then be very lightly covered with screened topsoil, to a depth of no more than two to three times the diameter of the seed, or 1/8” maximum.

Finished seeded areas shall be smooth and shall conform to the prescribed lines and elevations. All seeded areas shall be mulched with straw, free from any weed seeds whatsoever, and held in place with a binder, both as specified in 811.02 and 811.03 of the Standard Specifications. Hay shall not be utilized.

806.04 MEASUREMENT AND PAYMENT

The following pay item is added:

<u>ITEM</u>	<u>PAY UNIT</u>
Fertilizing and Seeding, Type G	Square Yard
Fertilizing and Seeding, Type 2, Riparian Zone	Square Yard

SECTION 807 – TOPSOIL STABILIZATION

807.01	DESCRIPTION
807.02	MATERIALS
807.03	CONSTRUCTION
807.04	MEASUREMENT AND PAYMENT

SECTION 808 – SODDING

808.01 DESCRIPTION

808.02 MATERIALS

808.03 CONSTRUCTION

808.04 MEASUREMENT AND PAYMENT

THE LAST PARAGRAPH IS CHANGED TO:

The Department will not measure and will not make payment for mowing. The Department will make payment for mowing under Item SODDING in the proposal.

SECTION 809 - MULCHING

809.01 DESCRIPTION
809.02 MATERIALS

THE FOLLOWING IS ADDED:

The Contractor is directed to match the existing mulch that is disturbed in kind, including color of existing mulch in landscape areas.

809.03 CONSTRUCTION
809.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Straw Mulching	Square Yard
Shredded Hardwood Bark Mulch (If and Where directed)	Square Yard

THE FOLLOWING IS ADDED:

The Department will not make payment for the areas disturbed by construction operations, beyond the specified grading limits, and between grading limits and the ROW.

SECTION 810 – MOWING

810.01 DESCRIPTION

810.02 MATERIALS

810.03 CONSTRUCTION

810.04 MEASUREMENT AND PAYMENT

THIS SUBSECTION IS CHANGED TO:

The Department will not measure and will not make payment for MOWING. The Department will include payment for MOWING under Item FERTILIZING AND SEEDING TYPE G in the proposal.

SECTION 811 – PLANTING

811.01 DESCRIPTION

811.02 MATERIALS

811.03 CONSTRUCTION

811.03.01 Planting.

E. Excavation for Plant Pits and Beds.

THE LAST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

Obtain RE approval before reusing topsoil from the excavated pits.

I. Watering.

THE FIRST PARAGRAPH IS CHANGED TO:

Water plants with sufficient frequency and quantity to ensure that the soil surrounding the root system remains moist but not saturated.

THE FOLLOWING IS ADDED TO THIS PART:

P. Wrapping.

Wrap all deciduous trees more than 2 inches in caliper. Wind burlap wrapping material or creped kraft paper from ground line to six (6) inches above the lowest main branches. Tie wrapping material at the bottom and at the top and at maximum 24-inches intervals between. Wrap within 4 days after planting but not before the condition of the trunks has been inspected by the RE.

811.03.02 Plant Establishment Period.

THE THIRD AND FOURTH PARAGRAPHS ARE CHANGED TO:

The Department will reinspect the plants annually for _____ years, beginning approximately 1 year after the start of the plant establishment period. If the Department determines that plants need to be replaced after each inspection, replant plants as specified in 811.03.01 within 3 weeks of notification. If replacing outside of the optimal planting season as specified in Table 811.03.01-1, only use containerized or balled and burlapped plants that are certified as being dug dormant.

2. Maintenance Bond.

Provide a bond to the Department in the amount of
\$ _____.

811.03.03 Live Branch Cuttings

Live branch cuttings are sections of branches without twigs or leaves that may be pounded directly into very soft soil. Pilot holes must be made in harder soils. For installation by hand, it is recommend stakes be ¾-1½ inches diameter (over the entire length) and 2 to 5 feet long, depending on the application.

811.03.04 Replacement Trees, Shrubs & Perennials

Replacement Trees should be replaced if and where directed by the homeowner and should include but not be limited to:

- October Glory Red Maple*
- White Pine Trees*
- Northern red Oak Trees*
- Redspire Pear Trees*

Replacement Shrubs should be replaced if and where directed by the homeowner and should include but not be limited to:

- Japanese Yew*
- California Privet Hedges*

Replacement Perennials should be replaced if and where directed by the homeowner and should include but not be limited to:

- Hosta, Empress Wu*
- Hosta, First Frost*
- Hosta, Dancing Stars*

811.04 MEASUREMENT AND PAYMENT

This subsection is changed to:

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

<u>Item</u>	<u>Pay Unit</u>
Live Branch Cuttings (if and where directed)	Unit
Eastern White Pine (Pinus Strobus), 8'-10' height, B&B (if and where directed)	Unit
Spreading Yew (Taxus x Medis 'Densiformis'), 30"-36" B&B (if and where directed)	Unit
Replacement Trees (if and where directed)	Unit
Replacement Shrubs (if and where directed)	Unit
Replacement Perennials (if and where directed)	Unit
River Birch (Multi-Stem)	Unit
Balsam Fir	Unit
Red Dogwood	Unit

<u>Item</u>	<u>Pay Unit</u>
American Holly (Male & Female) (Dark Green Leaves)	Unit
Golden Twig Dogwood	Unit
Rhododendron	Unit
Vinca	Unit

THE FOLLOWING IS ADDED TO THIS SUBSECTION:

The Department will not measure and will not make payment for initial and weekly watering of the plants.

DIVISION 900 - MATERIALS
SECTION 901 - AGGREGATES

- 901.01 SOURCE
- 901.02 STOCKPILES
- 901.03 COARSE AGGREGATE
- 901.04 BLAST FURNACE SLAB
- 901.05 AGGREGATE FOR HMA
- 901.06 AGGREGATE FOR CONCRETE, MORTAR, AND GROUT
- 901.07 GRIT
- 901.08 RIP-RAP STONES
- 901.09 GABION BASKET STONE
- 901.10 DENSE GRADED AGGREGATE (DGA)
 - 901.10.02 RECYCLED CONCRETE AGGREGATE (RCA)
- THIS PART IS DELETED
- 901.10.03 Virgin and RAP Mixture
- THIS PART IS DELETED
- 901.11 SOIL AGGREGATE

SECTION 902 – ASPHALT

- 902.01 BITUMINOUS MATERIALS
- 902.02 HOT MIX ASPHALT (HMA)
- 902.03 OPEN-GRADED FRICTIONS COURSE (OGFC) AND MODIFIED OPEN-
GRADED FRICTION COURSE (MOGFC)
- 902.04 ULTRA-THIN HMA
- 902.05 STONE MATRIX ASPHALT (SMA)
- 902.06 ASPHALT-STABLIZED DRAINAGE COURSE (ASDC)

SECTION 903 – CONCRETE

- 903.01 CEMENT
 903.02 CONCRETE ADMIXTURES
 903.03 CONCRETE
 903.03.05 Control and Acceptance Testing Requirements

E. Acceptance Testing for Strength for Pay-Adjustment Items.

The following is added:

Concrete Items which are subject to pay adjustment and the base prices are as follows:

ITEMS	DESCRIPTION	UNIT	BASE PRICE
507021P	CONCRETE BRIDGE DECK	CY	\$500.00
507036P	CONCRETE BRIDGE PARAPET	LF	\$305.00
505039P	PRESTRESSED CONCRETE SLAB BEAM, TYPE SII-36), 36" X 15"	LF	\$125.00
505042P	PRESTRESSED CONCRETE SLAB BEAM, TYPE SIII-36) 36" X 18"	LF	\$130.00
505015P	PRESTRESSED CONCRETE BOX BEAM, TYPE (BI-36), 36" X 27"	LF	\$170.00
505045P	PRESTRESSED CONCRETE SLAB BEAM, TYPE (SIV-36), 36" X 21"	LF	\$160.00
505018P	PRESTRESSED CONCRETE BOX BEAM, TYPE (BII-36), 36" X 33"	LF	\$170.00
505021P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BIII-36), 36" X 39"	LF	\$175.00
505024P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BIV-36), 36" X 42"	LF	\$185.00
505003P	PRETENSNTIONED PRESTRESSED CONCRETE BEAM, 45"	LF	\$155.00
505006P	PRETENSIONED PRESTRESSED CONCRETE BEAM, 54"	LF	\$155.00
505048P	PRESTRESSED CONCRETE SLAB BEAM, (TYPE SII-48), 48" X 15"	LF	\$160.00

903.03.05 Control and Acceptance Testing Requirements (Cont'd)

ITEMS	DESCRIPTION	UNIT	BASE PRICE
505051P	PRESTRESSED CONCRETE SLAB BEAM, (TYPE SIII-48), 48" x 18"	LF	\$135.00
505009P	PRETENSIONED PRESTRESSED CONCRETE BEAM, 63"	LF	\$185.00
505027P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BI-48), 48" X 27"	LF	\$215.00
505054P	PRESTRESSED CONCRETE SLAB BEAM (TYPE SIV-48), 48" X 21"	LF	\$215.00
505030P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BII-48), 48" X 33"	LF	\$185.00
505033P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BIII-48), 48" X 39"	LF	\$220.00
505036P	PRESTRESSED CONCRETE BOX BEAM, (TYPE BIV-48), 48" X 42"	LF	\$230.00
505012P	PRETENSIONED PRESTRESSED CONCRETE BEAM, 72"	LF	\$200.00
502045M	CAST-IN-PLACE CONCRETE PILE, DRIVEN, 12" DIAMETER	LF	\$ 50.00
502090M	PRECAST CONCRETE PILE, DRIVEN, 12" X 12"	LF	\$ 90.00
502132M	PRESTRESSED CONCRETE PILE, DRIVEN, 12" X 12"	LF	\$ 50.00
502135M	PRESTRESSED CONCRETE PILE, DRIVEN, 14" X 14"	LF	\$ 50.00
502138M	PRESTRESSED CONCRETE PILE, DRIVEN, 16" X 16"	LF	\$ 50.00
502141M	PRESTRESSED CONCRETE PILE, DRIVEN, 18" X 18"	LF	\$ 50.00

903.03.05 Control and Acceptance Testing Requirements (Cont'd)

ITEMS	DESCRIPTION	UNIT	BASE PRICE
502144M	PRESTRESSED CONCRETE PILE, DRIVEN, 20" X 20"	LF	\$ 75.00
502147M	PRESTRESSED CONCRETE PILE, DRIVEN, 22" X 22"	LF	\$ 75.00
502150M	PRESTRESSED CONCRETE PILE, DRIVEN, 24" X 24"	LF	\$ 75.00
502151M	PRESTRESSED CONCRETE PILE, DRIVEN, 30" X 30"	LF	\$ 75.00
502156M	PRESTRESSED CONCRETE PILE, DRIVEN, 54" DIAMETER	LF	\$200.00

903.03.06 Tables.

Table 903.03.06 – 2 Requirement for Structural Concrete Items.

THE SEVENTH LINE UNDER CAST-IN-PLACE ITEMS IS CHANGED TO:

Table 903.03.06-2 Requirements for Structural Concrete Items

	Concrete Class	Slump ¹ (inches)	Percent Air Entrainment for Coarse Aggregate ¹	
			No. 57 & No. 67	No.8
Decks, Sidewalks, Curbs, Parapets, Concrete Patch	A	3 ± 1	6.0 ± 1.5	7.0 ± 1.5

903.04 PAVEMENT REPAIR MIXES CLASS V AND E

903.05 HIGH PERFORMANCE CONCRETE (HPC)

903.06 SELF-CONSOLIDATING CONCRETE (SCC)

- 903.07 QUICK-SETTING PATCHING MATERIALS
- 903.08 MORTAR AND GROUT
- 903.09 CONTROLLED LOW STRENGTH MATERIAL (CLSM)
- 903.10 CURING MATERIALS

SECTION 904 – PRECAST AND PRESTRESSED CONCRETE

904.01 NON-STRUCTURAL PRECAST CONCRETE

904.01.02 Fabrication.

THE LAST SENTENCE OF PART 2 IS CHANGED TO:

If using SCC, minimize or eliminate the use of vibrators to prevent segregation.

904.02 PRECAST RETAINING WALLS

904.02.06 Quality Control and Acceptance Requirements

STEP 2 IN THE THIRD PARAGRAPH IS CHANGED TO:

2. Dimensions not conforming to the tolerances specified in Table 904.02.02-1.

904.03 STRUCTURAL PRECAST CONCRETE

904.04 PRESTRESSED CONCRETE

SECTION 905 – REINFORCEMENT METALS

905.01 REINFORCEMENT STEEL

905.01.05 Dowels

THE ENTIRE SUBPART IS CHANGED TO:

Use plain reinforcement bars according to ASTM A 615, Grade 60. Galvanize according to ASTM A 123.

905.02 PRESTRESSING AND POST-TENSIONING REINFORCEMENT

905.03 REINFORCEMENT FOR CONCRETE PAVEMENT

SECTION 906 – STRUCTURAL STEEL

- 906.01 STRUCTURAL STEEL MATERIALS
- 906.02 STEEL PIPES
- 906.03 STEEL CASINGS FOR DRILLED SHAFTS
- 906.04 STRUCTURAL STEEL FABRICATION
- 906.05 SIGN STRUCTURAL FABRICATION
- 906.06 CLEANING AND PAINTING OF STRUCTURAL STEEL IN THE SHOP
- 906.07 4-BAR OPEN STEEL PARAPET

SECTION 907 – BEARING ASSEMBLIES

- 907.01 STRUCTURAL BEARING ASSEMBLIES
- 907.02 REINFORCED ELASTOMERIC BEARING ASSEMBLIES
- 907.03 BEARING PADS

SECTION 908 – BOLTS AND BOLTING MATERIAL

- 908.01 STEEL BOLTING MATERIALS
- 908.02 HIGH STRENGTH BOLTING MATERIALS
- 908.03 DIRECT TENSION INDICATORS (DTI)
- 908.04 STAINLESS STEEL BOLTING MATERIALS
- 908.05 ALUMINUM ALLOY BOLTING MATERIALS

SECTION 909 – DRAINAGE

909.01 PIPE BEDDING

909.01.03 Class "C" Bedding

THIS PART IS CHANGED TO:

Use coarse aggregate No. 57 as specified in 901.03 and Table 901.03-1.

909.02 PIPE

SECTION 910 – MASONRY UNITS

- 910.01 CLAY OR SHALE BRICK
- 910.02 CONCRETE BLOCK FOR INLETS AND MANHOLES
- 910.03 CONCRETE BRICK
- 910.04 STONE CURB
- 910.05 STONE FACING FOR PIER SHAFTS
- 910.06 STONE PAVING BLOCK

SECTION 911
SIGNS, SIGN SUPPORTS, AND DELINEATORS

911.01 **SIGNS**

911.01.01 **B. Retroflective Sheeting**

THIS SECTION IS CHANGED TO:

All sign types shall conform to ASTM D 4956 and shall use Type XI retroflective sheeting. Mount and install according to the Manufacturer's recommendation.

911.02 **SIGN SUPPORTS**

911.02.03 **Non-Breakaway Sign Support for Ground Mounted Signs**

The text of this subpart is deleted.

This subpart is intentionally left blank.

911.03 **FLEXIBLE DELINEATORS**

SECTION 912

PAINTS, COATINGS, TRAFFIC STRIPES, AND TRAFFIC MARKINGS

912.01 PAINTS AND STAINS

912.02 COATINGS

912.03 PERMANENT TRAFFIC STRIPES AND MARKINGS

912.03.01 Epoxy Traffic Stripes

B. Glass Beads

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic.

912.04 TEMPORARY TRAFFIC STRIPES AND MARKINGS

912.04.01 Latex Paint

THE FOLLOWING IS ADDED TO THE SECOND PARAGRAPH:

Ensure that glass beads do not contain more than 200 ppm of lead, 200 ppm of antimony, or 200 ppm of arsenic.

SECTION 913
GUIDE RAIL, FENCE, AND RAILING

- 913.01 BEAM GUIDE RAIL
- 913.02 FENCE
- 913.03 BRIDGE RAILING

SECTION 914 – JOINT MATERIALS

914.01 PREFORMED JOINT FILLER

914.02 JOINT SEALER

THE FOLLOWING IS ADDED:

Use Sikaflex-1A, Gray 1-component high performance polyurethane sealant, as manufactured by Sika Chemical Core of Lyndhurst, New Jersey or approved equal for sealing joints in concrete sidewalk.

914.03 POLYMERIZED JOINT ADHESIVE

914.04 JOINT ASSEMBLIES

914.04.01 Preformed Elastomeric (Compression Type)

B. Joint Sealer

THE LAST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

If splicing of a sealer is allowed, ensure that the sealer at the splice point has not significant misalignment at its sides or top and that misalignment at the bottom does not exceed half of the bottom wall thickness.

SECTION 915
TIMBER AND TIMBER TREATMENT

- 915.01 SAWN TIMBER, TIMBER SPACERS, AND ROUTED TIMBER SPACERS
- 915.02 ROUND TIMBER PILING
- 915.03 DIMENSION LUMBER FOR SHEET PILING
- 915.04 DIMENSION LUMBER, TIMBER, AND DECKING FOR STRUCTURES
- 915.05 TIMBER TREATMENT
- 915.06 TIMBER CONNECTORS AND HARDWARE

SECTION 916
FIBERGLASS COMPOSITE MATERIALS

- 916.01 FIBERGLASS REINFORCED PLASTIC LUMBER
- 916.02 FIBERGLASS REINFORCED PLASTIC PILES
- 916.03 FIBERGLASS-CONCRETE COMPOSITE PILES

SECTION 917 – LANDSCAPING MATERIALS

- 917.01 TOPSOIL
- 917.02 SOIL ADDITIVES
- 917.03 FERTILIZER
- 917.04 PULVERIZED UME STONE
- 917.05 SEED MIXTURES
- 917.05.01 Grass Seed Mixtures
- 917.06 MULCH
- 917.07 TACKFIERS
- 917.08 TOPSOIL STABILIZATION MATTING
- 917.09 SODDING

917.10 PLANT MATERIALS

H. Inspection.

THE SECOND PARAGARPH IS CHANGED TO:

The Department may inspect plan materials before delivery to the Project Limits and upon delivery to the Project Limits before installation. The Department may seal the inspected plant materials. For plant material originating from nurseries farther than 100 miles from the Project Limits, stock plant material at a Contractor-provided holding yard that is acceptable to the Department. The Department may inspect plant material originating from nurseries within 100 miles of the Project Limits at the nursery. Ensure that all plant material is untied and located so that trunk or stem and branch structure can be easily inspected. Provide sufficient notice to allow Department inspection at the nursery or holding yard and to allow time for Contractor reordering of rejected material. Notify the RE at least 7 days in advance of delivery to the Project Limits for installation. The Department will reject materials arriving with broken or missing seals, broken or loose balls, broken or pruned leaders, insufficient protection, or that have been damaged in transit. The Department may randomly inspect the root system of the plant material by breaking open the earth balls. Provide assistance during Department inspections.

917.11 MISCELLANEOUS LANDSCAPE MATERIALS

Rev. 6/19/15

SECTION 918 – ELECTRICAL MATERIALS

- 918.01 CONDUIT AND FITTINGS
- 918.02 CABLE AND WIRE
- 918.03 BONDING AND GROUNDING MATERIALS
- 918.04 CABLE CONNECTORS
- 918.05 RESIN SPLICING KITS
- 918.06 ELECTRICAL TAPE
- 918.07 CABLE RACKS
- 918.08 CAST BOXES AND FITTINGS
- 918.09 CABINETS
- 918.10 PANEL BOARDS AND CIRCUIT BREAKERS
- 918.11 PHOTOELECTRIC CONTROLS
- 918.12 PEDESTALS, POLES, TRANSFORMER BASES, AND MAST BRACKET ARMS

THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Fabricate pedestals, poles, transformer bases, and mast bracket arms for traffic signal, highway lighting, and camera standards with materials according to the appropriate ASTM Standard and the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals.

- 918.13 TOWER POLES
- 918.14 LAMPS

THE FOLLOWING SUBSECTION IS ADDED:

- 918.15 PRIORITY CONTROL SYSTEM

Priority Control System shall be Priority Control System, as manufactured by GTT or approved equal and include: One (1) Model 764 Phase Selector, one (1) Model 760 Card Rack, four (4) Model 721 Optical Detectors, four (4) Confirmation Light Kits, one (1) Push Button Assembly, M138 Detector Cable 1000' spool, APX Small Single Door Cabinet Enclosure Model SM141111 (pole mount flanges to be removed) and all associated mounting hardware etc.

918.15 PRIORITY CONTROL SYSTEM (Cont'd)

Optical Emitters are not included in this payment item or contract.

Contract: Signal Control Products, GTT Authorized Regional Rep. (908) 231-1133.

Phase Selector module shall be contained in a separate single door enclosure that shall be secured to the top of the meter cabinet. All mounting hardware shall be stainless steel. Connection from meter cabinet to single door enclosure shall be weather tight and properly sealed. The manufacturer, prior to delivery, shall prefabricate phase Selector in the single door enclosure.

Four (4) Push Button Assemblies shall be installed inside the _____ Building, one at each bay door at a location to be determined by the ENGINEER/OWNER during construction. Detectors and confirmation light kits shall be installed on traffic signal standards per manufacturer recommendations. Modifications to the signal standard caps, fittings and mounting hardware shall be included in this item. Location of detectors will be determined during construction by ENGINEER and a representative of manufacturer.

THE FOLLOWING SUBSECTION IS ADDED:

918.16 IMAGE DETECTION SYSTEM

1. Video Detection—General

This specification sets forth the minimum requirements for a system that monitors vehicles on a roadway via processing of video images. The detection of vehicles passing through the field-of-view of an image sensor shall be made available to a large variety of end user applications as simple contact closure outputs that reflect the current real-time detector or alarm states (on/off) or as summary traffic statistics that are reported locally or remotely.

The contact closure outputs shall be provided to a traffic signal controller and comply with the National Electrical Manufacturers Association (NEMA) type C or D detector rack standards.

918.16 IMAGE DETECTION SYSTEM (Cont'd)

The system architecture shall fully support Ethernet networking of system components through a variety of industry standard and commercially available infrastructures that are used in the traffic industry. The data communications shall support direct connect, [modem,] and multi-drop interconnects. Simple, standard Ethernet wiring shall be supported to minimize overall system cost and improve reliability, utilizing existing infrastructure and ease of system installation and maintenance. Both streaming video and data communications shall optionally be interconnected over long distances through fiber optic, microwave, or other commonly used digital communications transport configurations.

On the software application side of the network, the system shall be integrated through a client-server relationship. A communications server application shall provide the data communications interface between as few as one to as many as hundreds of Machine Vision Processor (MVP) sensors and a number of client applications. The client applications shall either be hosted on the same PC as the communications server or may be distributed over a local area network of PC's using the industry standard TCP/IP network protocol. Multiple client applications shall execute simultaneously on the same host or multiple hosts, depending on the network configuration. Additionally, a web-browser interface shall allow use of industry standard Internet web browsers to connect to MVP sensors for setup, maintenance, and playing digital streaming video.

1.1. System Hardware

The machine vision system hardware shall consist of three components:

- 1) a color, 10x zoom, MVP sensor
- 2) a modular cabinet interface unit
- 3) a communication interface panel.

Additionally, a customer owned personal computer (PC) shall host the server and client applications that are used to program and monitor the system components. The real-time performance shall be observed by viewing the video output from the sensor with overlaid flashing detectors to indicate the current detection state (on/off). The MVP sensor shall optionally store cumulative traffic statistics internally in non-volatile memory for later retrieval and analysis.

918.16 IMAGE DETECTION SYSTEM (Cont'd)

The MVP shall communicate to the modular cabinet interface unit via the communications interface panel and the software applications using the industry standard TCP/IP network protocol. The MVP shall have a built-in, Ethernet-ready, Internet Protocol (IP) address and shall be addressable with no plug in devices or converters required. The MVP shall provide standard MPEG-4 streaming digital video. Achievable frame rates shall vary from 5 to 30 frames/sec as a function of video quality and available bandwidth.

The modular cabinet interface unit shall communicate directly with up to eight (8) MVP sensors and shall comply with the form factor and electrical characteristics to plug directly into a NEMA type C or D detector rack providing up to thirty-two (32) inputs and sixty-four (64) outputs or a 170 input file rack providing up to sixteen (16) contact closure inputs and twenty-four (24) contact closure outputs to a traffic signal controller.

The communication interface panel shall provide four (4) sets of three (3) electrical terminations for three-wire power cables for up to eight (8) MVP sensors that may be mounted on a pole or mast arm with a traffic signal cabinet or junction box. The communication interface panel shall provide high-energy transient protection to electrically protect the modular cabinet interface unit and connected MVP sensors. The communications interface panel shall provide single-point Ethernet connectivity via RJ45 connector for communication to and between the modular cabinet interface module and the MVP sensors.

1.2. System Software

The MVP sensor embedded software shall incorporate multiple applications that perform a variety of diagnostic, installation, fault tolerant operations, data communications, digital video streaming, and vehicle detection processing. The detection shall be reliable, consistent, and perform under all weather, lighting, and traffic congestion levels. An embedded web server shall permit standard internet browsers to connect and perform basic configuration, maintenance, and video streaming services.

There shall be a suite of client applications that reside on the host client / server PC. The applications shall execute under Microsoft Windows 7 and/or 8. Available client applications shall include:

918.16 IMAGE DETECTION SYSTEM (Cont'd)

Master network browser: Learn a network of connected modular cabinet interface units and MVP sensors, display basic information, and launch applications software to perform operations within that system of sensors.

Configuration setup: Create and modify detector configurations to be executed on the MVP sensor and the modular cabinet interface unit.

Operation log: Retrieve, display, and save field hardware run-time operation logs of special events that have occurred.

Software install: Reconfigure one or more MVP sensors with a newer release of embedded system software.

Streaming video player: Play and record streaming video with flashing detector overlay.

Data retrieval: Fetch once or poll for traffic data and alarms and store on PC storage media.

Communications server: Provide fault-tolerant, real-time TCP/IP communications to / from all devices and client applications with full logging capability for systems integration.

2.1. MVP Sensor

The MVP sensor shall be an integrated imaging color CCD array with zoom lens optics, high-speed, dual-core image processing hardware bundled into a sealed enclosure. The CCD array shall be directly controlled by the dual-core processor, thus providing high-quality video for detection that has virtually no noise to degrade detection performance. It shall be possible to zoom the lens as required for setup and operation. It shall provide JPEG video compression as well as standard MPEG-4 digital streaming video with flashing detector overlay.

The MVP shall provide direct real-time iris and shutter speed control.

The MVP image sensor shall be equipped with an integrated 10x zoom lens that can be changed using either configuration computer software. The digital streaming video output and all data communications shall be transmitted over the three-wire power cable.

918.16 IMAGE DETECTION SYSTEM (Cont'd)

2.1.2. Power

The MVP sensor shall operate on 110/220 VAC, 50/60Hz at a maximum of 25 watts. The camera and processor electronics shall consume a maximum of 10 watts and the remaining 15 watts shall support an enclosure heater.

2.1.3 Detection Zone Programming

Placement of detection zones shall be by means of a PC with a Windows 7 and/or 8 operating system, a keyboard, and a mouse. The PC monitor shall be able to show the detection zones superimposed on images of traffic scenes.

The detection zones shall be created by using a mouse to draw detection zones on the PC monitor. Using the mouse and keyboard it shall be possible to place, size, and orient detection zones to provide optimal road coverage for vehicle detection. It shall be possible to download detector configurations from the PC to the MVP sensor and cabinet interface module, to retrieve the detector configuration that is currently running in the MVP sensor, and to back up detector configurations by saving them to the PC fixed disks or other removable storage media.

The supervisor computer's mouse and keyboard shall be used to edit previously defined detector configurations to permit adjustment of the detection zone size and placement, to add detectors for additional traffic applications, or to reprogram the MVP sensor for different traffic applications or changes in installation site geometry or traffic rerouting.

2.2 Detection Types

The MVP shall be able to be programmed with a variety of detector types that perform specific functions. Detector types shall include the following:

- a) Count Detector--outputs traffic volume statistics;
- b) Presence Detector--indicates presence of a vehicle, stopped vehicle, or vehicles traveling the wrong direction

918.16 IMAGE DETECTION SYSTEM (Cont'd)

- c) Speed Detector--provides vehicle speed, length, classification, volume, density and traffic flow statistics;
- d) Detector Function--combines outputs of multiple detector types via Boolean logic functions and allows timing extensions and delays. Similar to the Contrast Detector below, it monitors video signal quality globally in the scene.
- e) Station--accumulates traffic data over user specified time intervals, including cycle splits for intersection applications;
- f) Input Label Detector--provides states of a user-provided input signal;
- g) Speed Alarm--generates an alarm output based on user-defined speed and volume thresholds;
- h) Contrast Detector--monitors video signal quality and provides an optical fail safe alarm feature. Unlike the global measure of video quality in the Detector Function above, this Contrast Detector can monitor specific areas of the scene.
- i) Incident Detector--operates an incident detection algorithm which monitors speed and occupancy data from individual traffic lanes to detect the shock wave effects which propagate upstream from a capacity-reducing incident that occurs outside the camera field of view. It is adjustable for regularly recurring congestion.
- j) Scheduler--controls detector operation based upon a user-defined time schedule;
- k) Label--displays system or user-defined static or dynamic information on the output video of the MVP, including titles and bitmap graphics.
- l) Lane Detector-- generates an alarm for stopped vehicle (default setting), a slow vehicle, or a wrong-way vehicle along an entire outdoor traffic lane within the field of view.
- m) Tunnel Detector--generates an alarm for stopped vehicle (default setting), a slow vehicle, or a wrong- way vehicle along an entire tunnel lane within the field of view.

918.16 IMAGE DETECTION SYSTEM (Cont'd)

2.2 Detection Types

- 2.2.1. The speed detector shall report vehicle speed and vehicle classification based on five user-defined length categories, satisfying the four generalized category requirement recommended by FHWA.
- 2.2.2. Multiple detector outputs can be combined together via OR, AND, NAND, and N of M logical functions. In addition, the MVP shall be able to condition the detector outputs based on the state of associated input signals. The following detector output types shall be available:
- a) Type 0 -- send a call for every vehicle presence detected;
 - b) Type 1 -- extends a call on Green, delays a call on NOT Green;
 - c) Type 2 -- both Extends and Delays a call on Green, no change to call on NOT Green;
 - d) Type 3 -- provides Stop Bar detection;
 - e) Type 4 -- provides Stop Bar detection with a timer;
 - f) Type 5 -- provides Stop Bar detection with a reset timer;
 - g) Type 6 -- enables a call when the input phase is Red;
 - h) Type 8 -- provides Dilemma Zone detection, based on the speed of the vehicle;
 - i) Type 9 -- provides moving vehicle detection and time validation during Red;
 - j) Type 10 -- arbitrates between individual Contrast Loss detectors to determine video quality loss.
- 2.2.3. Each MVP shall be able to detect the absence of a valid video signal on each image sensor input. Upon detecting the absence of a valid video signal, the MVP shall place all the detector outputs associated with the failed image sensor input into a fail-safe ON state known as recall.

918.16 IMAGE DETECTION SYSTEM (Cont'd)

2.2.4. Each MVP shall be able to detect when the quality of the video input from the image sensor is not sufficient to enable vehicle detection (e.g., when environmental conditions obscure the sensor view). Use of this video loss detection capability shall be selectable by the user. If a video loss failure is detected, the MVP shall place the detector outputs associated with the failed sensor on minimum recall, maximum recall, or fixed time recall as selected by the user.

2.3. Interval Traffic Data

2.3.1. Each MVP shall count vehicles in real-time and compute the average of traffic parameters over user-defined time intervals (or time slices), as follows:

- a) Volume -- number of vehicles detected during the time interval;
- b) Occupancy -- detector occupancy measured in percent of time;
- c) Vehicle Classification -- number of vehicles in each of five classes, as defined by vehicle length in feet or meters;
- d) Flow Rate -- vehicles per hour per lane;
- e) Headway -- average time interval between vehicles;
- f) Speed -- time mean and space mean vehicle speed in km/hr or mi/hr;
- g) Level of Service -- determined by user-defined thresholds for average speed or capacity flow rates;
- h) Space Occupancy -- sum of the vehicle lengths divided by average distance traveled during the time interval measured as percent;
- i) Density -- flow rate divided by space mean speed expressed in vehicles/km or vehicles/mi.

2.3.2. The duration of the time intervals (or time slices) shall be user-customizable as per signal control cycle or 10, 20, or 30 seconds, or 1, 5, 10, 15, 30, or 60 minutes, or any other arbitrary time interval of choice.

2.3.3. It shall be possible to poll the MVP for traffic flow, vehicle presence, or event alarm data during normal operation when connected to a computer with serial communications.

918.16 WIDE-AREA VIDEO VEHICLE DETECTION SYSTEM (Cont'd)

Furthermore, an option to minimize data loss, called persistent polling, shall be provided to collect time interval data when the MVP is not connected to a computer. It shall operate as follows: When the communication link to the traffic management computer is cutoff temporarily, for whatever reason, the MVP shall write the persistent poll data to non-volatile EEPROM flash memory. At such time as the link is restored, the persistent poll data shall be transferred to the traffic management computer. Thus though delayed, there is no loss of data due to communications link failures. This shall also allow the use of dial-up modem applications to be scheduled, for example daily or weekly calls, to collect all data since last connection was made.

Finally, the option for persistent polling shall begin accumulating and storing defined poll data to flash memory if needed after system reboot, as may be caused by local mains power failures.

2.3. Interval Traffic Data

- 2.3.4. Using the persistent polling technique above, it shall be possible to save the time-interval data in non-volatile EEPROM flash memory within the MVP for later transfer to the supervisor computer for analysis.
- 2.3.5. Retrieval of real-time poll data or persistent poll data stored in the memory of the MVP shall be via a serial communications port or integrated Ethernet port using manufacturer provided software tools. Provision shall be made for transfer of data via a modem and dial-up telephone lines, via private cable, fiber optic network, wireless system, Ethernet or via direct connection to another computer by serial cable.
- 2.3.6. Each MVP shall provide an optional power line monitor to ensure the accuracy of its internal clock.

918.16 WIDE-AREA VIDEO VEHICLE DETECTION SYSTEM (Cont'd)

2.4. Optimal Detection

The video detection system shall optimally detect vehicle passage and presence when the MVP sensor is mounted 30 feet (10 m) or higher above the roadway, when the image sensor is adjacent to the desired coverage area, and when the distance to the farthest detection zone locations are not greater than ten (10) times the mounting height of the MVP. The recommended deployment geometry for optimal detection also requires that there be an unobstructed view of each traveled lane where detection is required. Although optimal detection may be obtained when the MVP is mounted directly above the traveled lanes, the MVP shall not be required to be directly over the roadway. The MVP shall be able to view either approaching or receding traffic or both in the same field of view. The preferred MVP sensor orientation shall be to view approaching traffic since there are more

high contrast features on vehicles as viewed from the front rather than the rear. The MVP sensor placed at a mounting height that minimizes vehicle image occlusion shall be able to simultaneously monitor a maximum of six (6) traffic lanes when mounted at the road-side or up to eight (8) traffic lanes when mounted in the center with four lanes on each side.

2.5 Modular Cabinet Interface Unit

The modular cabinet interface unit shall provide the hardware and software means for up to eight (8) MVP sensors to communicate real-time detection states and alarms to a local traffic signal controller. It shall comply with the electrical and protocol specifications of the detector rack standards. The card shall have 1500 Vrms isolation between rack logic ground and street wiring. The modular cabinet interface unit shall be a simple interface card that plugs directly into a NEMA type C or D detector rack. The modular cabinet interface unit shall occupy only 2 slots of the detector rack. The modular cabinet interface unit shall accept up to sixteen (16) phase inputs and shall provide up to twenty-four (24) detector outputs.

918.16 WIDE-AREA VIDEO VEHICLE DETECTION SYSTEM (Cont'd)

2.6 Communications Interface Panel

The communications interface panel shall support up to eight MVPs. The communications interface panel shall accept 110/220 VAC, 50/60 Hz power and provide predefined wire termination blocks for MVP power connections, a Broadband-over-Power-Line (BPL) transceiver to support up to 10MB/s inter device communications, electrical surge protectors to isolate the modular cabinet interface unit and MVP sensors, and an interface connector to cable directly to the modular cabinet interface unit. The interface panel shall provide power for up to eight (8) MVP sensors, taking local line voltage 110/220 VAC, 50/60 Hz and producing 110/220 VAC, 50/60 Hz, at about 30 watts to each MVP sensor. Two ½-amp SLO-BLO fuses shall protect the communications interface panel.

3. System Installation

When required, the supplier of the video detection system shall supervise the installation and testing of the video detection system and computer equipment.

4. Warranty, Service, & Support

For a minimum of two (2) years, the supplier shall warrant the video detection system. An option for additional year(s) warranty for up to 5 years shall be available. Ongoing software support by the supplier shall include software updates of the MVP sensor, modular cabinet interface unit, and supervisor computer applications. These updates shall be provided free of charge during the warranty period. The supplier shall maintain a program for technical support and software updates following expiration of the warranty period. This program shall be available to the contracting agency in the form of a separate agreement for continuing support.

A single video detection device shall consist of the following. A Machine Video Processor (MVP) shall include a TCP/IP internet protocol addressable 10X zoom color image sensor.

The MVP image sensor shall be an integrated imaging color CCD array with optics, high-speed, image processing hardware and a general purpose CPU bundled into a sealed enclosure. The MVP shall provide direct real-time iris and shutter speed control. The MVP image sensor shall be equipped with an integrated auto zoom / auto focus lens that can be changed using configuration computer software.

918.16 WIDE-AREA VIDEO VEHICLE DETECTION SYSTEM (Cont'd)

1 - camera video detection system package consisting of the following items:

- 1 – Machine Video Processor (MVP) color 10x zoom
- 1 – 80 ft camera cable
- 1 – camera mounting bracket (AB-0173-1-29-SS)
- 1 – Communication interface panel w/ ethernet adapter (ATIP)

4. Warranty, Service, & Support

- 1 – Terra Access Point detector port master (ATAP)
 - 1 – shelf mount enclosure with AC adapter for TAP
 - 1 – supplier to assist with installation and setup
- 2 - camera video detection system package consisting of the following items:
- 2 – Machine Video Processor (MVP) color 10x zoom
 - 2 - 80ft camera cable
 - 2 – camera mounting brackets (AB-0173-1-29-SS)
 - 1 – Communication interface panel w/ ethernet adapter (ATIP)
 - 1 – 500ft bulk roll camera branch cable
 - 1 – Terra Access Point detector port master (ATAP)
 - 1 – shelf mount enclosure with AC adapter for TAP
 - 1 – supplier to assist with installation and setup

918.16 WIDE-AREA VIDEO VEHICLE DETECTION SYSTEM (Cont'd)

4-camera video detection system package consisting of the following items:

- 4 – Machine Video Processor (MVP) color 10x zoom
- 4 - 80ft camera cable
- 4 – camera mounting brackets (AB-0173-1-29-SS)
- 1 – Communication interface panel w/ ethernet adapter (ATAP)
- 1 – 1000 ft bulk roll camera branch cable
- 1 – Terra Access Point detector port master (ATAP)
- 1 – shelf mount enclosure with AC adapter for TAP
- 1 – supplier to assist with installation, setup

SECTION 919 – MISCELLANEOUS

- 919.01 GEOTEXTILES
- 919.02 SEDIMENT CONTROL BAG
- 919.03 HAY AND STRAW
- 919.04 GABION WIRE BASKETS
- 919.05 GEOMEMBRANE LINEAR
- 919.06 WATER STOPS
- 919.07 EPOXY BONDING COMPOUND
- 919.08 WATER
- 919.09 SLEEVES
- 919.10 EPOXY INJECTION MATERIAL
- 919.11 EPOXY INJECTION MATERIAL
- 919.12 POLYETHYLENE SHEETING
- 919.13 FLOATING TURBIDITY BARRIER
- 919.14 DETECTABLE WARNING SURFACE

Replace this Section with the following:

The cast-in-place tile with truncated domes is to fully comply with the Revised ADA Regulations implementing Title II and the 2010 ADA Standards for Accessible Design, and OSHA requirements for dome size, spacing and color.

DIVISION 1000 - EQUIPMENT

SECTION 1001 – TRAFFIC CONTROL EQUIPMENT

1001.01 FLASHING ARROW BOARD

1001.02 PORTABLE VARIABLE MESSAGE SIGN

1001.03 TRAFFIC CONTROL TRUCK MOUNTED CRASH CUSHIONS

THE FOLLOWING SUBSECTION IS ADDED:

1001.04 PORTABLE VARIABLE MESSAGE SIGN W/REMOTE OPERATION

Provide a portable variable message sign as described under 1001.02 equipped with the required broadband cellular modem.

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA

Provide a Portable Trailer Mounted CCTV Camera Assembly with the following:

A. Trailer Platform

1. Single Axle steel welded trailer with 2 inches adjustable ball hitch.
2. Heavy-duty safety chains.
3. Single drop torsion suspension or leaf springs.
4. Self lubricating wheel spindles.
5. Maximum size, including tongue, 14 feet long by 7 feet wide by 8 feet high.
6. Maximum payload 3500 pounds.
7. Tire size F7815 or F78-14ST with Tire Tools and a spare wheel mounted and locked on trailer.
8. DOT approved lighting package to include electrical brake and marker lights with wire connections.
9. Prime and paint customer's choice of color.
10. Fitted with manual telescoping outriggers with adjustable jacks sized to counter full mast extension.
11. Four 3500 pounds, drop leg, top wind screw jacks.
12. Custom fabricated mounts for all options installed.
13. All equipment secured to prevent theft or separation from platform.

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA (Cont'd)

14. Stainless steel hardware to prolong trailer life.
 15. 24/7 operation in all weather conditions.
 16. Wheel locks to secure trailer while deployed.
 17. Two locking NEMA-4 equipment boxes for electronic components and camera storage.
 18. One locking NEMA-4 equipment box for operational controls.
 19. Max trailer weight of 3500 pounds when fully configured.
 20. Wheels removable when trailer in deployed position.
 21. Operation manual.
- B. Mast
1. 150 pounds payload capacity.
 2. 29 feet to 32 feet of extension with capability to mount antenna at 20 feet, 25 feet or at the top, maximum nested length of mast is 10 feet – 3 to 9 sections.
 3. Un – guyed.
 4. Locking collars to allow the mast to remain extended indefinitely without air pressure.
 5. Anodized and sealed exterior aluminum surfaces for long life.
 6. Custom fabricated mount for cameras.
 7. Folds down during transport for better height clearance.
 8. Spiral conduit for cable.
 9. Compactly retractable when mast is nested into storage container at bottom of mast.
 10. Automatically hydraulic (pneumatic) operation or power winch with a safety brake.
- C. Electrical System
1. 12 VDC battery operated with multi-crystal solar electric panel.
 2. Fuse panel to protect electronics.
 3. Four 110 watt solar panels on collapsible mounts.
 4. Charge controller that automatically switches charging sources.
 5. Isolated 12 VDC starting battery.
 6. Provisions for operation on auxiliary power (Electric, Gasoline or fuel generated power source) for deployment.

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA (Cont'd)

D. Auxiliary Power Source

Auxiliary Power Source can either be gasoline or diesel operated power generated with a fuel tank capable of up to 72 hours operation without refueling. Ensure that the engine is shock mounted to reduce vibration and locked in a ventilated enclosure.

E. Inverter

1. To provide main power when (AC) power is not available.
2. Battery charger.
3. Install all cables in weather tight conduits with sealed connections to equipment boxes.

F. Electronics

1. Cellular (CDMA), microwave, or 802.11 bandwidth option.
2. Onboard Ethernet switch to connect cameras, bandwidth, and monitoring devices.
3. Work lights in all cabinets.
4. Remote trailer diagnostic (battery level, charging output, etc.).

G. Camera and Software

Ensure that the camera has the following characteristics:

1. Weather resistant powder coated aluminum case with stainless steel hardware fittings.
2. Impact resistant viewing window.
3. Minimum resolution of NTSC 704(H) x 480 (V).
4. Backlight compensation.
5. Image stabilization.
6. Light Sensitivity 0.02 lux NIR Mode.
7. Auto Focus with Manual Focus capability.
8. Auto White Balance with Manual White Balance capability.
9. Motorized Zoom up to 16x optical, 10x digital.
10. Motorized Pan-Tilt, pan 360°, tilt 180°.
11. Thermostatically controlled heater and defroster -50° to 140°F operating range.

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA (Cont'd)

12. Windshield wiper.
13. 24/7 operation in all weather conditions.
14. Time and date stamp.
15. Max power consumption 70VA.

Ensure that the software includes:

1. Remote control of pan, tilt and zoom.
2. Ability to display streaming video in MPEG format, motion-JPEG, and single snapshot JPEG images, remotely central selectable through software.
3. Preset controls of pan/tilt/zoom combinations. All presets to be accessible from drop-down menu with descriptive name of preset. Set first 8 presets with quick-launch icons with graphical representation of the preset views.
4. Ability to display all the project's web cams in a single view screen.
5. Display of local time and weather conditions including temperature and humidity.
6. Ability to save images to disk or e-mail images.
7. Ability to view archived images via a graphical calendar control and to store archived images at least every five minutes.
8. Three levels of password protection admin, user & guest, individual user accounts.
9. Remote camera diagnostics and "self-healing" automatic problem rectification.
10. Ability to monitor and control the cameras from the web.

SECTION 1002 – COMPACTION EQUIPMENT

- 1002.01 PNEUMATIC – TIRED COMPACTOR
- 1002.02 DYAMIC COMACTOR
- 1002.03 STEEL-WHEEL ROLLER
- 1002.04 PADFOOT ROLLER

SECTION 1003 – HMA SITE EQUIPMENT

- 1003.01 MATERIAL TRANSFER VEHICLE (MTV)
- 1003.02 HME CURB MACHINE
- 1003.03 HMA PAVER
- 1003.04 ULTRA-THIN LIFT PAVER
- 1003.05 HMA COMPACTOR
- 1003.06 VIBRATORY DRUM COMPACTOR
- 1003.07 BITUMINOUS MATERIAL DISTRIBUTOR
- 1003.08 SEALER APPLICATION SYSTEM

SECTION 1004 – PILE DRIVING EQUIPMENT

- 1004.01 IMPACT HAMMER
- 1004.02 VIBRATORY HAMMER
- 1004.03 LEADS AND FOLLOWERS

SECTION 1005 – CONCRETE SITE EQUIPMENT

- 1005.01 PAVEMENT FORMS
- 1005.02 SPREADING AND FINISHING MACHINE
- 1005.03 SPREADING AND FINISHING MACHINE FOR CONCRETE BRIDGE DECKS
- 1005.04 VIBRATOR
- 1005.05 SLIP-FORM PAVER
- 1005.06 SLIP FORM (EXTRUSION) MACHINE
- 1005.07 EPOXY RESIN INJECTION EQUIPMENT

SECTION 1006
CONCRETE PAVEMENT REHABILITATION EQUIPMENT

- 1006.01 BREAKER
- 1006.02 SEATING EQUIPMENT
- 1006.03 GROUT PUMPING UNIT
- 1006.04 MIXER
- 1006.05 INJECTION DEVICE
- 1006.06 LIFT MONITORING EQUIPMENT
- 1006.07 DEFLECTION TESTING EQUIPMENT
- 1006.08 GRINDING MACHINE
- 1006.09 CLARIFICATION EQUIPMENT

SECTION 1007
TRAFFIC STRIPING EQUIPMENT

- 1007.01 EPOXY STRIPING UNIT
- 1007.02 THERMOPLASTIC APPLICATOR
- 1007.03 TRAFFIC STRIPE AND PAVEMENT REMOVAL EQUIPMENT
- 1007.04 RUMBLE STRIP CUTTING MACHINE

SECTION 1008
MISCELLANEOUS EQUIPMENT

- 1008.01 MILLING MACHINE
- 1008.02 STRAIGHT EDGE
- 1008.03 MECHANICAL SWEEPER
- 1008.04 PAVEMENT SAW
- 1008.05 AIR COMPRESSOR
- 1008.06 HOT-AIR LANCE

SECTION 1009
HMA PLANT EQUIPMENT

- 1009.01 HMA PLANT
- 1009.02 HMA TRUCKS

SECTION 1010
CONCRETE PLANT AND MIXTURE EQUIPMENT

- 1010.01 BATHCING PLANT
- 1010.02 CONCRETE TRUCKS
- 1010.03 MOBILE MIXER
- 1010.04 SMALL-BATCH MIXER

SECTION 1011

PRECAST AND PRESTRESSED CONCRETE PLANT EQUIPMENT

- 1011.01 PRECAST PLANT
- 1011.02 PRESTRESSED PLANT
- 1011.03 ME's OFFICE

APPENDIX A –
ENVIRONMENTAL PERMITS

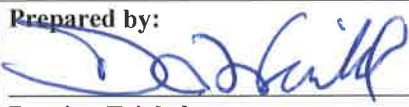


**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF LAND USE REGULATION**

Mail Code 501-02A, P.O. Box 420, Trenton, New Jersey 08625-0420
Telephone: (609) 777-0454 or Fax: (609) 777-3656
www.state.nj.us/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 JUN 01 2016</p>
		<p>Expiration Date MAY 31 2021</p>
<p>Permit Number(s):</p> <p>0000-16-0005.1 FHA160001 0000-16-0005.1 FWW160001</p>	<p>Type of Approval(s):</p> <p>Individual Permit General Permit No. 10A</p>	<p>Enabling Statute(s):</p> <p>N.J.S.A. 13:1D-1 et seq. N.J.S.A. 13:9B-1 et seq. N.J.S.A. 58:11A-1 et seq. N.J.S.A. 58:10A-1 et seq. N.J.S.A. 58:16A-50 et seq. N.J.S.A. 13:1D-29 et seq.</p>
<p>Permittee: Union County 2 Broad Street Elizabeth, NJ 07207</p>	<p>Site Location: Block(s) & Lot(s): [N/A, N/A] [N/A, N/A] Municipality: North Plainfield & Plainfield City County: Somerset & Union</p>	
<p>Description of Authorized Activities:</p> <p>This document grants permission for the replacement of an existing County bridge carrying Netherwood Avenue over Green Brook at the boundary of North Plainfield Borough in Somerset County and Plainfield City in Union County, New Jersey. In addition, the authorized activity involves the disturbance of 2,769 ft² (0.064 acre) of State open waters for the installation of reno mattresses at stormwater outfalls in both bridge abutments as well as along the length of both abutments, the installation of gabion bridge abutment protection, and the removal of the center bridge pier under Freshwater Wetlands Statewide General Permit No. 10A.</p>		
<p>Prepared by:  _____ Damian Friebel</p>	<p>Received and/or Recorded by County Clerk:</p>	
<p>THIS PERMIT IS NOT EFFECTIVE AND NO CONSTRUCTION APPROVED BY THIS PERMIT, OR OTHER REGULATED ACTIVITY, MAY BE UNDERTAKEN UNTIL THE APPLICANT HAS SATISFIED ALL PRE-CONSTRUCTION CONDITIONS AS SET FORTH HEREIN.</p>		
<p align="center">This permit is not valid unless authorizing signature appears on the last page.</p>		

SPECIAL CONDITIONS:

1. **Material Disposal:** All excavated material and dredge material shall be disposed of in a lawful manner. The material shall be placed outside of any flood hazard area, riparian zone, regulated water, freshwater/coastal wetlands and adjacent transition area, and in such a way as to not interfere with the positive drainage of the receiving area.
2. The Department has determined that the riparian zone adjacent to the stream is 50 feet. Upon completion of the project, all temporarily disturbed areas within 50 feet from the top of any watercourse bank onsite shall be restored to original topography and replanted with indigenous, non-invasive vegetation in accordance with N.J.A.C. 7:13-10.2(u).
3. Vegetation within 50 feet of the top of the bank shall only be disturbed in the areas specifically shown on the approved drawing/s. No other vegetation within 50 feet of the top of any stream bank onsite shall be disturbed for any reason. This condition applies to all channels onsite regardless of the contributory drainage area.
4. In order to protect the general game fishery within Green Brook, no grading, excavation, construction or clearing is permitted within any channel onsite between May 1 and June 30. Furthermore, any activity outside a channel but within a riparian zone, which would likely introduce sediment into the channel and/or increase its turbidity, is also prohibited during this period. The Department reserves the right to suspend all regulated activities onsite should it be determined that the applicant has not taken proper precautions to ensure continuous compliance with this condition.
5. The existing migration patterns of aquatic life in the channel shall not be inhibited as a result of this project. This includes the maintenance and/or creation of a low-aquatic fish passage within the disturbed channel and throughout any proposed in-channel structure wherever possible. In addition, any disturbed areas of the channel shall be restored using native, non-acid producing soils and indigenous, non-invasive vegetation.
6. The riprap proposed within the channel shall be carefully imbedded into the channel substrate and contoured to mimic the original physical characteristics of the channel (such as its shape, slope, thalweg and meander) in order to provide low-flow aquatic passage throughout the entire disturbed area. Furthermore, any void spaces within the riprap shall be filled with native substrate from the channel.
7. De-watering of cofferdams must include properly sized temporary sediment basins or other filtering methods to reduce turbidity. The stream area to receive return water discharged from cofferdams must be encompassed by a turbidity barrier. The turbidity barrier must be located parallel to the stream banks and anchored to the shoreline to maintain free-flow of the stream center. In order to avoid obstruction of stream flows or fish passage, turbidity barriers must not be placed across the entire stream channel.
8. Raw or unset concrete shall not come in contact with any surface waters onsite, since such contact can be toxic to aquatic biota.
9. Construction equipment shall not be stored, staged or driven within any channel.
10. This portion of the permit authorizes the combined disturbance of approximately 2,769 ft² (0.064 acre) of State open waters for the installation of reno mattresses at stormwater outfalls in both bridge abutments as well as along the length of both abutments (3 ft. wide), the installation of

gabion bridge abutment protection, and the removal of the center bridge pier under Freshwater Wetlands Statewide General Permit No. 10A. No wetlands or transition area shall be disturbed.

11. This authorization of activities under these Freshwater Wetlands Statewide General Permits to conduct regulated activities in State Open water includes the Department's approval of a Water Quality Certificate for these activities.

STANDARD CONDITIONS:

1. **Responsibilities:**

- a. The permittee, its contractors and subcontractors shall comply with all conditions of this permit, authorizing and/or supporting documents and approved plans and drawings.
- b. A copy of this permit, other authorizing documents, records and information including all approved plans and drawings shall be maintained at the authorized site at all times and made available to Department representatives or their designated agents upon request.

2. **Permit modification:** Plans and specifications in the application and conditions imposed by this permit shall remain in full force and effect so long as the proposed development or any portion thereof is in existence, unless modified by the Department. No change in plans or specifications upon which this permit is issued shall be made except with the prior written permission of the Department. The filing of a request to modify an issued permit by the permittee, or a notification of planned changes or anticipated noncompliance does not stay any condition of this permit.

3. **Duty to minimize environmental impacts:** 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. The permittee shall immediately inform the Department of any unanticipated adverse effects on the environment not described in the application or in the conditions of this permit. The Department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit

4. **Proper site maintenance:** While the regulated activities are being undertaken, neither the permittee, its contractors nor subcontractors shall cause or permit any unreasonable interference with the free flow of a regulated feature by placing or dumping any materials, equipment, debris or structures within or adjacent to the regulated area. Upon completion or abandonment of the work, the permittee, its contractors or subcontractors shall remove and dispose of in a lawful manner all excess materials, debris, equipment, silt fences and other temporary soil erosion and sediment control devices from all regulated areas. Only clean non-toxic fill shall be used where necessary.

5. **Sediment control:** Development which requires soil disturbance, creation of drainage structures, or changes in natural contours shall conduct operations in accordance with the latest revised version of "Standards for Soil Erosion Sediment Control in New Jersey," promulgated by the New Jersey State Soil Conservation Committee, pursuant to the Soil Erosion and Sediment Control Act of 1975, N.J.S.A. 4:24-42 et seq. and N.J.A.C. 2:90-1.3-1.14.

6. **Rights of the State:**

- a. This permit does not convey any property rights of any sort, or any exclusive privilege.
- b. Upon notification and presentation of credentials, the permittee shall allow Department representatives or their designated agents, to enter upon the project site and/or where

records must be kept under the conditions of this permit, inspect at reasonable times any facilities, equipment, practices or operations regulated or required under the permit, and sample or monitor for the purposes of determining compliance. Failure to allow reasonable access shall be considered a violation of this permit and subject the permittee to enforcement action.

- c. The issuance of this 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, structure or structures. Neither the State nor the Department shall, in any way, be liable for the loss of life or property which may occur by virtue of the activity of development resulting from any permit.
7. **Duty to Reapply:** If the permittee wishes to continue an activity covered by the permit after the expiration date of the permit authorization, the permittee must apply for and obtain a new permit authorization.
 8. **Transfer of Permit:** This permit may not be transferable to any person unless the transfer is approved by the Department. Please refer to the applicable rules for more information.
 9. **Other Approvals:** The permittee must obtain any and all other Federal, State and/or Local approvals. Authorization to undertake a regulated activity under this permit does not indicate that the activity also meets the requirements of any other rule, plan or ordinance.
 10. **Noncompliance:**
 - a. Any noncompliance with this permit constitutes a violation, and is grounds for enforcement action, as well as modification, suspension and/or termination of the permit.
 - b. The permittee shall immediately report to the Department by telephone at (877) 927-6337 any noncompliance that may endanger health or the environment. In addition, the permittee shall report all noncompliance to Bureau of Coastal and Land Use Compliance and Enforcement, 401 E. State Street, 4th Floor, P.O. Box 420, Mail Code: 401-04C, Trenton, NJ 08625, in writing within five business days of the time the permittee becomes aware of the noncompliance. The written notice shall include: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence 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.
 11. **Appeal of Permit:** In accordance with the applicable regulations, any person who is aggrieved by this decision or any of the conditions of this permit may request a hearing within 30 days after notice of the decision is published in the DEP Bulletin. This request must include a completed copy of the Administrative Hearing Request Checklist. The DEP Bulletin is available through the Department's website at <http://www.nj.gov/dep/bulletin> and the Checklist is available through the Division's website at http://www.nj.gov/dep/landuse/download/lur_024.pdf. 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 for more information about this process.

APPROVED PLANS:

1. The drawings hereby approved are three (3) sheets prepared by CME ASSOCIATES, dated February 2016, unrevised, unless otherwise noted, entitled:

“NETHERWOOD AVENUE BRIDGE REPLACEMENT, PI-37, CITY OF PLAINFIELD, UNION COUNTY & BOROUGH OF NORTH PLAINFIELD, SOMERSET COUNTY, NEW JERSEY”

“PROPOSED CONDITIONS PLAN & PROFILE” sheet no. 5 of 9,

“NJDEP PERMIT PLAN” sheet no. 6 of 9, and


“PROPOSED BRIDGE ELEVATIONS AND SECTION” sheet no. 7 of 9.

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:



Dennis Contois, Supervisor
Division of Land Use Regulation



Date

Original sent to Agent to record
c: Permittee

APPENDIX B –
SOIL EROSION AND SEDIMENT CONTROL
APPROVAL



SOMERSET - UNION SOIL CONSERVATION DISTRICT

Somerset County 4-H Center
308 Milltown Road • Bridgewater, NJ 08807
(908) 526-2701 Fax (908) 575-3977

RECEIVED
JUL 13 2016
CME

July 8, 2016

County of Union
2325 South Avenue
Scotch Plains, NJ 07076

**RE: Netherwood Avenue Bridge Repl. Project
(plan dated 6/14/2016)
Block Various, Lot Various
City of Plainfield
Application #2016-2253**

Dear Sir or Madam:

The Somerset-Union Soil Conservation District has reviewed the above erosion control plan and certifies that the plan is in accordance with the N.J. Erosion and Sediment Control Act, Chapter 251, P.I. 1975.

This approval is limited to the soil erosion and sedimentation controls specified in this plan. It is not authorization to engage in the proposed land use unless such use has been previously approved by the municipality or other controlling agency.

All revisions and municipal renewals of this project will require resubmission and approval by the District. Any conveyance of the project (or portion thereof) will transfer full responsibility for compliance to subsequent owner(s). The District must be notified in writing of any change of ownership.

The District requires written notification prior to the start of land disturbance. Please be advised that failure to do so is considered a violation of State Law and a fine will be imposed.

If there are any questions, please feel free to call our office.

Very truly yours,

SOMERSET-UNION S.C.D.

Mark Kirby
Mark Kirby
District Supervisor

MK/FC/JK J:\Access\MASTERS\Cer\Lot-35-SU.doc

Enclosure

cc: City of Plainfield Const. Off.
Mun. Planning Board
Mun. Engineer
CME Associates

COUNTY OF UNION
BOARD OF CHOSEN FREEHOLDERS
PLANS FOR
**NETHERWOOD AVENUE BRIDGE
REPLACEMENT, PL-37**

LOCATED IN

**CITY OF PLAINFIELD AND THE BOROUGH OF NORTH PLAINFIELD
UNION AND SOMERSET COUNTIES, NEW JERSEY
UNION COUNTY ENGINEERING PROJECT #2014-002**

JUNE 2016

REVISED MAY 2017

PREPARED BY: CME ASSOCIATES OF PARLIN, NJ

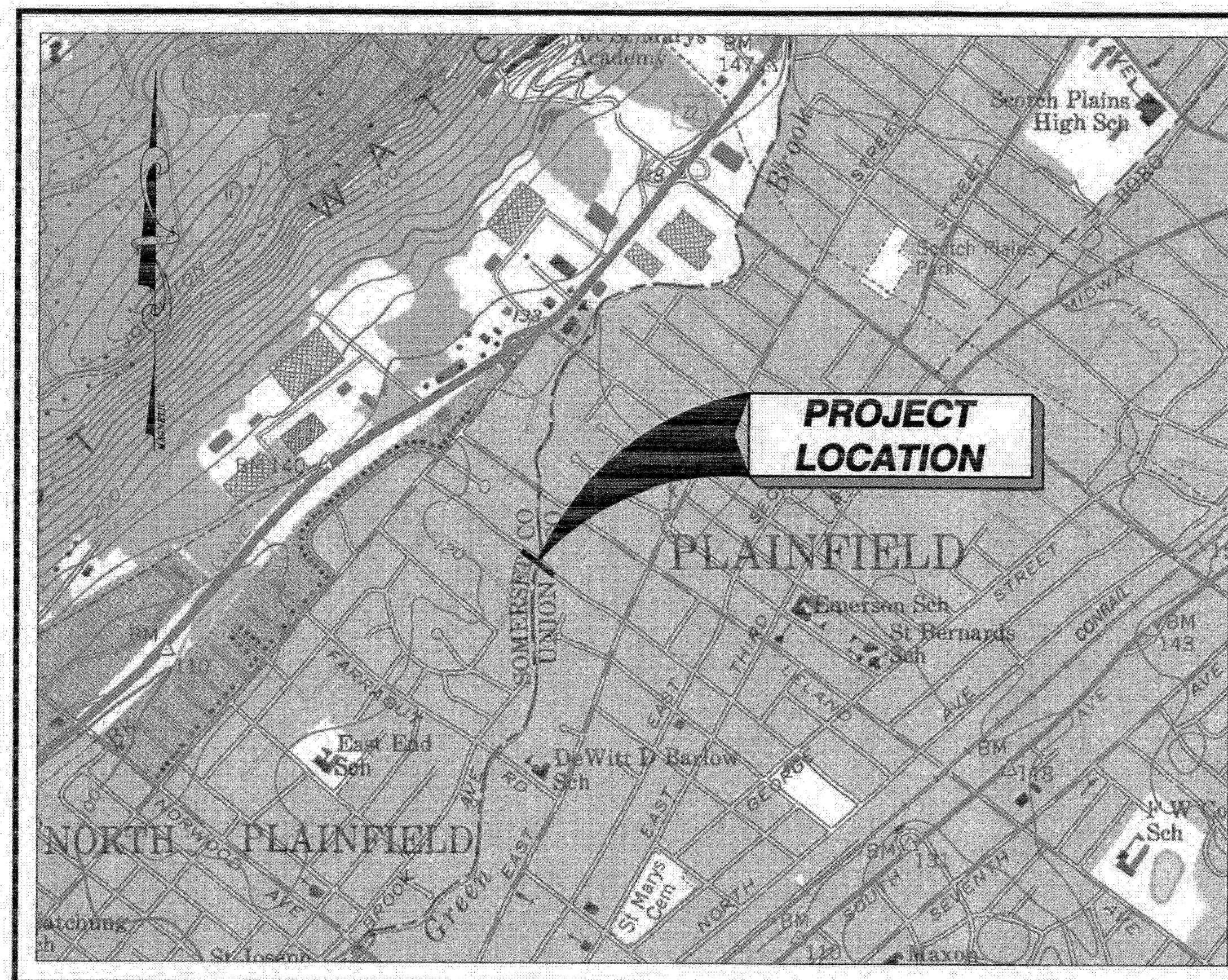
BRIDGES IN THIS CONTRACT

① BRIDGE No. 2012-037 NETHERWOOD AVENUE OVER GREEN BROOK

(A.K.A. SOMERSET COUNTY BRIDGE No. M1013)

INDEX OF DRAWINGS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE AND DISTRIBUTION OF QUANTITIES
3	LEGEND, GENERAL NOTES AND TYPICAL SECTION
4	SURVEY CONTROL PLAN
5	CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL PLAN
6	PROFILE
7	STORM SEWER PLAN
8	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
9	GRADING PLAN
10	ROADWAY CROSS SECTIONS
11	STREAM SECTIONS
12	NETHERWOOD AVENUE DETOUR PLAN
13	CONSTRUCTION DETAILS
14	GENERAL STRUCTURAL NOTES
15	EXISTING BRIDGE PLAN AND SECTIONS - DEMOLITION PLAN
16	BRIDGE PLAN, ELEVATION AND SECTION
17	BRIDGE PROFILE AND WORKING POINTS
18	FOOTING PLANS
19	WEST ABUTMENT PLAN AND ELEVATION
20	EAST ABUTMENT PLAN AND ELEVATION
21	SOUTH WINGWALL ELEVATIONS
22	NORTH WINGWALL ELEVATIONS
23	TYPICAL ABUTMENT AND WINGWALL SECTIONS
24	REINFORCING BAR SCHEDULES
25	FRAMING PLAN, ELEVATION, SECTIONS AND DETAILS
26	BEAM DETAILS SHEET 1 OF 2
27	BEAM DETAILS SHEET 2 OF 2
28	DECK REINFORCEMENT PLAN, SECTION AND DETAILS
29	PARAPET ELEVATIONS AND REINFORCEMENT DETAILS
30	END DIAPHRAGM DECK REINFORCEMENT SECTIONS AND DETAILS
31	MISCELLANEOUS DETAILS SHEET 1 OF 2
32	MISCELLANEOUS DETAILS SHEET 2 OF 2
33	LOGS OF TEST BORINGS



KEY MAP

N.T.S.

NEW JERSEY DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF 2007 AND ALL AMENDMENTS IN THE UNION COUNTY FORMAT THERETO SHALL GOVERN. THE HEADING OF THE ARTICLES CONTAINED HEREIN CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2007 AND ALL ADDENDA THERETO, WHICH IS TO BE USED IN THE EXECUTION OF THIS CONTRACT. THE NEW JERSEY DEPARTMENT OF TRANSPORTATION "STANDARD ROADWAY CONSTRUCTION/TRAFFIC CONTROL/BRIDGE CONSTRUCTION DETAILS" BOOKLET DATED OCTOBER 2007 TO GOVERN, EXCEPT FOR THOSE DETAILS CONTAINED HEREIN.

UTILITIES

ELECTRIC
MR. NORMAN GARCIA
PSE&G - ELECTRIC
472 WESTON CANAL ROAD
SOMERSET, NJ 08873
(732) 764-3074

WATER
MS. KRISTEN JENKINS
NJ AMERICAN WATER COMPANY
1341 NORTH AVENUE
PLAINFIELD, NJ 07061
(908) 791-3464

CABLE
MR. JOSEPH W. DEMETER
COMCAST CABLEVISION COMPANY
800 RAHWAY AVENUE
UNION, NJ 07083
(732) 602-7444

GAS
MR. JOSEPH BIONDO
PSE&G - GAS
40 ROCK AVENUE
PLAINFIELD, NJ 07063
(908) 668-3838

TELEPHONE/COMMUNICATIONS
MR. CHRIS OGRODNIK
VERIZON COMMUNICATIONS
6000 HADLEY ROAD
SOUTH PLAINFIELD, NJ 07080
(732) 418-2620

SEWER
MR. ERIC WATSON, DIRECTOR OF PUBLIC
WORKS AND URBAN DEVELOPMENT
515 WATCHUNG AVENUE
PLAINFIELD, NJ 07060
(908) 753-3375

NJ ONE CALL SERVICE
1-800-272-1000

APPROVALS

6/23/16		DAVID TESTA, P.E. BOROUGH ENGINEER BOROUGH OF NORTH PLAINFIELD
7/1/16		MICHAEL GIORDANO JR. MAYOR BOROUGH OF NORTH PLAINFIELD
7/1/16		DREW DISESSA, P.E. CITY ENGINEER CITY OF PLAINFIELD
7/5/16		ADRIAN O. MAPP MAYOR CITY OF PLAINFIELD
6/24/16		MATTHEW D. LOPER, P.E. COUNTY ENGINEER SOMERSET COUNTY
6/23/16		THOMAS O. MINEO, P.E. COUNTY ENGINEER UNION COUNTY
6/23/2016		ALFRED FAELLA COUNTY MANAGER UNION COUNTY



MICHAEL J. McCLELLAND P.E.
NEW JERSEY PROFESSIONAL ENGINEER LIC. 32468

6/23/16

NETHERWOOD AVENUE BRIDGE RECONSTRUCTION - ENGINEER'S CONSTRUCTION ESTIMATE

ITEM	SPEC ITEM NO.	DESCRIPTION	UNIT	CONTRACT QUANTITY	PLAN SHEET TOTALS	10% OF PLAN QUANTITY	IF & WHERE DIRECTED	AS-BUILT QUANTITY	DISTRIBUTION: PLAN SHEET QUANTITY		
									CONSTRUCTION SHEETS 5 AND 7	DETOUR PLAN SHEET 12	BRIDGE PLANS SHEET 14
1	154	Mobilization	LS	1	0	0	1				
2	158	Silt fence	LF	880	800	80			800		
3	159	Haybale	UNIT	2	2	0			2		
4	159	Inlet Filter, Type 1	SF	17	15	2			15		
5	159	Sediment control bag	SF	17	15	2			15		
6	159	Breakaway barricade	UNIT	17	17	0				17	
7	159	Drum	UNIT	10	10	0				10	
8	159	Traffic cone (if and where directed)	UNIT	10	0	0	10				
9	159	Construction sign	SF	517	470	47				470	
10	159	Construction barrier curb	LF	121	110	11				110	
11	160	Fuel price adjustment	ALL	1	0	0	1				
12	160	Asphalt price adjustment	ALL	1	0	0	1				
13	201	Clearing site	LS	1	0	0	1				
14	202	Excavation, test pit (if and where directed)	CY	71	64	7			64		
15	202	Excavation, unclassified	CY	1491	1355	136			255		1,100
16	202	Excavation, regulated material (if and where directed)	CY	1355	0	0	1355				
17	202	Disposal of regulated material (if and where directed)	TON	2379	0	0	2379				
18	203	H-11 Soil aggregate	CY	649	590	59					590
19	203	H-14 Soil aggregate	CY	113	102	11					102
20	301	2" to 2-1/2" clean stone subbase 6" thick including excavation, unclassified (if and where directed)	CY	64	0	0	64				
21	301	Soil support fabric (if and where directed)	SY	383	0	0	383				
22	302	Dense graded aggregate base course, 4" thick	CY	94	85	9			85		
23	601	Dense graded aggregate, Backfill	CY	53	48	5			48		
24	401	Tack coat	GAL	294	267	27			267		
25	401	Prime coat	GAL	421	382	39			382		
26	401	Polymerized Joint Adhesive	LF	209	190	19			190		
27	401	Hot Mix Asphalt 9.5M64 surface course	TON	99	90	9			90		
28	401	Hot Mix Asphalt 19M64 base course	TON	296	269	27			269		
29	201	Temporary Shielding	LS	LUMP SUM	1	0					1
30	501	Maintenance and Protection of Stream Flow	LS	LUMP SUM	1	0					1
31	501	Vibration monitoring	LS	LUMP SUM	1	0					1
32	504	Reinforcement steel, galvanized	LB	68393	62175	6218					62,175
33	504	Concrete footing	CY	242	220	22					220
34	504	Concrete wingwall	CY	66	60	6					60
35	504	Concrete abutment wall	CY	121	110	11					110
36	504	Epoxy waterproofing	SY	66	60	6					60
37	505	Prestressed concrete box beam, (Type BI-48), 48"x27"	LF	708	643	65					643
38	507	Concrete bridge sidewalk	CY	30	27	3					27
39	507	Reinforced elastomeric bearing assembly	UNIT	48	48	0					48
40	507	Concrete bridge deck	CY	132	120	12					120
41	507	Sawcut grooving for bridge decks	SY	264	240	24					240
42	507	Deck protective coating	SY	275	250	25					250
43	515	Balustrade parapet	LF	153	139	14					139
44	517	Bridge plaque	UNIT	2	2	0					2
45	601	8" Corrugated steel underdrain pipe	LF	143	130	13					130
46	601	No Item	LF	0	0	0					
47	601	15" RCP storm sewer, Class V	LF	32	29	3			29		
48	601	18" RCP storm sewer, Class V	LF	43	39	4			39		
49	601	Manhole 4' dia.	UNIT	4	4	0			4		
50	601	Reconstruct Manhole	UNIT	1	1	0			1		
51	602	Reset Existing Casting	UNIT	3	3	0			3		
52	603	Television inspection of storm sewer lines	LF	990	900	90			900		
53	603	12" Thick stoned filled, PVC coated reno mattress	CY	79	71	8			71		
54	603	3' x 3' Gabion basket	CY	21	19	2			19		
55	603	Erosion Control Blanket, Excelsior curlex II or approved equal	SY	47	42	5			42		
56	603	Pressure Treated Lattice Fence	LF	36	32	4			32		
57	606	Concrete sidewalk, Reinforced, 4" thick	SY	49	44	5			44		
58	606	Concrete reinforced driveway, 6" thick	SY	14	12	2			12		
59	606	Hot mix asphalt driveway, 2" thick	SY	29	26	3			26		
60	606	Detectable warning surface	SY	3	2	1			2		
61	607	10" x 20" concrete vertical curb	LF	288	261	27			261		
62	607	Regulatory and warning signs	SF	15	13	2			13		
63	608	Non-vegetative surface, hot mix asphalt	SY	44	40	4			40		
64	609	Thrie beam guide rail, bridge	LF	31	28	3			28		
65	609	Controlled release anchorage terminal	UNIT	4	4	0			4		
66	609	Beam Guiderail	LF	44	40	4			40		
67	610	Traffic stripes, long life, "thermoplastic", 4" wide, with glass beads	LF	110	100	10			100		
68	610	Traffic stripes, long life, "thermoplastic", 24" wide, with glass beads	LF	21	19	2			19		
69	651	Temporary Trench Repair	SY	66	60	6			60		
70	651	Reset water valve box (if and where directed)	UNIT	3	0	0	3				
71	804	Topsoiling, 4" thick	SY	921	837	84			837		
72	806	Fertilizing and seeding, Type G	SY	692	629	63			629		
73	809	Fertilizing and seeding, Type 2, Riparian Zone	SY	229	208	21			208		
74	809	Straw mulching	SY	692	629	63			629		
75	811	Live branch cuttings (if and where directed)	UNIT	20	0	0	20				
76	811	Eastern white pine (Pinus Strobus), 8'-10' height, B&B (if and where directed)	UNIT	5	0	0	5				
77	811	Spreading Yew (Taxus x Media 'Densiformis'), 30"-36" B&B (if and where directed)	UNIT	5	0	0	5				
78	811	Abandon existing storm sewer pipe and fill with grout (if and where directed)	LF	900	0	0	900				
79	811	Post and Rail Fence	LF	77	70	7			70		
80	811	Replacement Trees (if and where directed)	UNIT	10	0	0	10				
81	811	Replacement Shrubs (if and where directed)	UNIT	10	0	0	10				
82	811	Replacement Perennials (if and where directed)	UNIT	15	0	0	15				
83	809	Shredded Hardwood Bark Mulching (if and where directed)	SY	675	0	0	675				
84	811	Municipal Police Allowance	ALL	1	0	0	1				
85	811	River Birch (Multi-Stem)	UNIT	1	1	0			1		
86	811	Balsam Fir	UNIT	1	1	0			1		
87	811	Red Dogwood	UNIT	1	1	0			1		
88	811	American Holly (Male & Female) (Dark Green Leaves)	UNIT	2	2	0			2		
89	809	Golden Twig Dogwood	UNIT	1	1	0			1		
90	811	Rhododendron	UNIT	1	1	0			1		
91	811	Vinca	UNIT	15	15	0			15		
92	811	Window Washing	UNIT	1	1	0			1		

PUN00612.01

MICHAEL J. McCLELLAND P.E.
 PROFESSIONAL ENGINEER LIC. 32468

Michael J. McClelland

Revisions		
Date	By	
05/2017	NH	

City of Union
 Division of Engineering
 2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

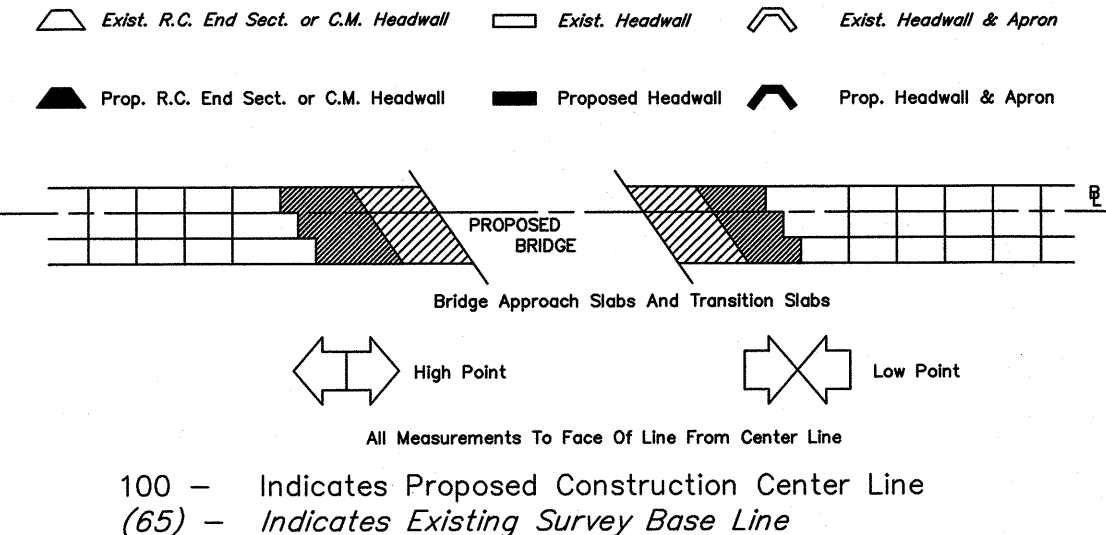
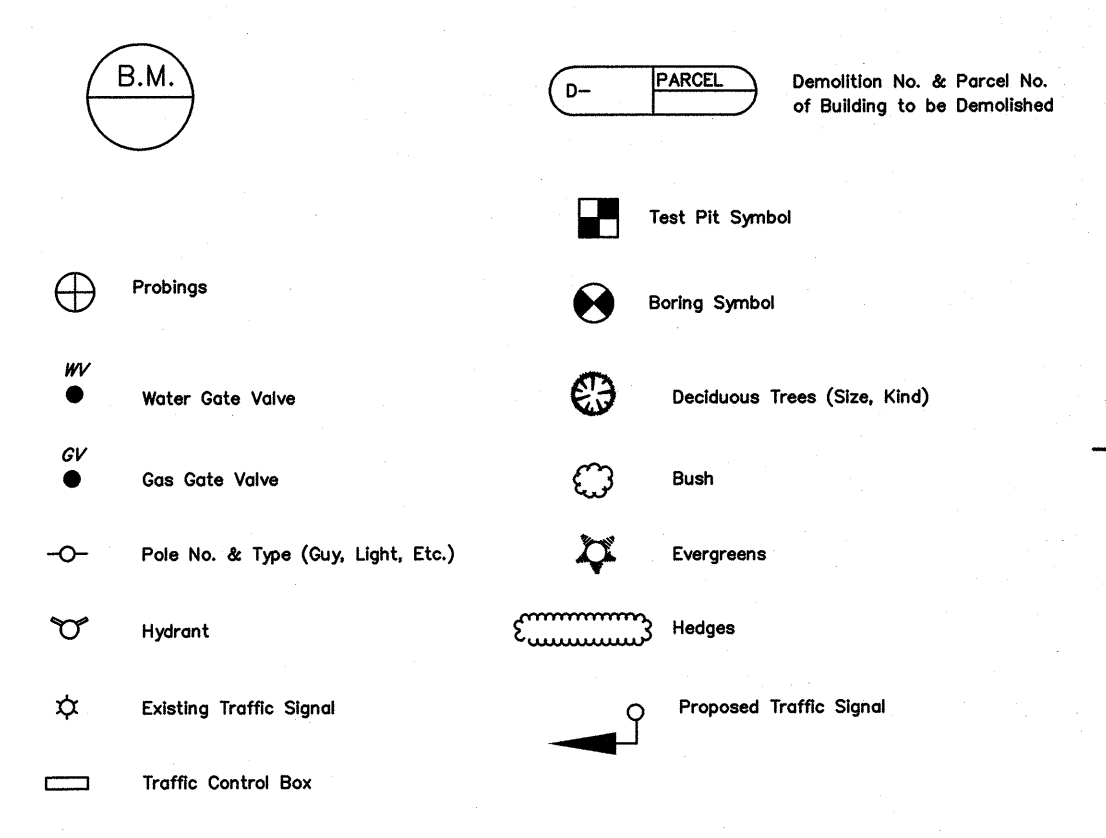
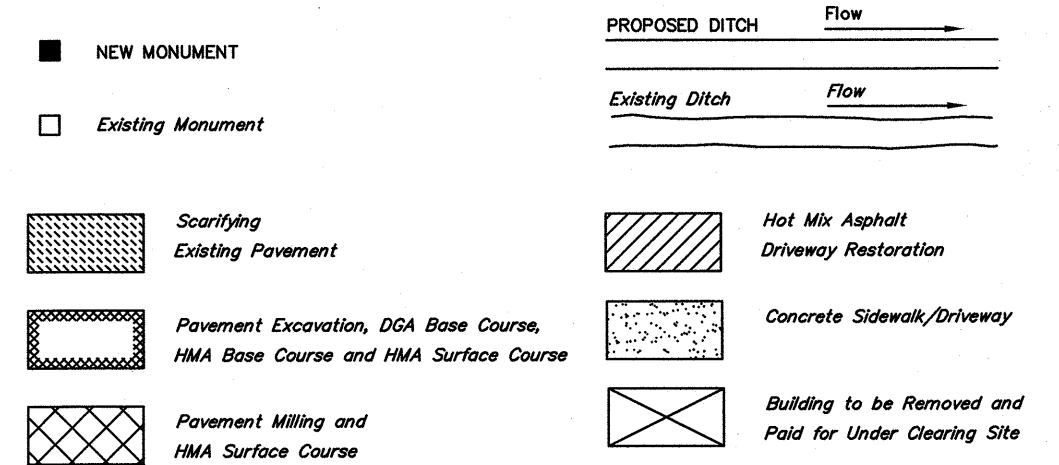
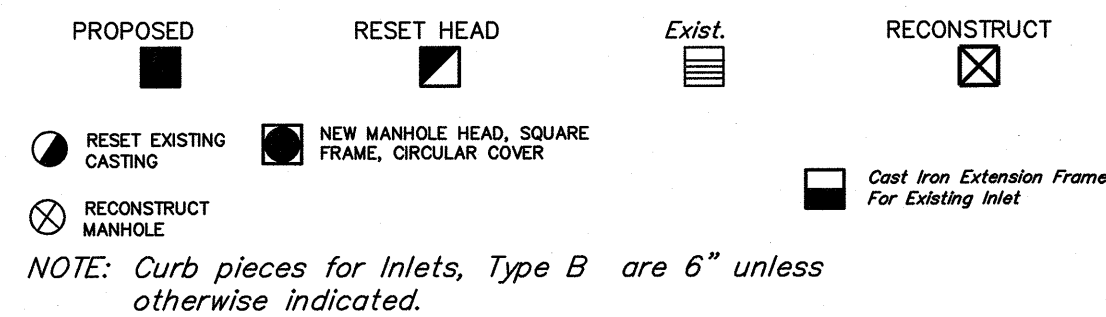
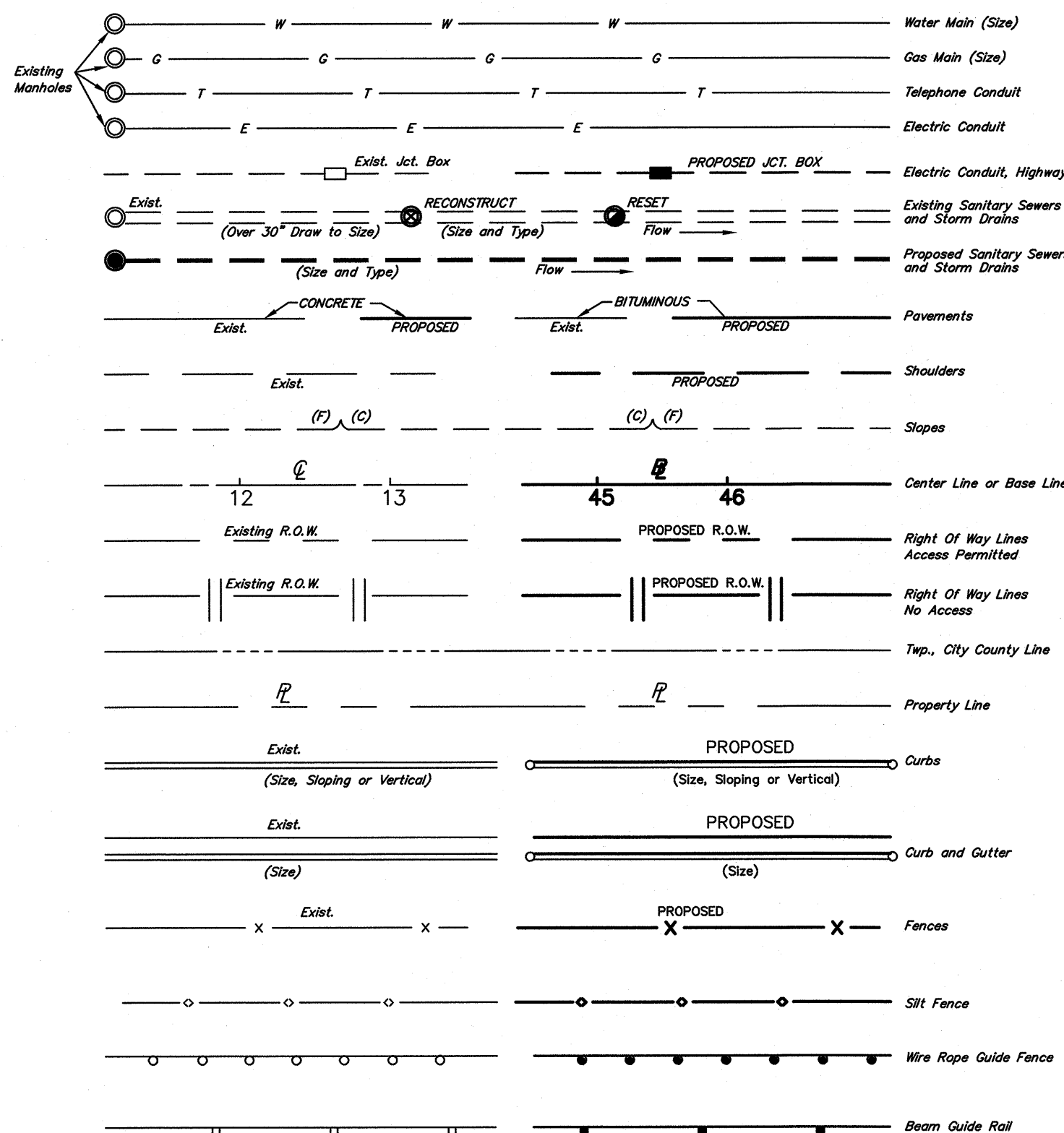
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

ESTIMATE AND DISTRIBUTION OF QUANTITIES

Scale: AS SHOWN
 Sheet No. 2 of 33
 Drawing No.
 Date: June 2016

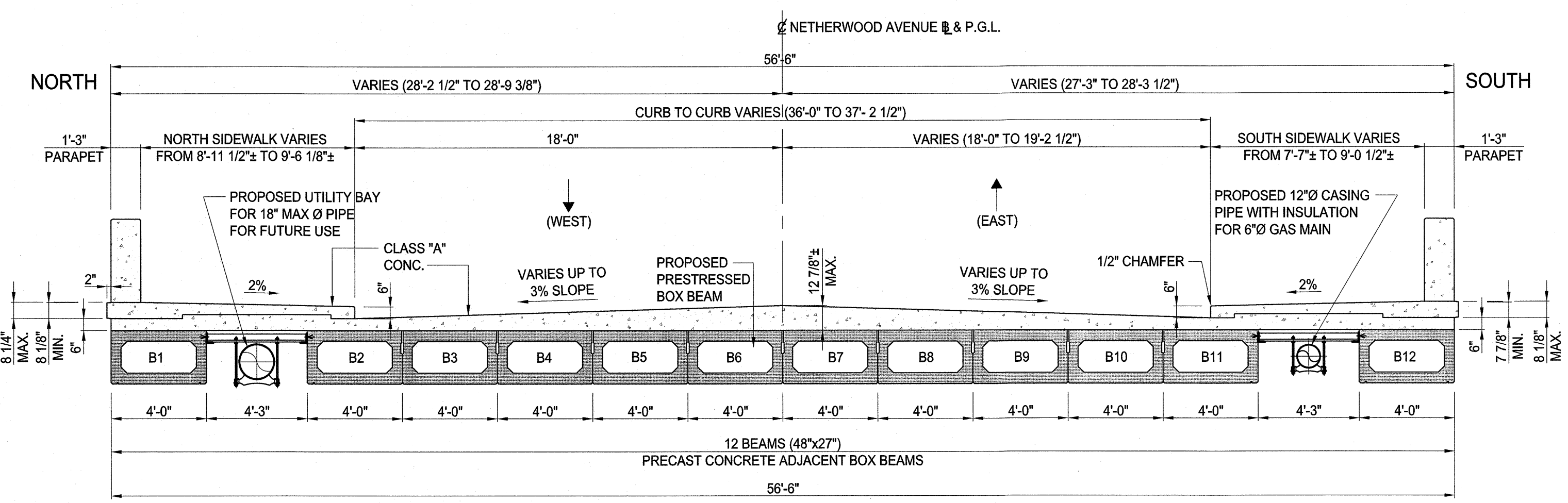
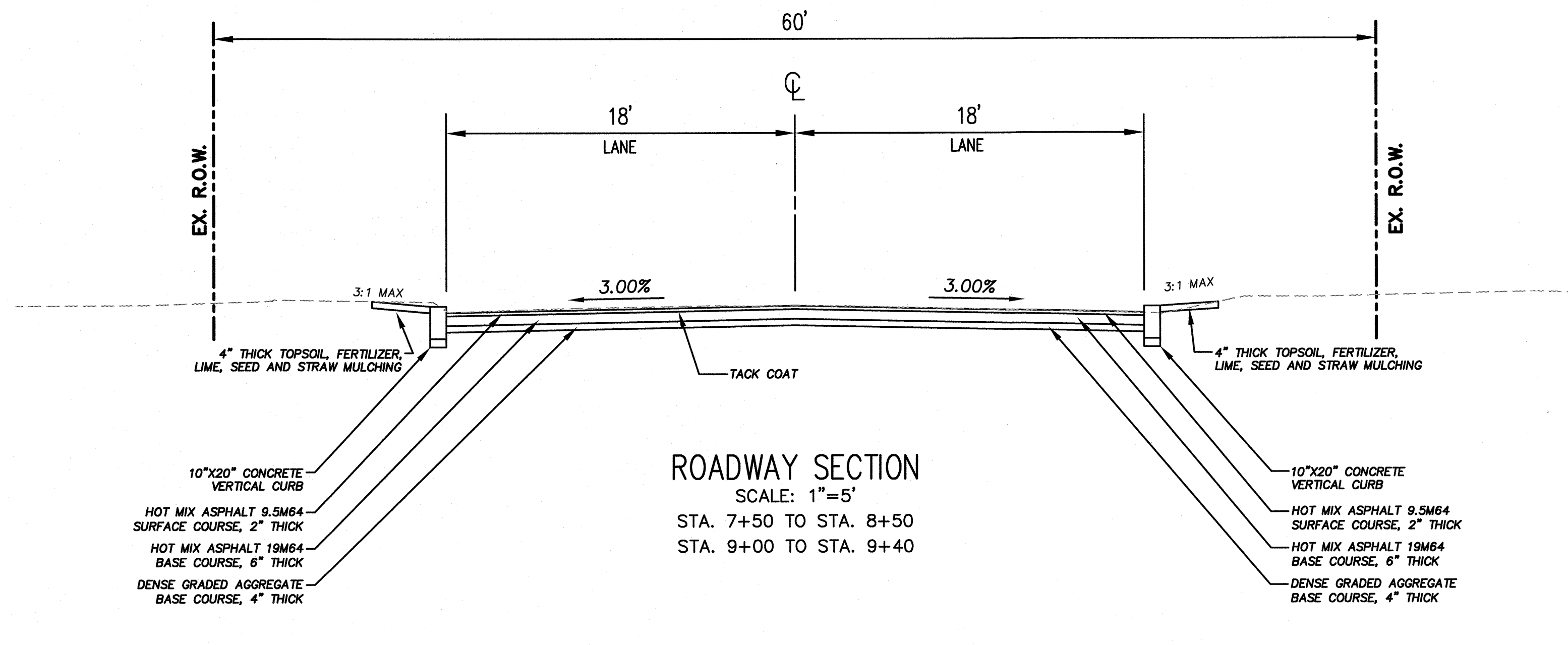
Thomas O. Mineo
 County Engineer
 N.J.P.E. No. 19646

NEW JERSEY DEPARTMENT OF TRANSPORTATION
STANDARD LEGEND



PROJECT CONSTRUCTION NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY FOR CONSTRUCTION IN ACCORDANCE WITH EXISTING LOCAL, COUNTY, OR STATE REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION IN THESE MATTERS.
- THE CONTRACTOR IS RESPONSIBLE FOR AND SHALL VERIFY ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
- ALL REGRADED AREAS AT THE SITE WHICH ARE NOT DESIGNATED AS PAVED OR GRAVEL AREAS SHALL BE TOPSOILED AND SEEDED AND SHALL BE STABILIZED IN ACCORDANCE WITH STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND THE CONTRACT SPECIFICATIONS.
- ALL GRADING OPERATIONS SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES AND SHALL ELIMINATE PONDING AREAS.
- INFORMATION AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES, THE RESULT OF SUCH INVESTIGATIONS ARE SHOWN ON THE CONTRACT DRAWINGS AND ARE NOT GUARANTEED AS TO ACCURACY. THE CONTRACTOR IS PARTICULARLY DIRECTED TO THE FACT THAT UNDERGROUND OBJECTS OR MATERIAL LOCATION ELEVATION, OR TYPE IS NOT WARRANTED TO BE APPROXIMATELY CORRECT (NOR CAN THEY BE ASSUMED TO BE THE ONLY SUBSURFACE OBJECTS OR MATERIAL WHICH MAY BE ENCOUNTERED IN THE WORK.) THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO SATISFY HIMSELF AS TO THE EXISTING CONDITIONS PRIOR TO BIDDING WORK.
- THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LOCATION OF THE UTILITIES WITH THE UTILITY COMPANIES PRIOR TO CONSTRUCTION.
- THE COORDINATION OF THE LOCATION OR RELOCATION WHERE REQUIRED OF TELEPHONE, ELECTRIC, GAS, AND WATER FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR AND SAME SHALL BE COORDINATED TO INSURE COMPLETION WITHIN THE TIME PERMITTED.
- THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN MEANS OF ADEQUATE INGRESS AND EGRESS TO RESIDENTS THROUGHOUT THE COURSE OF THE WORK AND TO PROVIDE FOR THE ADEQUATE MAINTENANCE AND PROTECTION OF TRAFFIC.
- THE CONTRACTOR'S LICENSED SURVEYOR SHALL PROVIDE THE CONSTRUCTION STAKEOUT FOR THE PROJECT.
- THE CONTRACTOR WILL NOT BE PERMITTED TO STOCKPILE EXCAVATED MATERIALS OVER EXISTING UTILITY LINES. THE STOCKPILED MATERIALS SHOULD BE PLACED SUFFICIENTLY AWAY FROM THE EDGE OF ANY EXCAVATION TO PREVENT CAVING OF THE TRENCH WALL AND TO PERMIT ADEQUATE ACCESS ALONG THE TRENCH. WITH SHEETED TRENCHES, A MINIMUM OF FIVE (5) FEET FROM THE EDGE OF THE SHEETING TO TOE OF SPOIL BANK MUST BE MAINTAINED.
- THE CONTRACTOR SHALL TAKE EVERY PRECAUTION NECESSARY TO PRECLUDE DAMAGE TO EXISTING STRUCTURES, FACILITIES, AND UTILITIES DUE TO LOSS OF LATERAL SUPPORT AND/OR CONSTRUCTION LOADINGS. SPECIFIC DETAILS NECESSARY TO ACCOMPLISH SAME SHALL BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION OF THE PROPOSED SUBSURFACE IMPROVEMENTS.
- ALL WORK BY THE CONTRACTOR SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE NEW JERSEY STATUTE KNOWN AS CHAPTER 249 OF THE LAWS OF 1948, BEING SECTIONS 34-6-47.1 TO 47.9, INCLUSIVE OF THE REVISED STATUTES OF NEW JERSEY, 1937, AND IN ACCORDANCE WITH THE RULES AND REGULATIONS CONCERNING PRECAUTIONS TO BE TAKEN IN THE PROXIMITY OF HIGH-VOLTAGE LINES FOR THE PREVENTION OF ACCIDENTS PROMULGATED BY THE COMMISSIONER OF THE DEPARTMENT OF LABOR AND INDUSTRY OF THE STATE OF NEW JERSEY, EFFECTIVE DECEMBER 28, 1948, ALL AS AMENDED AND SUPPLEMENTED, AND IN ACCORDANCE WITH THE PROVISIONS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND OF SUBPART N, PARAGRAPH 1926.550 OF THE RULES AND REGULATIONS ISSUED UNDER SAID ACT.
- THE CONTRACTOR IS HEREBY ADVISED THAT ALL WORK TO BE PERFORMED SHALL BE GOVERNED BY THE LOCAL MUNICIPAL ORDINANCES. THIS SHALL INCLUDE THE PROVISIONS IN THEIR CODES WHICH SET FORTH PERMITTED HOURS OF CONSTRUCTION WITHIN THE MUNICIPALITY.
- IN ORDER TO MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION, THE CONTRACTOR MAY FIND IT NECESSARY TO UTILIZE STEEL PLATES OVER TRENCHES AT NO ADDITIONAL COST TO THE OWNER.
- WHEN DISTURBING, REMOVING AND/OR DISPOSING OF ASBESTOS CEMENT PIPE, THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO: CURRENT USEPA REGULATIONS (NESHAP, 40 CFR 61 SUBPART M); OSHA REGULATIONS (29 CFR 1926.89); THE CURRENT NEW JERSEY ASBESTOS HAZARD ABATEMENT SUBCODE (N.J.A.C. 8:23-8); THE CURRENT N.J. ASBESTOS REGULATIONS (N.J.A.C. 7:26-1 ET. SEQ.), AND NOTIFICATION REGULATIONS (N.J.A.C. 8:23-8.6, 40 CFR 61 SUBPART M, AND N.J.A.C. 7:26-2.12).
- THE SOMERSET/UNION SOIL CONSERVATION DISTRICT GOVERNS SOIL EROSION AND SEDIMENT CONTROL MEASURES WITHIN THE PROJECT AREA. ACCORDINGLY, ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AS PER THE REQUIREMENTS OF THE SOMERSET/UNION SOIL CONSERVATION DISTRICT AND THE CONTRACT DOCUMENTS.
- AT CERTAIN TIMES THE SITE MAY BE OCCUPIED BY SEVERAL CONTRACTORS AND IT IS THEREFORE REQUIRED FOR ANY AND ALL CONTRACTORS OCCUPYING THE SITE TO COOPERATE WITH ONE ANOTHER. NO DELAYS RESULTING FROM MULTIPLE CONTRACTORS WORKING ON THE SITE WILL BE CONSIDERED.
- THE CONTRACTOR SHALL CONTINUOUSLY DEWATER ALL EXCAVATIONS UNTIL BACKFILLING OPERATIONS HAVE BEEN COMPLETED. PRIOR TO DISCHARGE TO STREAMS, SILT SHALL BE SETTLED OUT IN AN APPROVED SETTLING BASIN.
- THE CONTRACTOR SHALL MAINTAIN THE FLOW OF ALL STREAMS, DRAINAGE DITCHES, STORM SEWERS AND SANITARY SEWERS AT ALL TIMES BY A MEANS ACCEPTABLE TO THE ENGINEER AND ALL THE RESPONSIBLE AGENCIES.
- THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICE FLOWS AND PRESSURES UNLESS WRITTEN APPROVAL BY THE RESPONSIBLE UTILITY PERMITS HIM TO DO OTHERWISE.
- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE OF NEW JERSEY WORKER HEALTH AND SAFETY ACT (N.J.A.C. 12:110 ET. SEQ.) AS AMENDED AND THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) (29 CFR 1910), AS AMENDED WITH REGARDS TO WORKER AND JOBSITE SAFETY.
- THE CONTRACTOR IS SPECIFICALLY DIRECTED TO THE REQUIREMENTS CONTAINED IN THE SPECIAL PROVISIONS SECTION OF THE CONTRACT SPECIFICATIONS.



OVE ASSOCIATES
 CONSULTING AND MUNICIPAL ENGINEERS
 2461 ROBERTSON AVENUE, FAIRLANE, NEW JERSEY 08009
 1440 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
 PROFESSIONAL ENGINEER LC. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
 Division of Engineering
 2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

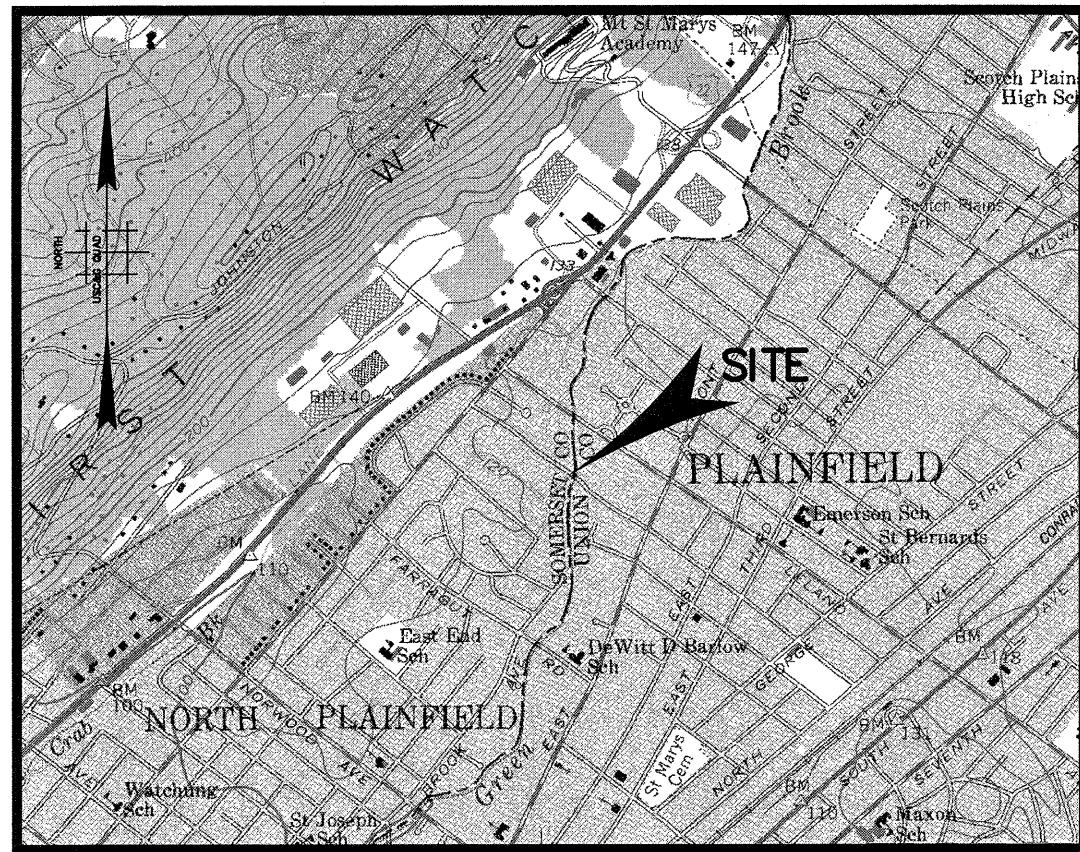
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

LEGEND, GENERAL NOTES AND TYPICAL SECTION

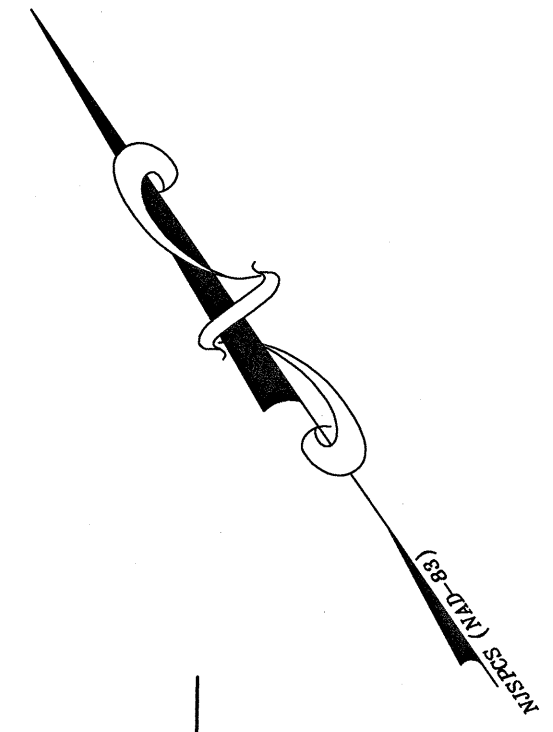
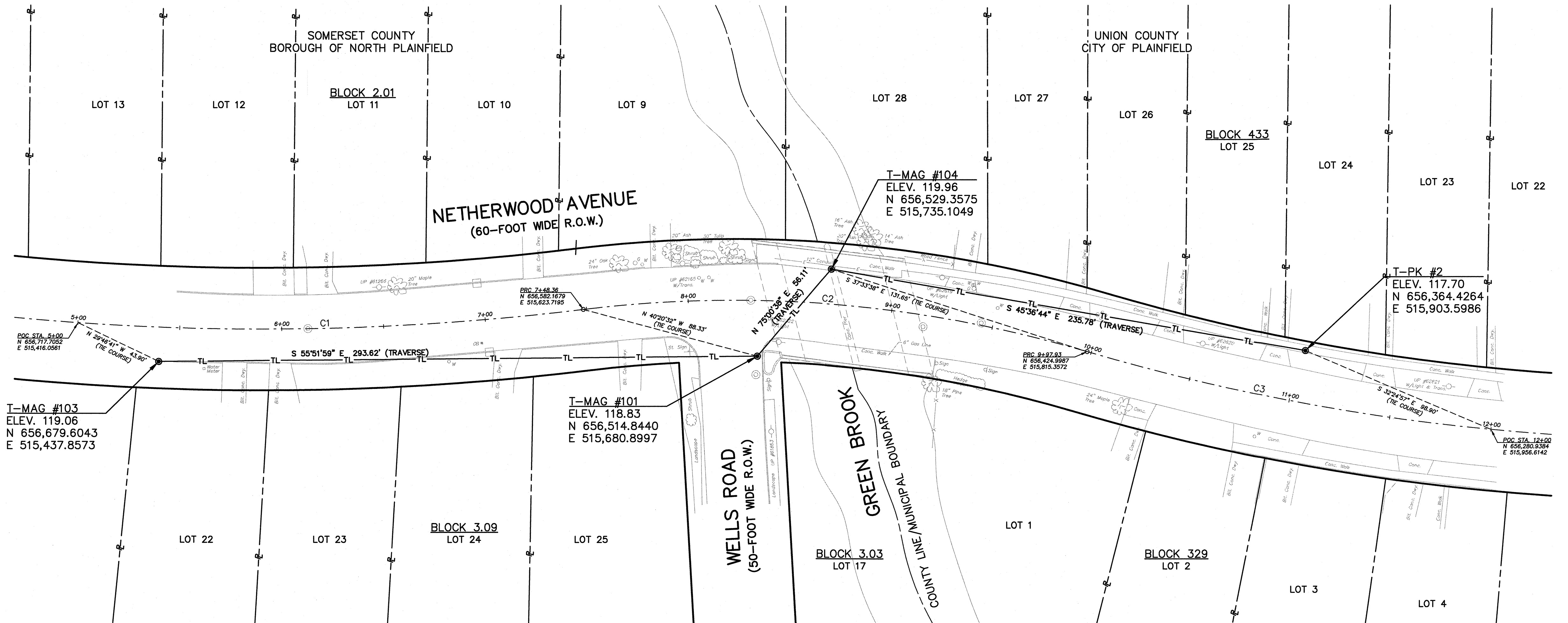
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 Sheet No. 3 of 33
 Drawing No. _____
 Date: June 2016

Thomas O. Mineo
 County Engineer
 N.J.P.E. No. 19646

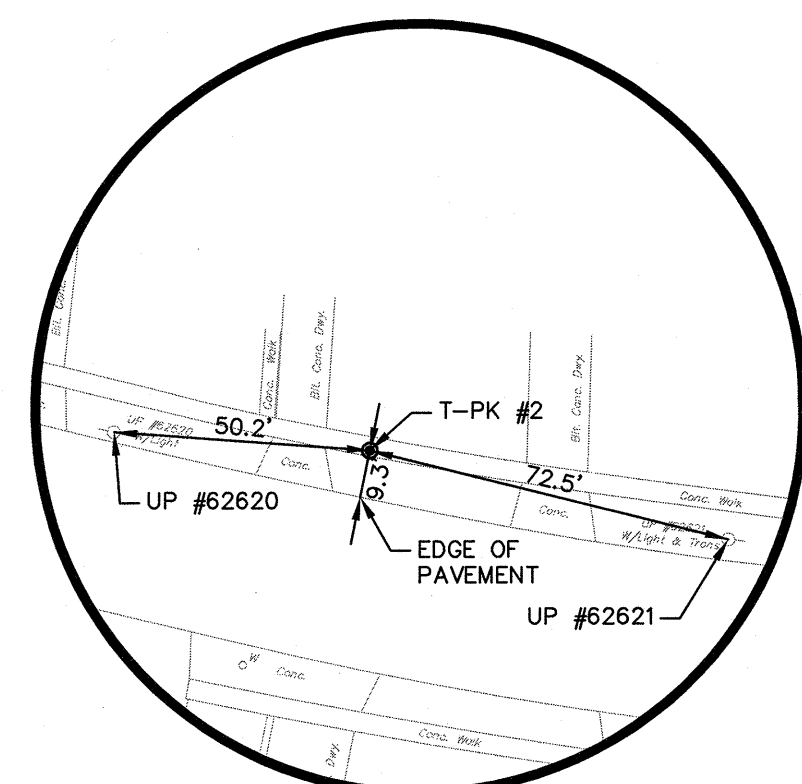
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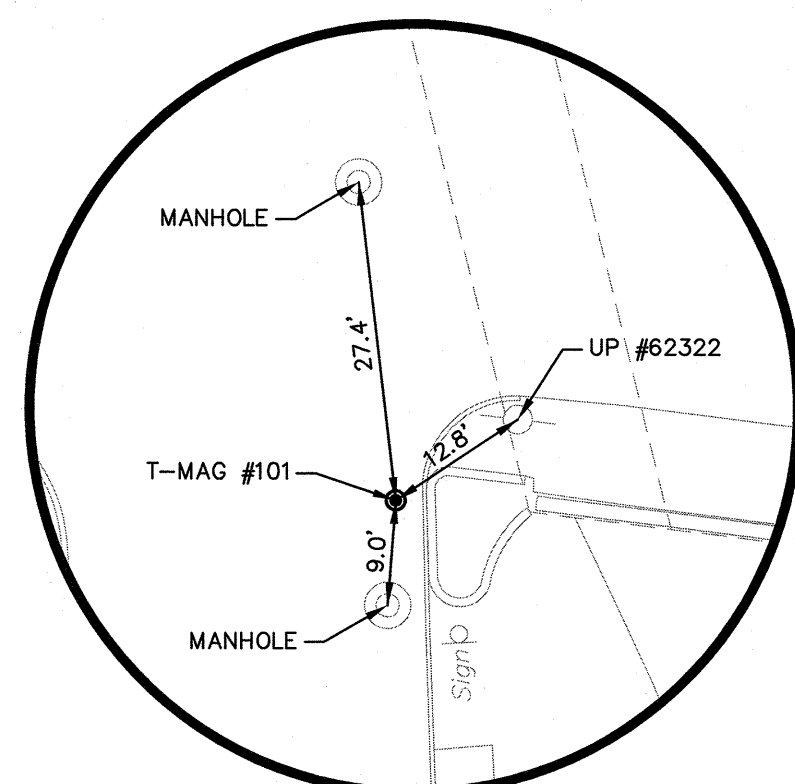
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CHATHAM QUADRANGLE
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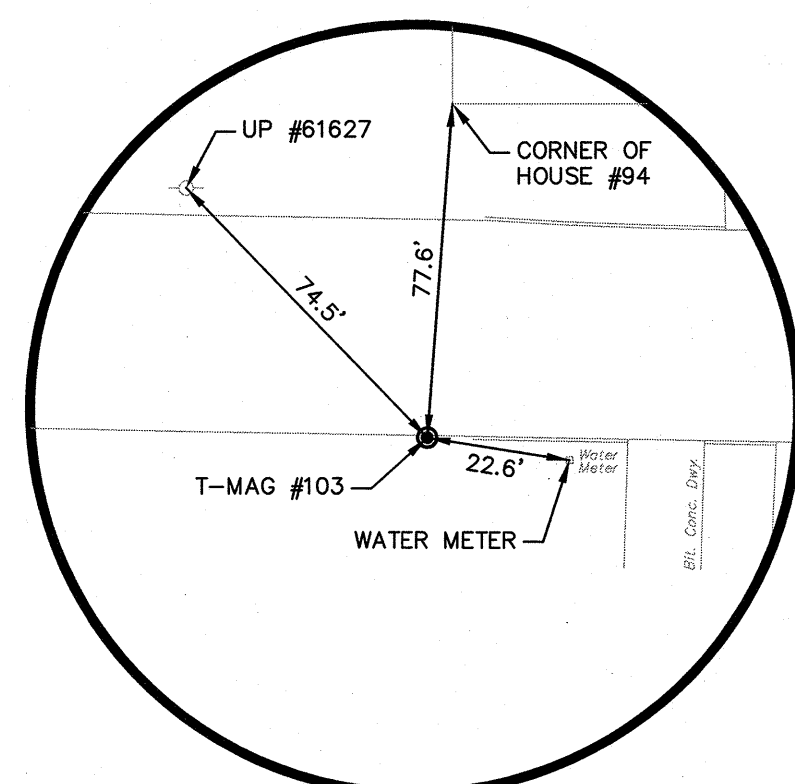
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C-2	23°23'13"	611.43'	126.55'	249.57'	656,040.6278	515,339.8515
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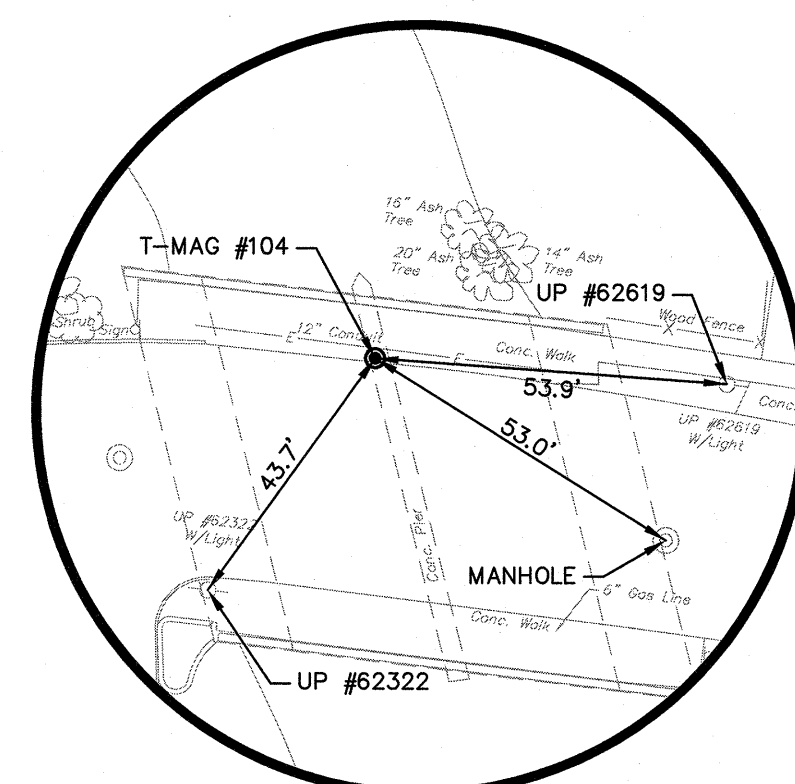
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N.T.S.



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STA: 8+34.37
OFFSET: 27.31' RT.
N.T.S.



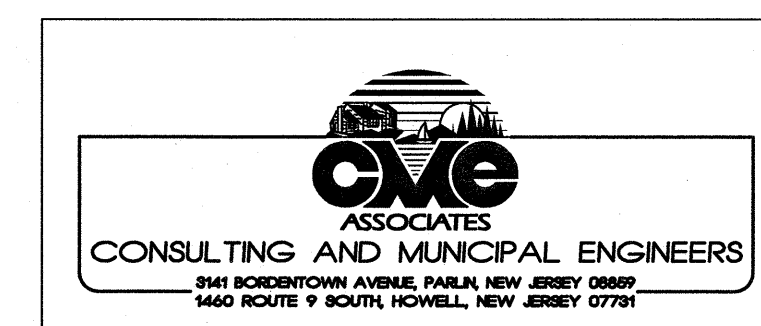
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N.T.S.



T-MAG #104
ELEV. 119.96
N 656,529.3575
E 515,735.1049
STA: 8+68.95
OFFSET: 17.12' LT.
N.T.S.



- LEGEND**
- ⊙ - DENOTES P.K./MAG NAIL
 - TL — DENOTES TRAVERSE LINE
 - DENOTES BASELINE TIE LINE



MICHAEL J. MCGURL P.L.S.
NEW JERSEY PROFESSIONAL LAND SURVEYOR LIC. 38338

Revisions		
Date	By	
05/2017	NH	

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

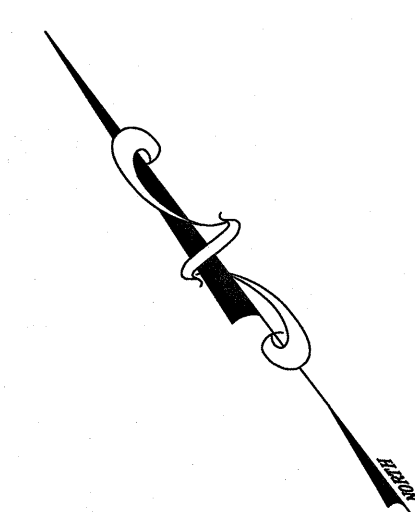
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

SURVEY CONTROL PLAN

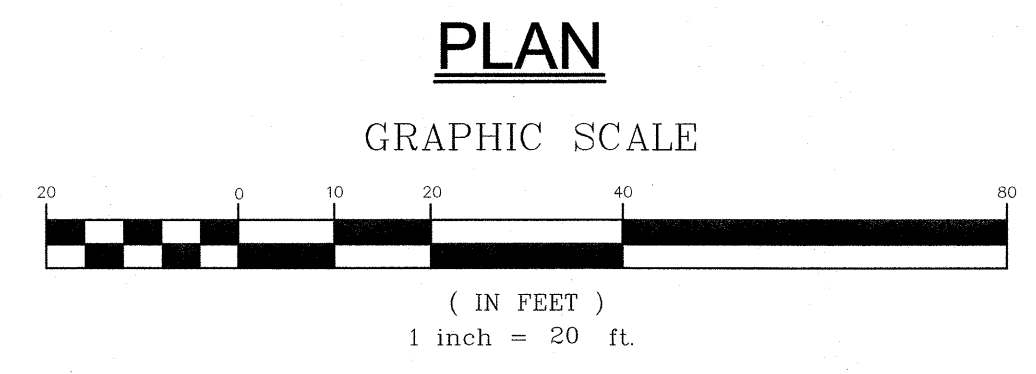
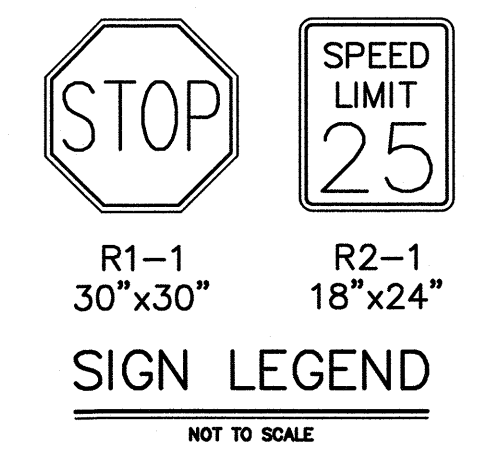
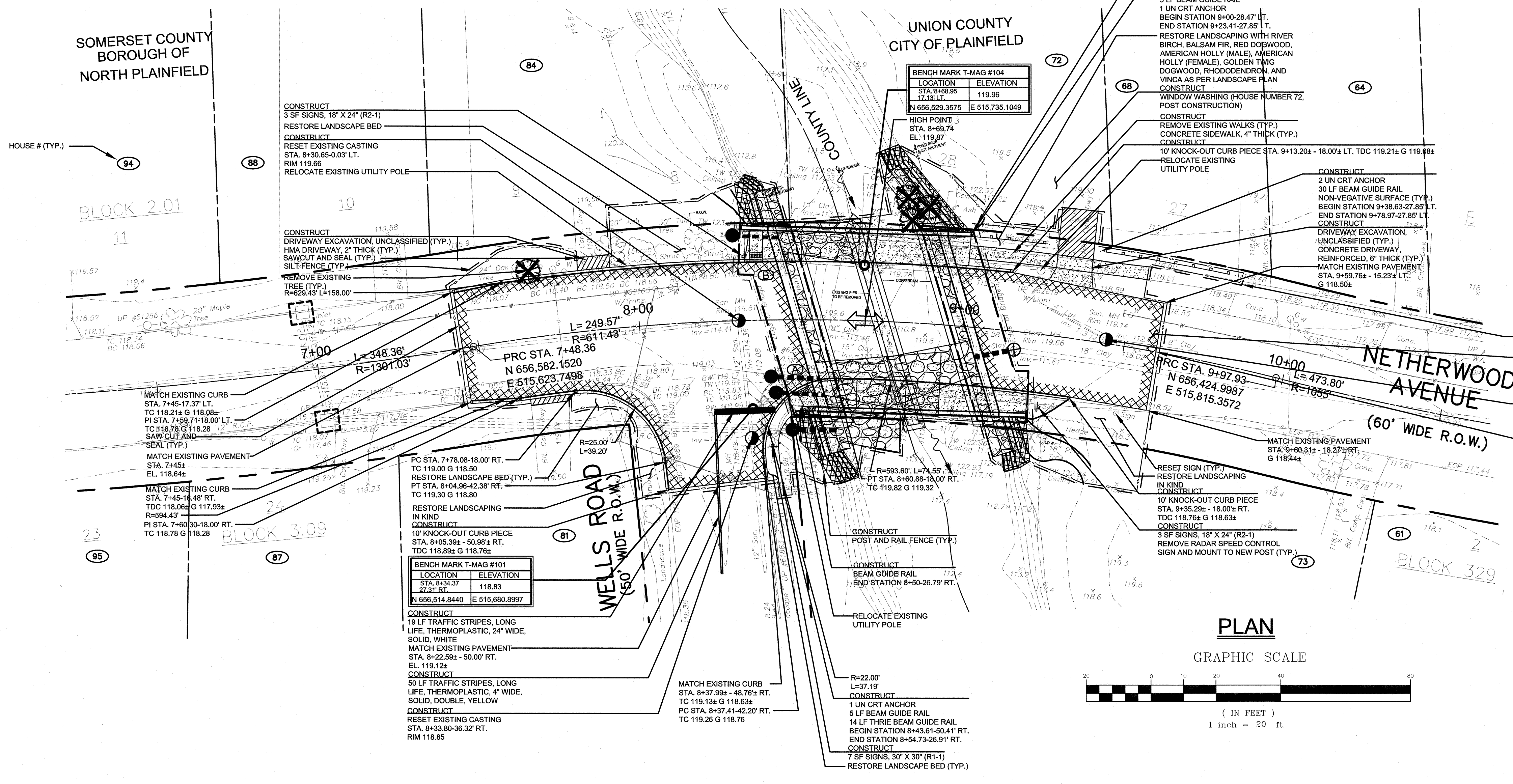
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Sheet No. 4 of 33
Drawing No.
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

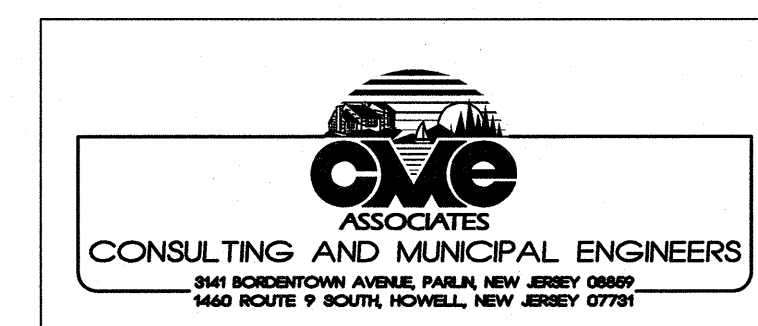


Pay Item Number	To Be Constructed	Unit	Plan Quantity
2	Silt Fence	LF	800
3	Haybale	LN	2
4	Inlet Filter, Type 1	SF	15
5	Sediment Control Bag	SF	15
14	Excavation, Test Pit	CY	64
15	Excavation, Unclassified	CY	255
22	Dense Graded Aggregate Base Course, 4" Thick	CY	85
24	Tack Coat	GAL	267
25	Prime Coat	GAL	382
26	Polymerized Joint Adhesive	LF	190
27	Hot Mix Asphalt 9.5M64 Surface Course	TON	90
28	Hot Mix Asphalt 19M64 Base Course	TON	269
51	Reset Existing Casting	LN	3
56	Pressure Treated Lattice Fence	LF	32
57	Concrete Sidewalk, Reinforced, 4" Thick	SY	44
58	Concrete Driveway, Reinforced, 6" Thick	SY	12
59	Hot Mix Asphalt Driveway, 2" Thick	SY	26
60	Detectable Warning Surface	SY	2
61	10" x 20" Concrete Vertical Curb	LF	261
62	Regulatory And Warning Sign	SF	13
63	Non-Vegetative Surface, 4" Thick	SY	40
64	Thrie Beam Gullderrail	LF	28
65	Controlled Release Anchorage Terminal	LN	4
66	Beam Gullderrail	LF	40
67	Traffic Stripes, Long-Life, "Thermoplastic", 4"	LF	100
68	Traffic Stripes, Long-Life, "Thermoplastic", 24"	LF	19
71	Topsoiling, 4" Thick	SY	637
72	Fertilizing and Seeding, Type G	SY	629
73	Fertilizing and Seeding, Type 2, RIPARIAN ZONE	SY	208
74	Straw Mulching	SY	629
79	Post and Rail Fence	LF	70
85	River Birch	LN	1
86	Balsam Fir	LN	1
87	Red Dogwood	LN	1
88	American Holly (Male & Female)	LN	2
89	Golden Twig Dogwood	LN	1
90	Rhododendron	LN	1
91	Vinca	LN	15
92	Window Washing	LN	1



LOCATION	ELEVATION
STA. 8+34.37	118.83
27.81 RT.	
N 656,514.8440	E 515,680.8997

LOCATION	ELEVATION
STA. 9+68.55	119.96
17.13 LT.	
N 656,529.3575	E 515,735.1049



MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER LIC. 32468

Designed By: *[Signature]*
Drawn By: AH/JM
Checked By: *[Signature]*
Approved By: AH

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

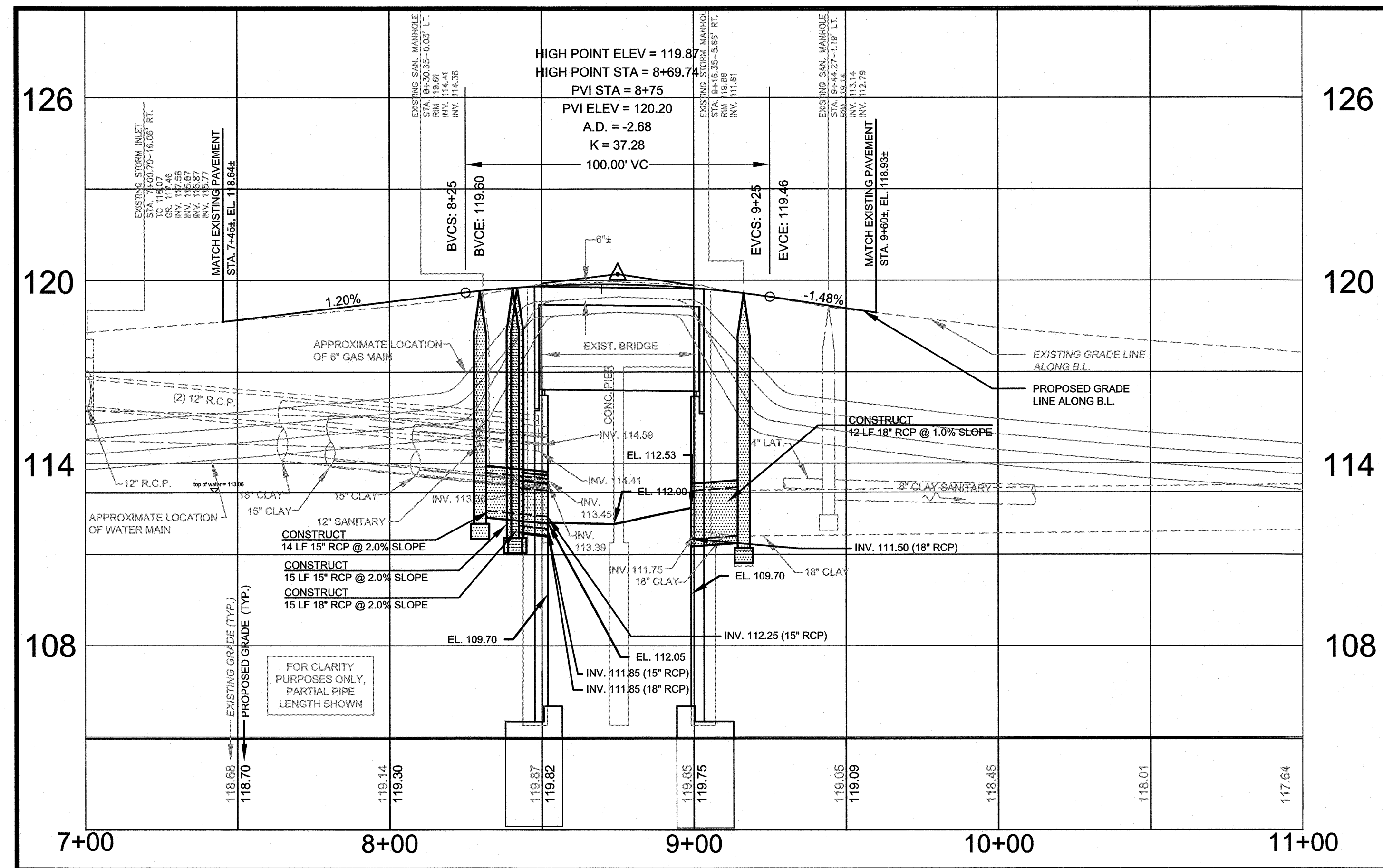
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL PLAN

Scale: AS SHOWN
Sheet No. 5 of 33
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



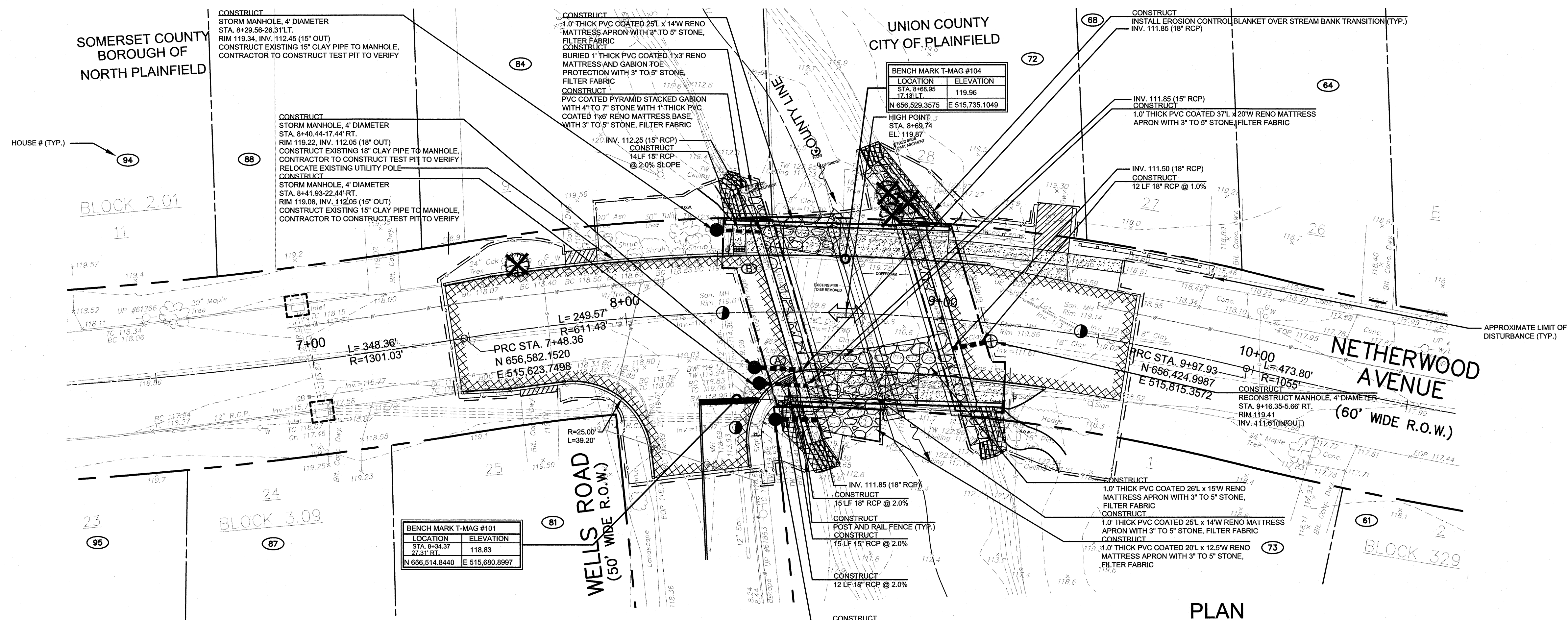
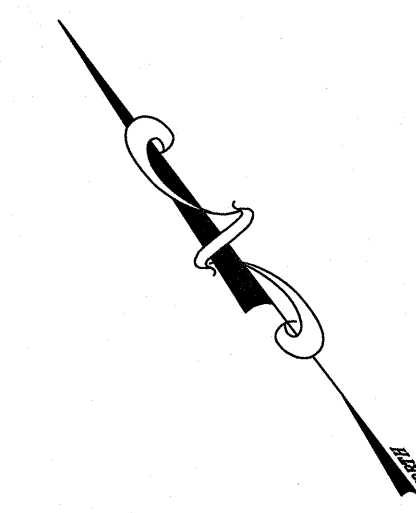
PROFILE

SCALE: 1"=30' (HORIZ.)
1"=3' (VERT.)

PUN00612.01

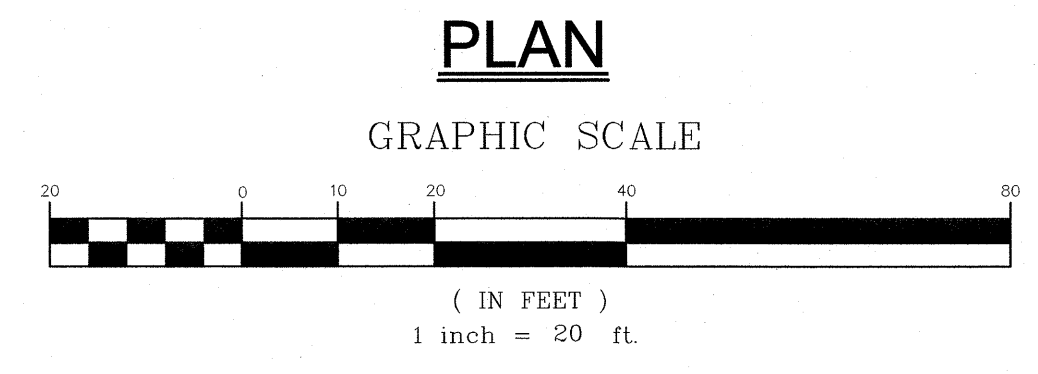
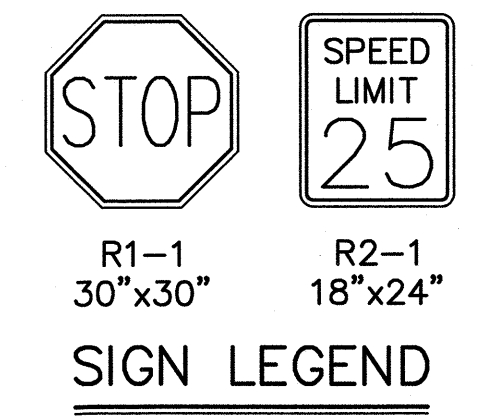
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MICHAEL J. McCLELLAND P.E. <small>PROFESSIONAL ENGINEER I.C. 32468</small>			PROFILE								
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No.	Date	By									
1	05/2017	NH									
Designed By: AH/JM Drawn By: AH Checked By: 40 Approved By:			<i>Thomas O. Mineo</i> County Engineer N.J.P.E. No. 19646								

Pay Item Number	To Be Constructed	Unit	Plan Quantity
23	Dense Graded Aggregate, Backfill	CY	48
47	15" RCP Storm Sewer, Class V	LF	29
48	18" RCP Storm Sewer, Class V	LF	39
49	Manhole, 4' Dia.	UN	4
50	Reconstruct Manhole	UN	1
52	Television Inspection of Storm Sewer Lines	LF	900
53	12" Thick, Stone Filled, PVC Coated Reno Mattress	CY	71
54	3' x 3' Gabion Basket	CY	19
55	Erosion Control Blanket, Excelsior Curlex II or Approved Equal	SY	42
69	Temporary Trench Repair	SY	60



BENCH MARK T-MAG #101	
LOCATION	ELEVATION
STA. 8+34.37	118.83
42+21.81	
N 856,514.8440	E 515,680.8997

BENCH MARK T-MAG #104	
LOCATION	ELEVATION
STA. 9+68.56	119.96
12+13.11	
N 656,529.3575	E 515,735.1049



MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER L.C. 32468

Michael J. McClelland

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

STORM SEWER PLAN

Designed By: AH/JM
Checked By: AH

Scale: AS SHOWN
Sheet No. 7 of 33
Drawing No.
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN0612.01

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. 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 NJ STATE STANDARDS.
4. PERMANENT VEGETATION SHALL BE SEED OR SODED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NJ STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
6. 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.
7. 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 NJ STATE STANDARDS.
8. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
9. TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X30'X6" PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL DISTURBANCE.
10. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A 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 OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
11. IN THAT NJSA 4:24-39 ET SEQ., REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
12. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
13. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT NJ STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
14. THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
15. MULCHING TO THE NJ STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONALS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
16. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF CONSTRUCTION PROJECT.
17. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE SOMERSET-UNION SOIL CONSERVATION DISTRICT.
18. HYDRO SEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY. GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION UPON COMPLETION OF SEEDING OPERATION. HYDROMULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN SECOND STEP. THE USE OF HYDROMULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE NJ STANDARDS.
19. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SOIL TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
20. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #7.
21. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORM WATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
22. HAY BALES OR SEDIMENT CONTROL FABRIC TO BE PLACED IF EROSION BECOMES EVIDENT DURING CONSTRUCTION.
23. TO PREVENT LARGE BLOWNS DOWNHILL DURING CONSTRUCTION, TEMPORARY MOUNTABLE STONE BERMS MUST BE INSTALLED, SHOULD FIELD CONDITIONS WARRANT WHICH WILL NOT IMPED ACCESS FOR THE RESIDENTS AND EMERGENCY VEHICLES.

TRAFFIC CONTROL STANDARDS

1. CONSTRUCTION TRAFFIC SHALL BE RESTRICTED TO ON-SITE ACCESS BY MEANS SO DESIGNATED BY THE ENGINEER.
2. TRAFFIC DURING WET WEATHER SHALL BE MINIMIZED AND APPROPRIATE CLEANUP SHALL BE PROVIDED BY THE CONTRACTOR AS SOON AS WEATHER CONDITIONS PERMIT.
3. TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF DISTURBANCE DUST CONTROL.

1. ALL AREAS OF CLEARING AND EMBANKMENT, AS WELL AS CONSTRUCTION HAUL ROADS SHALL BE TREATED AND MAINTAINED IN SUCH A MANNER AS TO MINIMIZE ANY DUST GENERATION.
2. DISTURBED AREAS SHALL BE MAINTAINED IN A ROUGH GRADED CONDITION AND TEMPORARILY SEEDED AND/OR MULCHED UNTIL PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF PERMANENT VEGETATION COVER.

REVISIONS

THIS PROJECT SHALL CONSIST ESSENTIALLY OF THE REPLACEMENT OF RAYMOND AVENUE BRIDGE CROSSING GREEN BROOK, ROADWAY IMPROVEMENTS AND INSTALLATION OF BITUMINOUS CONCRETE PAVEMENT.

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL TREES WITHIN THE SITE FOR DURATION OF THE PROJECT. THE CONTRACTOR SHALL FURTHER EMPLOY EVERY MEASURE POSSIBLE FOR THE PROTECTION OF ALL TREES WITHIN THE DESIGNATED USE AREAS.
2. DAMAGED TREES OR EXPOSED ROOTS WILL BE PAINTED IMMEDIATELY WITH A GOOD GRADE OF TREE PAINT.

SEEDING SPECIFICATIONS

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID-PRODUCING SOILS SHALL BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF STRAW MULCH. THE MULCH SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID-PRODUCING SOIL.
5. HIGH ACID-PRODUCING SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A PH OF 5.0 OR MORE EXCEPT AS FOLLOWS:
 - a. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A PH OF 5.0 OR MORE.
 - b. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHERS, TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE. INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (CYOTONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM AROUND, OFF OR THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS, TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

TEMPORARY SEEDING SPECIFICATIONS

- APPLY 10-20-10 FERTILIZER AT A RATE OF 500 LBS. PER ACRE OR 11 LBS. PER 1,000 SQ. FT.
- APPLY LIMESTONE AT A RATE OF 2 TONS PER ACRE OR 9 LBS. PER 1,000 SQ. FT. FOR SANDY LOAM.
- COOL SEASON GRASSES
 - APPLY PERENNIAL RYE GRASS AT A RATE OF 100 LBS. PER ACRE OR 1 LB. PER 1,000 SQ. FT.
 - APPLY ANNUAL RYEGRASS AT A RATE OF 100 LBS. PER ACRE OR 1 LB. PER 1,000 SQ. FT.
 - APPLY WINTER BARLEY AT A RATE OF 90 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
 - APPLY WINTER CERIAL RYE AT A RATE OF 112 LBS. PER ACRE OR 2.8 LBS. PER 1,000 SQ. FT.
- WARM SEASON GRASSES
 - APPLY PEARL MILLET AT A RATE OF 20 LBS. PER ACRE OR 0.5 LBS. PER 1,000 SQ. FT.
 - APPLY MILLET (GERMAN OR HUNGARIAN) AT A RATE OF 30 LBS. PER ACRE OR 0.7 LBS. PER SQ. FT.

PERMANENT SEEDING SPECIFICATIONS

1. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MALERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 80% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. SEEDING PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.
2. HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDING PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

PERMANENT SEEDING PREPARATIONS

1. DURING NON GROWING SEASONS EXPOSED SOILS SHOULD BE STABILIZED USING NON-VEGETATIVE MATERIALS SUCH AS UNROTTED SMALL-GRAIN STRAW, OR SALT HAY AT A RATE OF 2.0 TO 2.5 TONS PER ACRE SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL. ORGANIC MULCH BINDERS, NETTING THE DOWNS OR OTHER SUITABLE MATERIALS AS APPROVED BY THE FREEHOLD SOIL CONSERVATION DISTRICT.

SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS DEEMED NECESSARY BY THE ENGINEER AND THE SOMERSET-UNION SOIL CONSERVATION DISTRICT.

THIS PLAN TO BE USED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

**DATUM CONVERSION
PLANS ARE IN NAVD 88 DATUM
VAND 88 DATUM : NGVD DATUM - 0.96 FEET**

Revisions

No.	Date	By
1	05/2017	NH

**County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076**

**NETHERWOOD AVENUE BRIDGE
REPLACEMENT, PL-37**

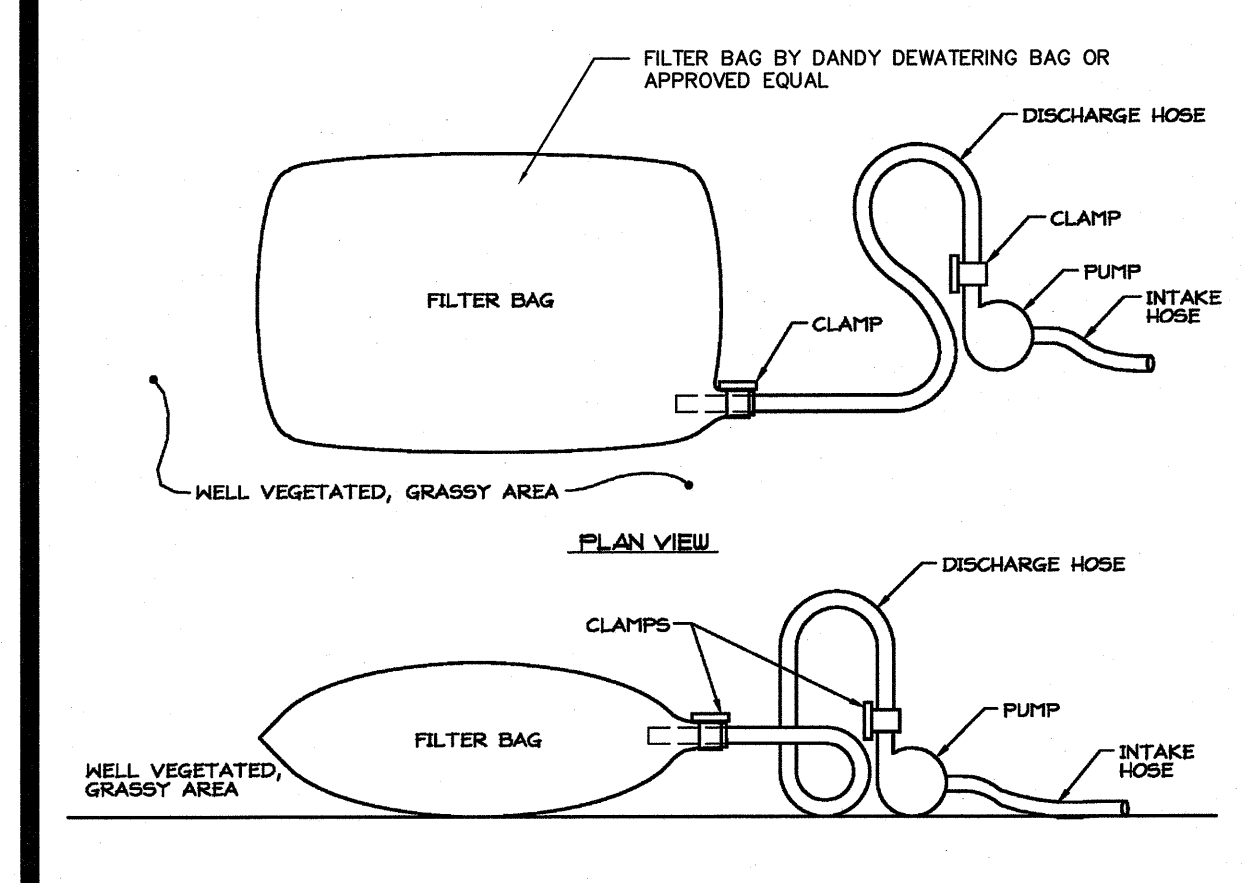
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

**SOIL EROSION AND SEDIMENT CONTROL
NOTES AND DETAILS**

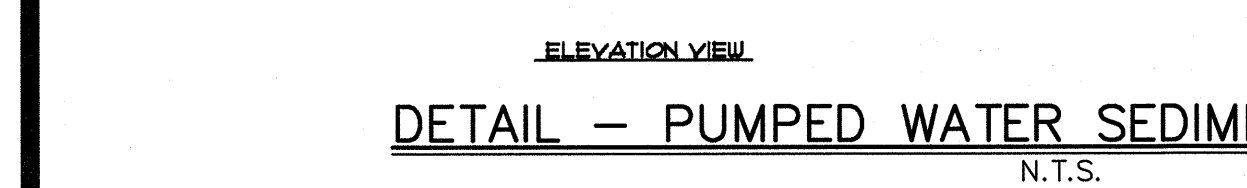
Designed By: *Michael J. McClelland*
Checked By: *Thomas O. Mineo*

Scale: AS SHOWN
Sheet No. 8 of 33
Drawing No.
Date: June 2016

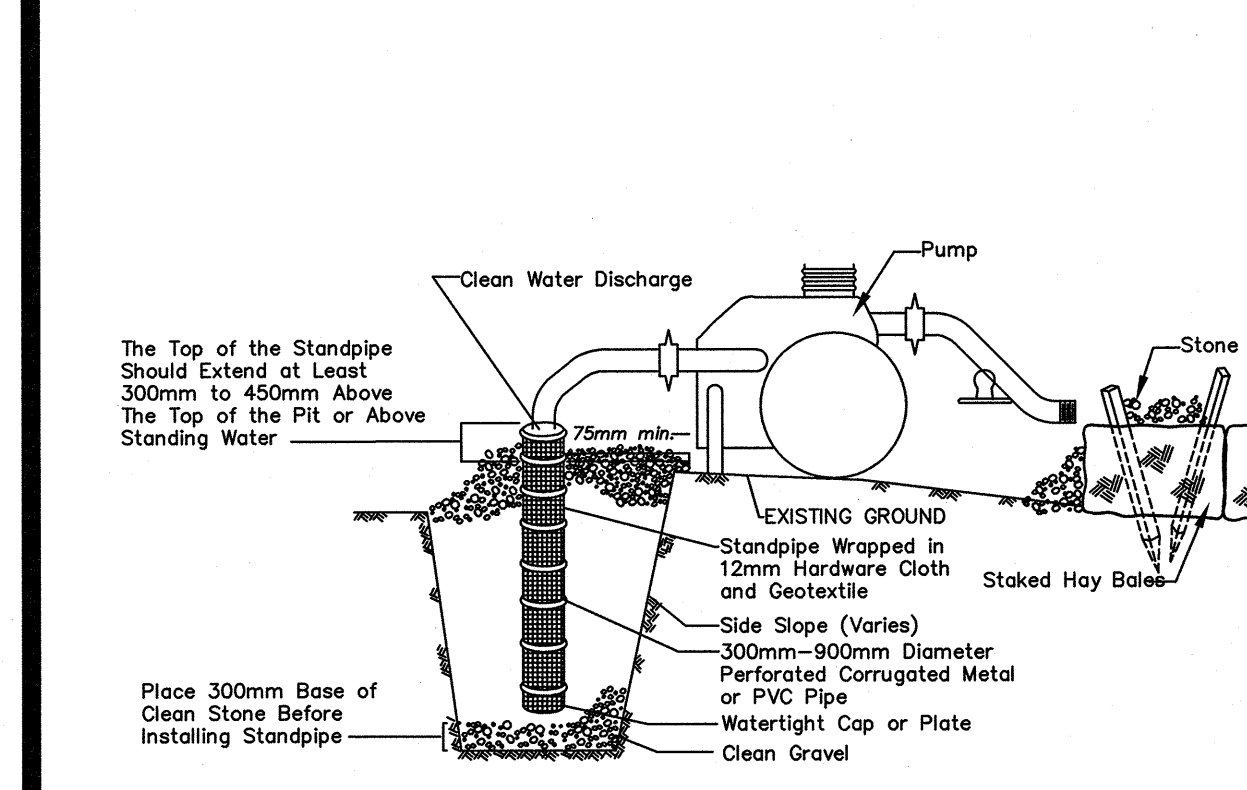
Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646



- PUMP WATER FILTER BAG NOTES:**
1. FILTER BAGS MAY BE USED TO FILTER WATER PUMPED FROM DISTURBED AREAS PRIOR TO DISCHARGING INTO LOCAL WATERS. THEY MAY ALSO BE USED TO FILTER WATER PUMPED FROM THE SEDIMENT STORAGE ZONE OF A SEDIMENT BASIN OR TRAP.
 2. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
 3. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THESE THAT HAVE FAILED OR ARE FILLED.
 4. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
 5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
 6. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
 7. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
 8. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG OR EQUIVALENT SEDIMENT REMOVAL FACILITY, OVER UNDISTURBED VEGETATED AREAS.

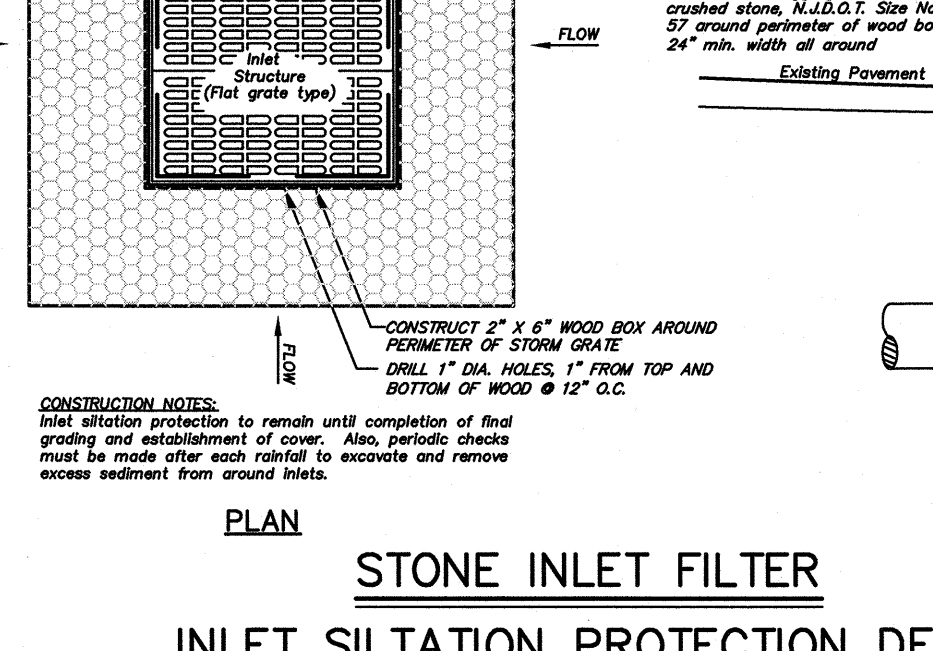
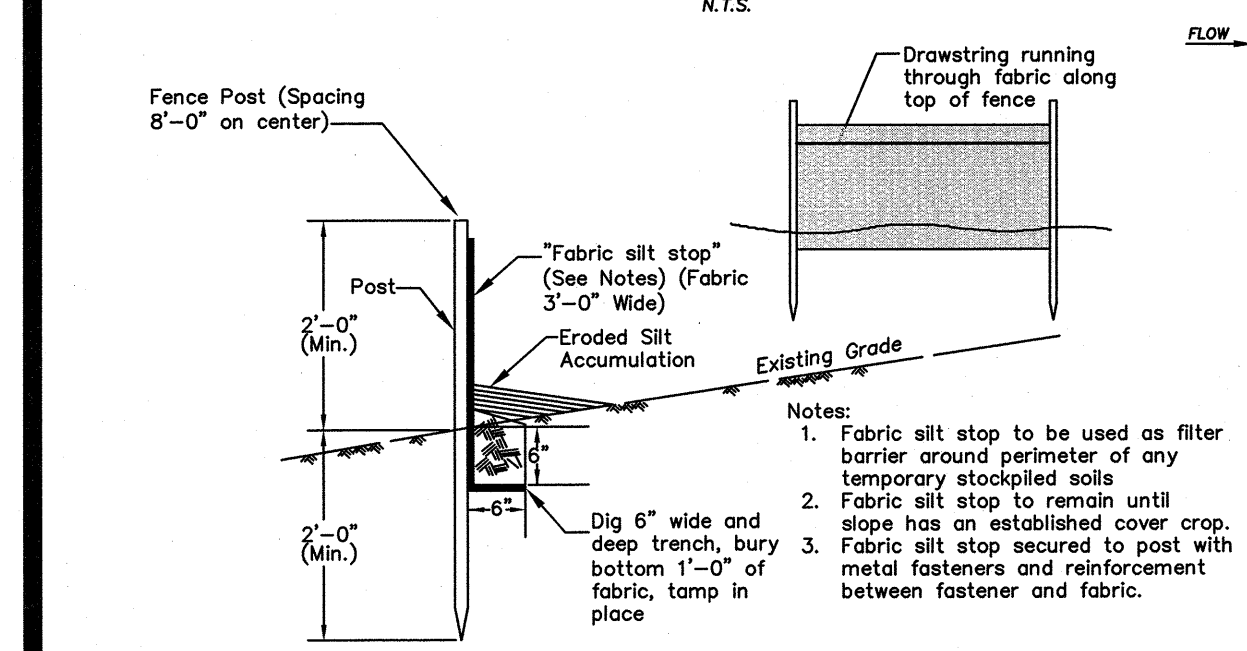


DETAIL - PUMPED WATER SEDIMENT CONTROL BAG
N.T.S.



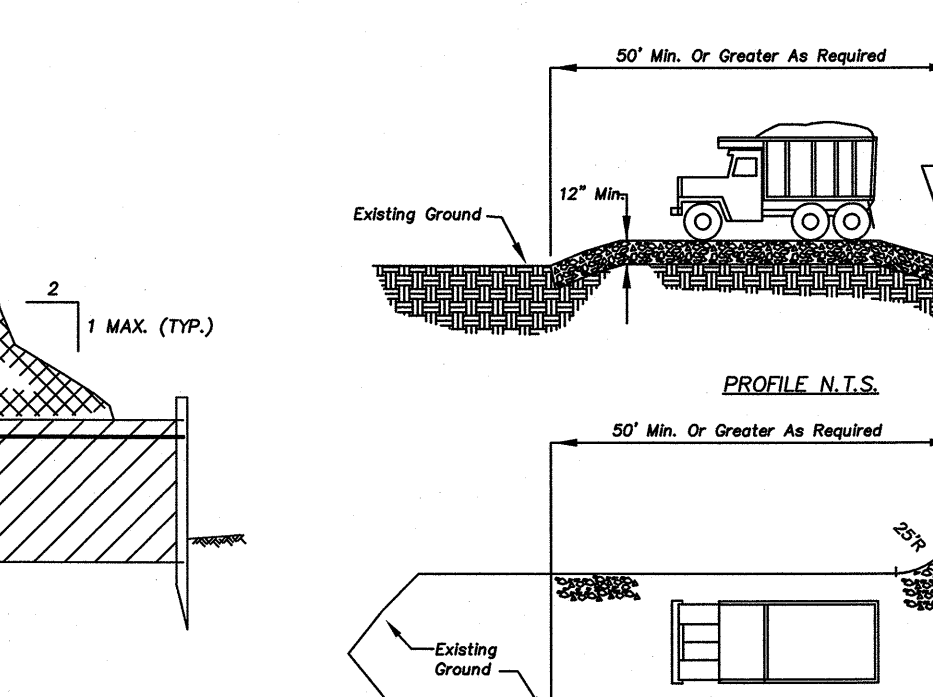
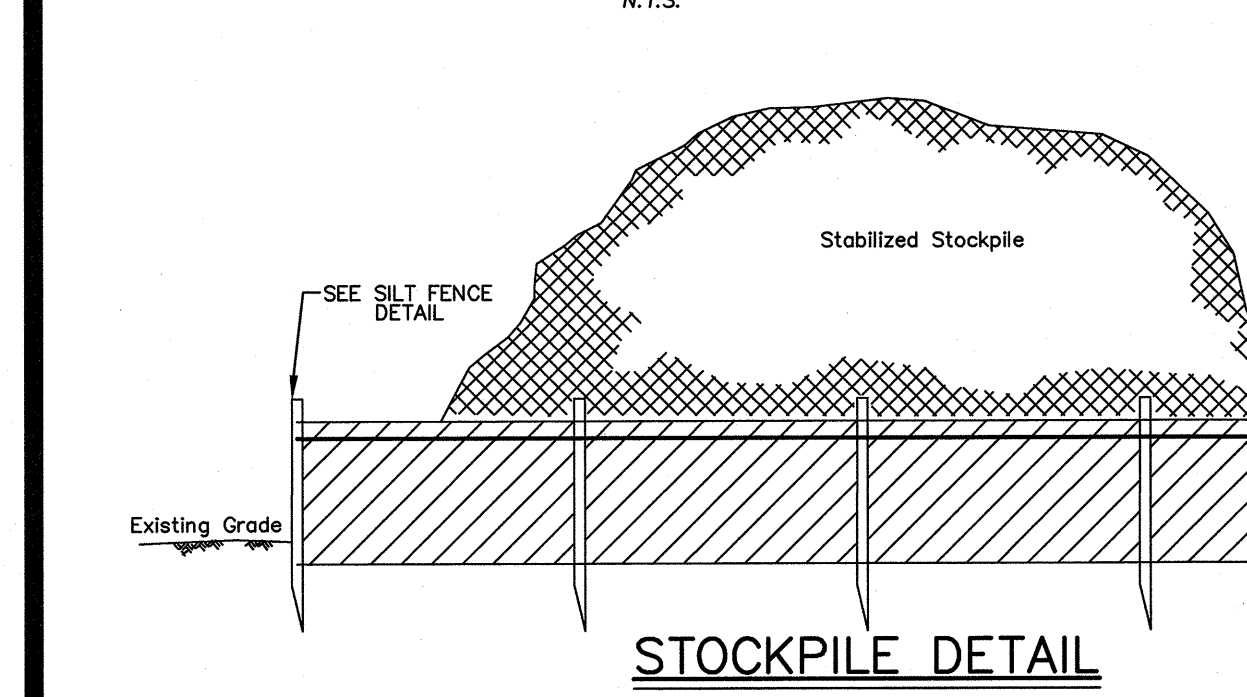
- SLOPE STABILIZATION MATTING SHALL BE REQUIRED FOR ALL DISTURBED AREAS WHERE THE GRADIENT IS 3 TO 1 OR GREATER, OR WHERE SAME IS DEEMED NECESSARY BY THE ENGINEER AND SOMERSET-UNION SOIL CONSERVATION DISTRICT REPRESENTATIVES DURING THE COURSE OF CONSTRUCTION. THE MATTING SHALL BE EXCELSIOR CURLEX II EROSION CONTROL BLANKETS OR APPROVED EQUAL. INSTALLATION AND SECURING OF STABILIZATION MATTING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.**
- USE 4 STAPLES ACROSS AT THE START OF EACH ROLL AND CONTINUE TO STAPLE THROUGHOUT THE LENGTH OF THE ROLL AT 4'-0" INTERVALS. IN AREAS WITH HIGH WATER VELOCITY STAPLES SHOULD BE ON 2'-0" CENTERS. DITCH LINER**
- USE 4 STAPLES ACROSS AT THE START OF EACH ROLL AND CONTINUE TO STAPLE THROUGHOUT THE LENGTH OF THE ROLL AT 4'-0" INTERVALS.**
- USE 4 STAPLES ACROSS AT THE START OF EACH ROLL AND CONTINUE TO STAPLE THROUGHOUT THE LENGTH OF THE ROLL AT 4'-0" INTERVALS.**

- Construction Specifications**
1. Pit dimensions are variable with the minimum diameter being 2 times the standpipe diameter.
 2. The standpipe should be constructed by perforating a 300mm to 600mm diameter corrugated or PVC pipe. Then wrapping with the 12mm hardware slits or 25mm diameter holes.
 3. A base filter material consisting of clean gravel or ASTM C 33 stone should be placed in the pit to a depth of 300mm. After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.
 4. The standpipe should extend 300mm to 450mm above the lip of the pit or the riser crest elevation (bain dewatering only) and the filter material should extend 75mm minimum above the anticipated standing water elevation.



SILT STOP SEDIMENT BARRIER DETAIL
N.T.S.

**STONE INLET FILTER
INLET SILTATION PROTECTION DETAIL**
N.T.S.

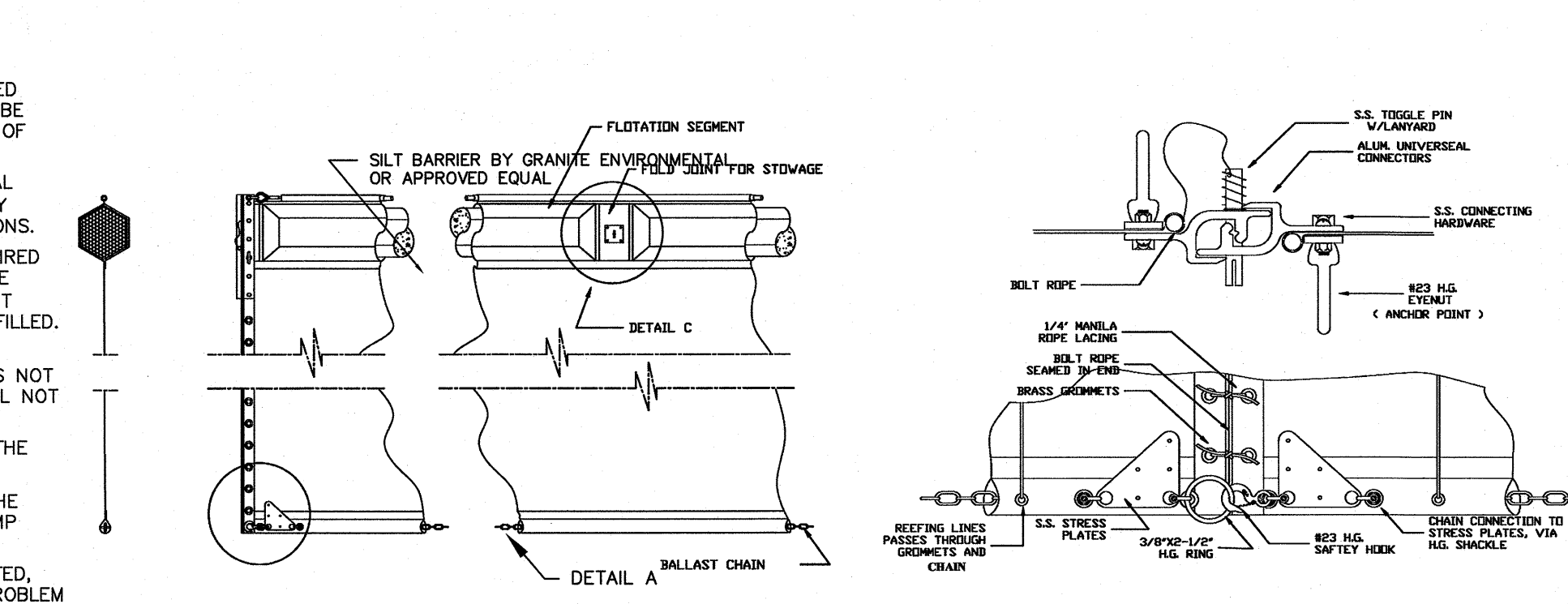


- * SOMERSET-UNION SOIL CONSERVATION DISTRICT
308 MILLTOWN ROAD
BRIDGEWATER, NEW JERSEY, 08807
(908) 526-2701 PHONE
(908) 526-7017 FAX**

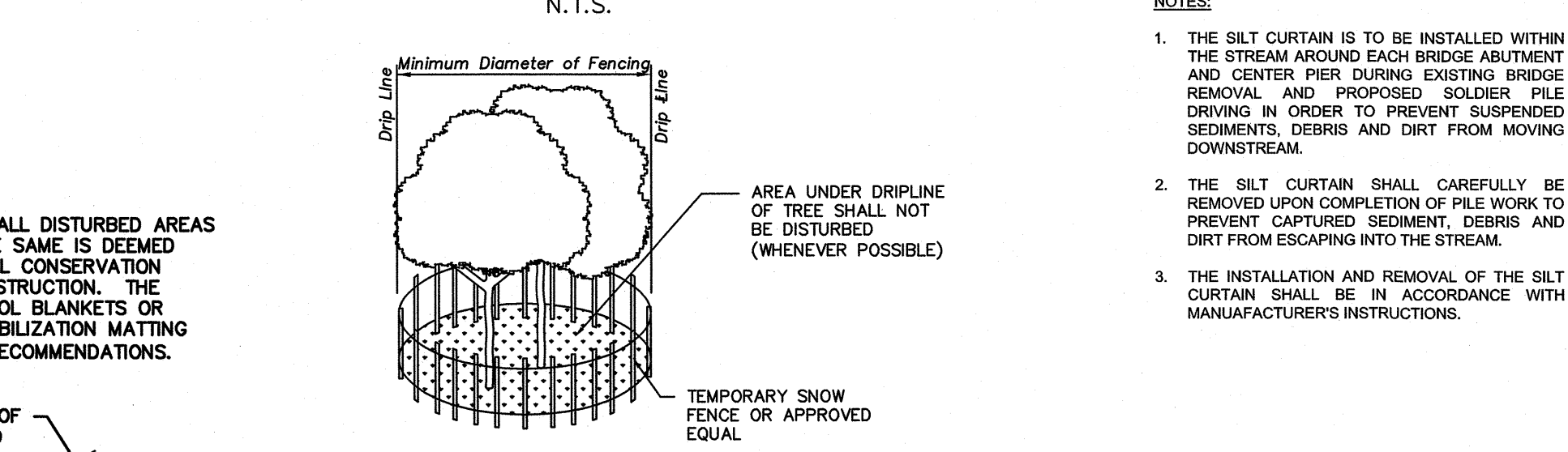
- PERMANENT SEEDING SPECIFICATIONS:**
- APPLY FERTILIZER AND LIME IN THE SAME RATES AS DENOTED IN THE TEMPORARY SEEDING SPECIFICATIONS ABOVE.
 - APPLY THE FOLLOWING SEED MIXTURE ONLY DURING SPECIFIED PLANTING DATES AT THE SPECIFIED RATES.
 - FINE FESCUE (BLEND) - 45 LBS. PER ACRE
 - HARD FESCUE - 20 LBS. PER ACRE
 - CHEWING FESCUE - 5 LBS. PER ACRE
 - OR STRONG CREEPING RED FESCUE
 - OR KENTUCKY BLUEGRASS
 - OR PERENNIAL RYEGRASS
 - APPLY MULCH AND MULCH ANCHORING AS SPECIFIED BELOW.

STOCKPILE DETAIL
N.T.S.

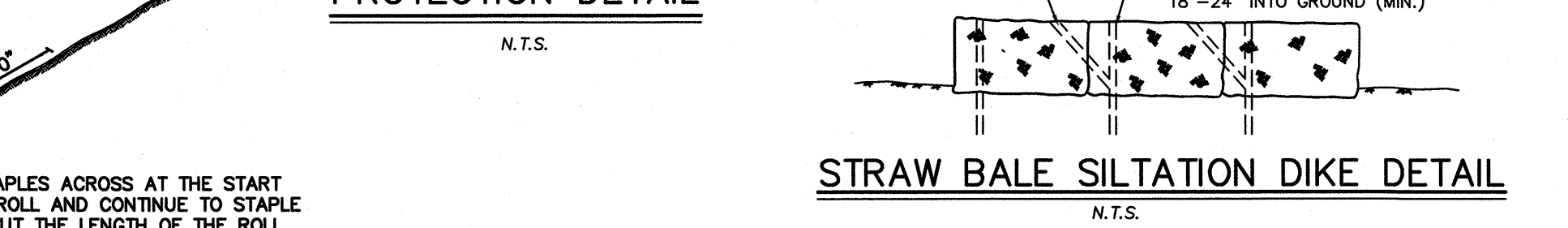
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



DETAIL - HEAVY DUTY IN STREAM SILT BARRIER
N.T.S.



TYPICAL TREE PROTECTION DETAIL
N.T.S.



STRAW BALE SILTATION DIKE DETAIL
N.T.S.

MULCHING

- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
- A. STRAW OR HAY, UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (TO 10 TO 20 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKLING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.
- APPLICATION: SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH. DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.
- ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS:
1. PEG AND TWINE, DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
 2. MULCH NETTINGS, STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
 3. CRIMPER (MULCH ANCHORING TOOL), A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL. SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVELABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE, NO TACKLING OR ADHESIVE AGENT IS REQUIRED.
 4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR HAY OR STRAW MULCH.

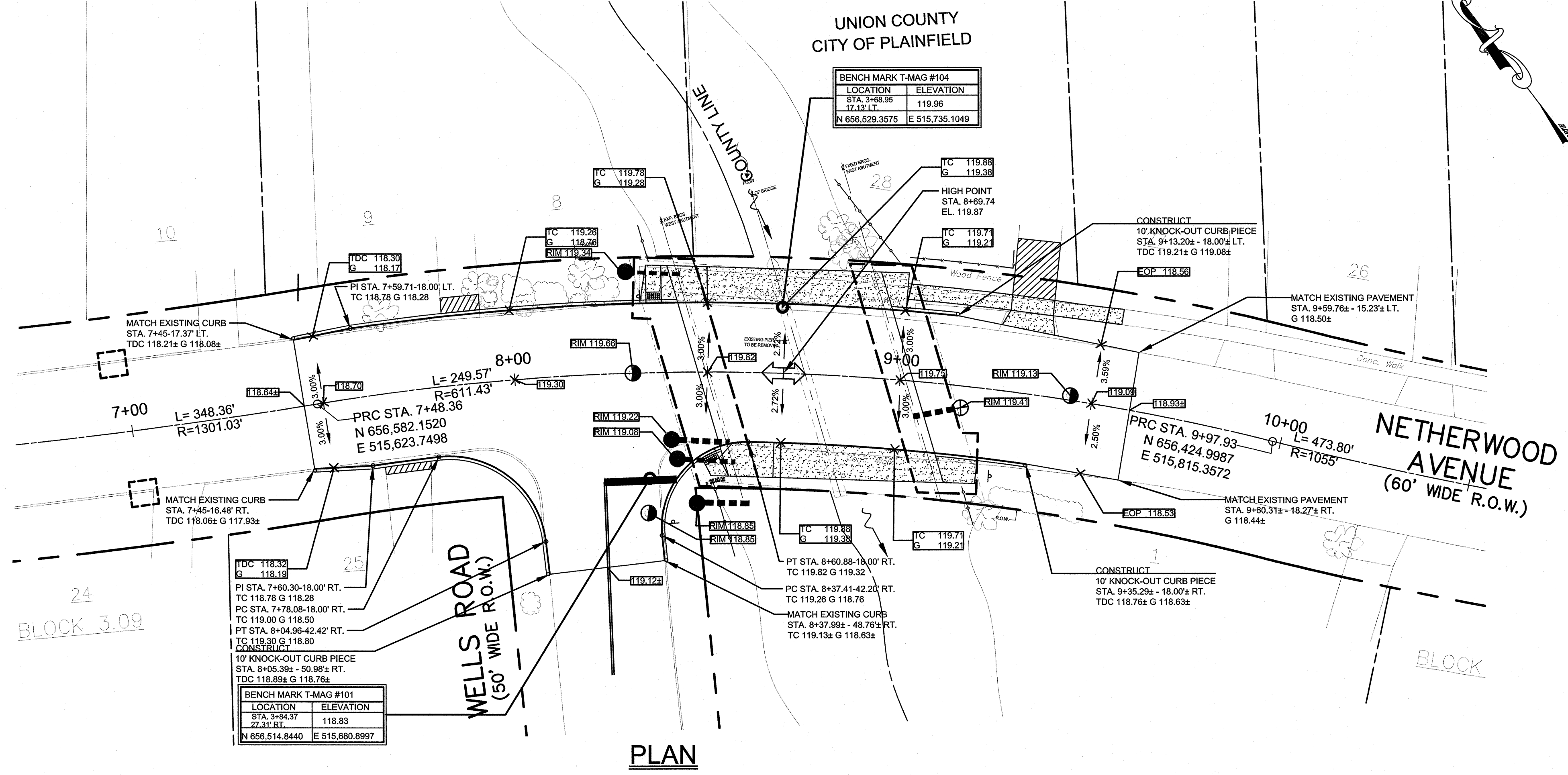
1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
 2. USE ONE OF THE FOLLOWING:
 - (1) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOXIC EFFECT OR IMPED GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE. SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
 - (2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
- NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

1. WOOD-FIBER OR PAPER-FIBER MULCH SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED AS HYDROSEEDING. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
2. PELLETIZED MULCH, COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH CONTAIN COPOLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS, THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60 TO 75 LBS. PER 1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

- PERMANENT SEEDING SPECIFICATIONS:**
- APPLY FERTILIZER AND LIME IN THE SAME RATES AS DENOTED IN THE TEMPORARY SEEDING SPECIFICATIONS ABOVE.
 - APPLY THE FOLLOWING SEED MIXTURE ONLY DURING SPECIFIED PLANTING DATES AT THE SPECIFIED RATES.
 - FINE FESCUE (BLEND) - 45 LBS. PER ACRE
 - HARD FESCUE - 20 LBS. PER ACRE
 - CHEWING FESCUE - 5 LBS. PER ACRE
 - OR STRONG CREEPING RED FESCUE
 - OR KENTUCKY BLUEGRASS
 - OR PERENNIAL RYEGRASS
 - APPLY MULCH AND MULCH ANCHORING AS SPECIFIED BELOW.

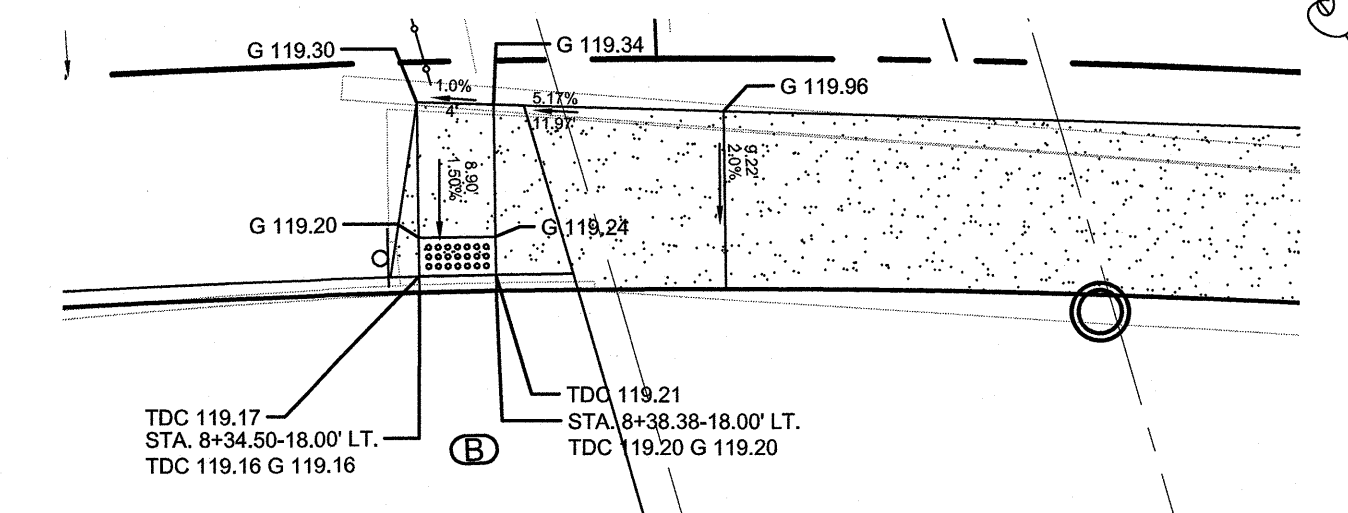
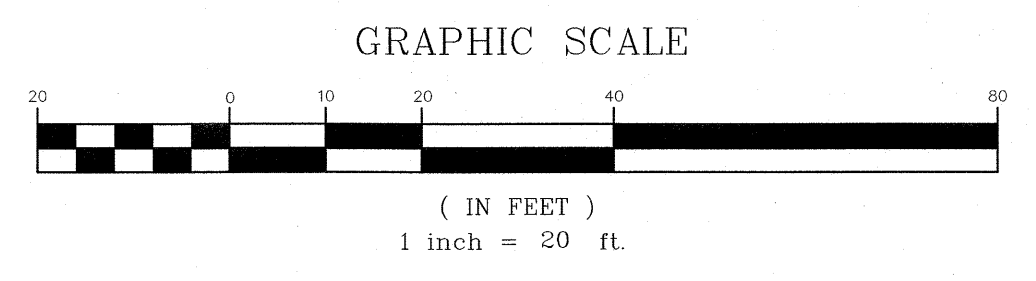
PUN00612.01



BENCH MARK T-MAG #104	
LOCATION	ELEVATION
STA. 3+68.95	119.96
12.83' LT.	
N 656,529.3575	E 515,735.1049

BENCH MARK T-MAG #101	
LOCATION	ELEVATION
STA. 3+94.37	118.83
27.31' RT.	
N 656,514.8440	E 515,680.8997

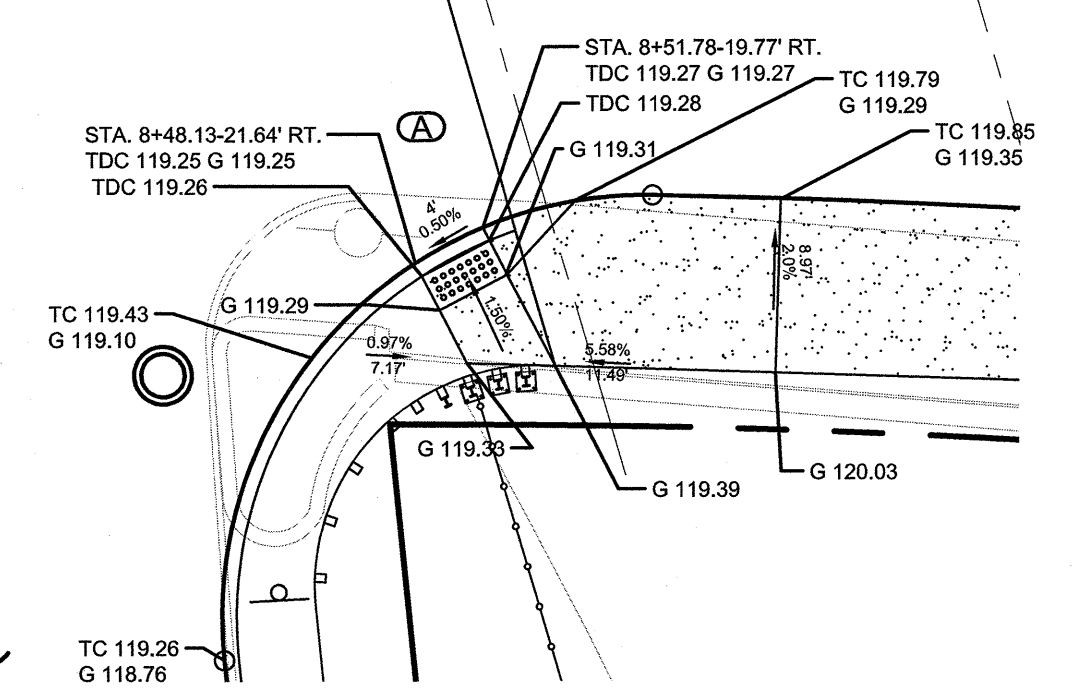
PLAN



NETHERWOOD AVENUE
(60' WIDE R.O.W.)

WELLS ROAD
(50' WIDE R.O.W.)

RAMPS A & B
Scale = 1"=10'



MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER U.C. 32468

Michael J. McClelland

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

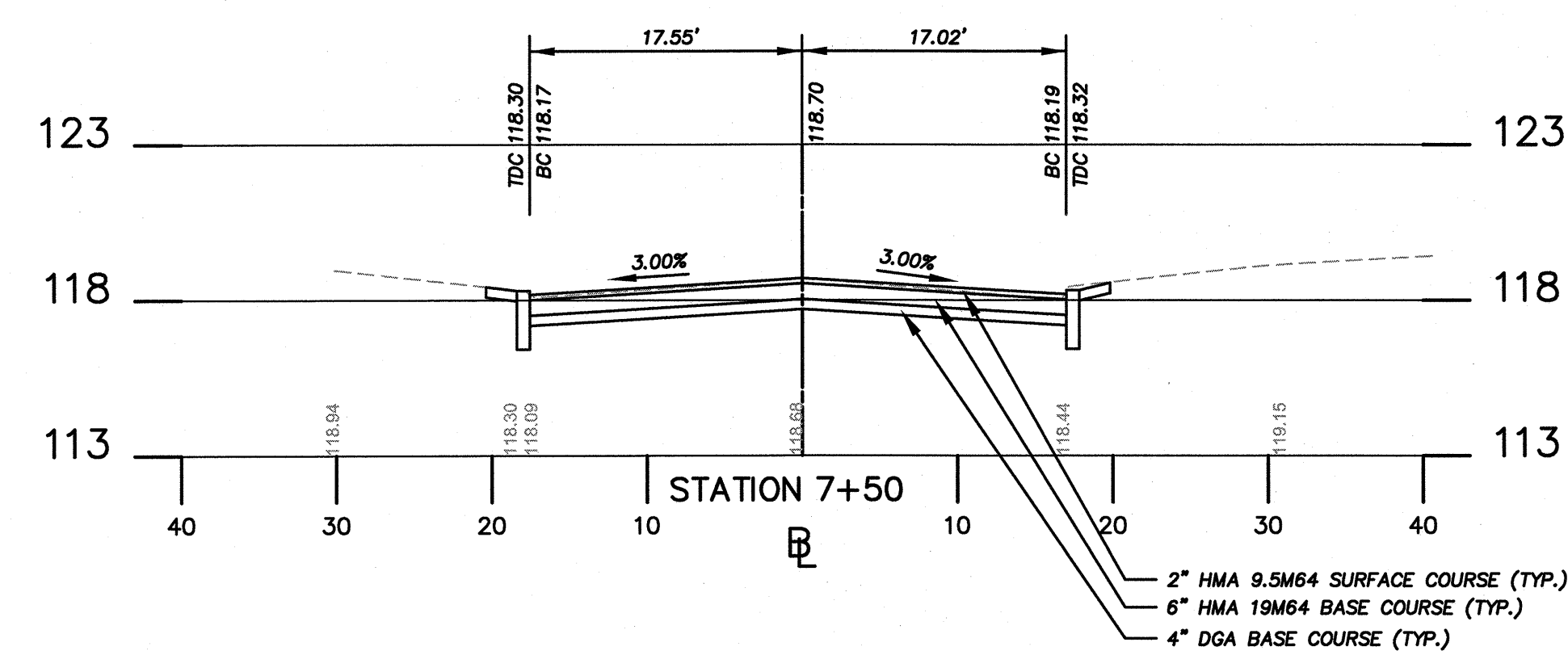
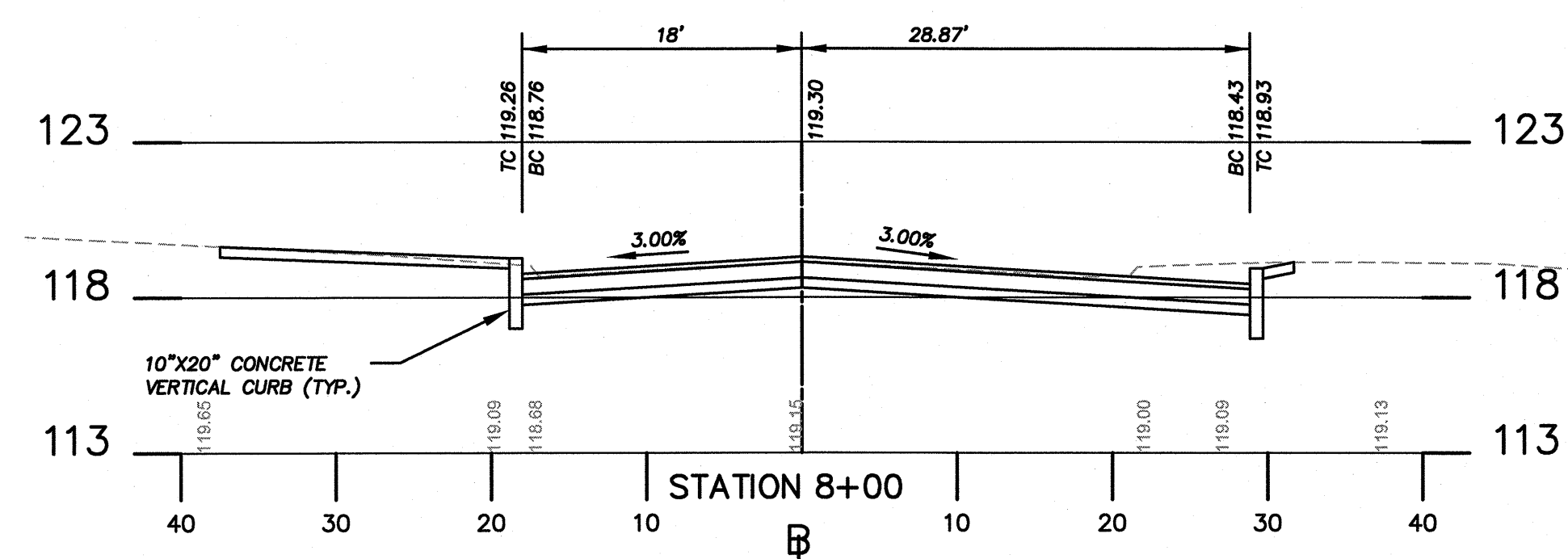
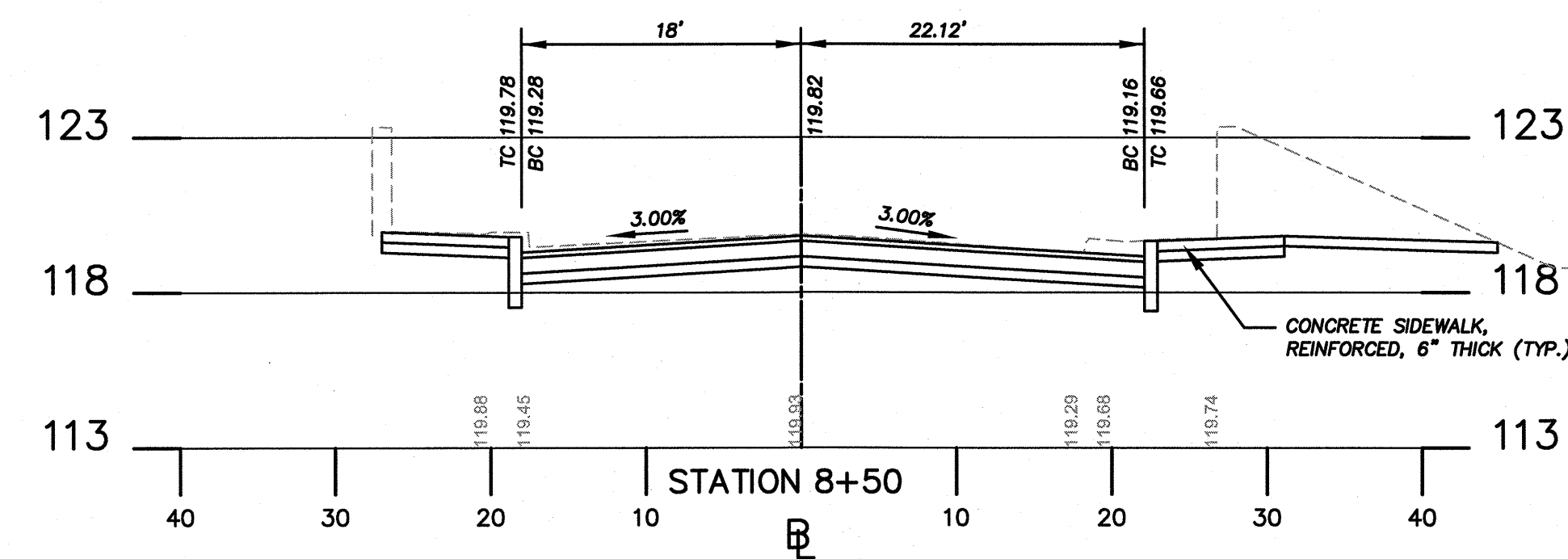
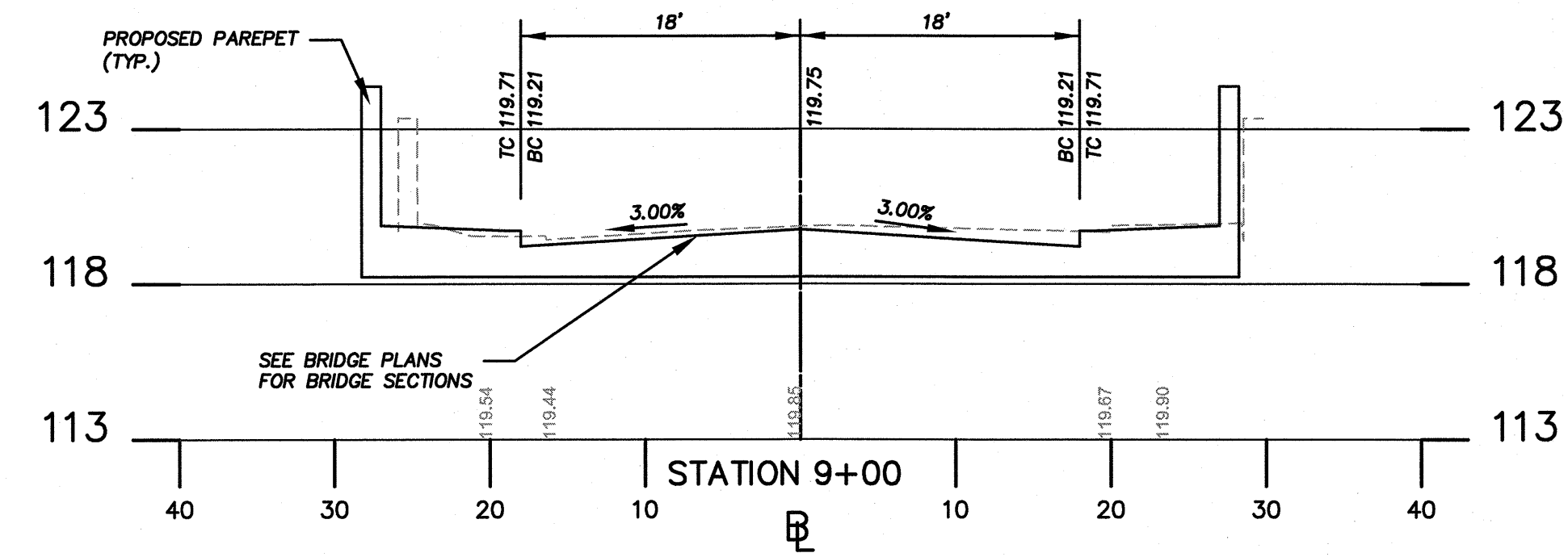
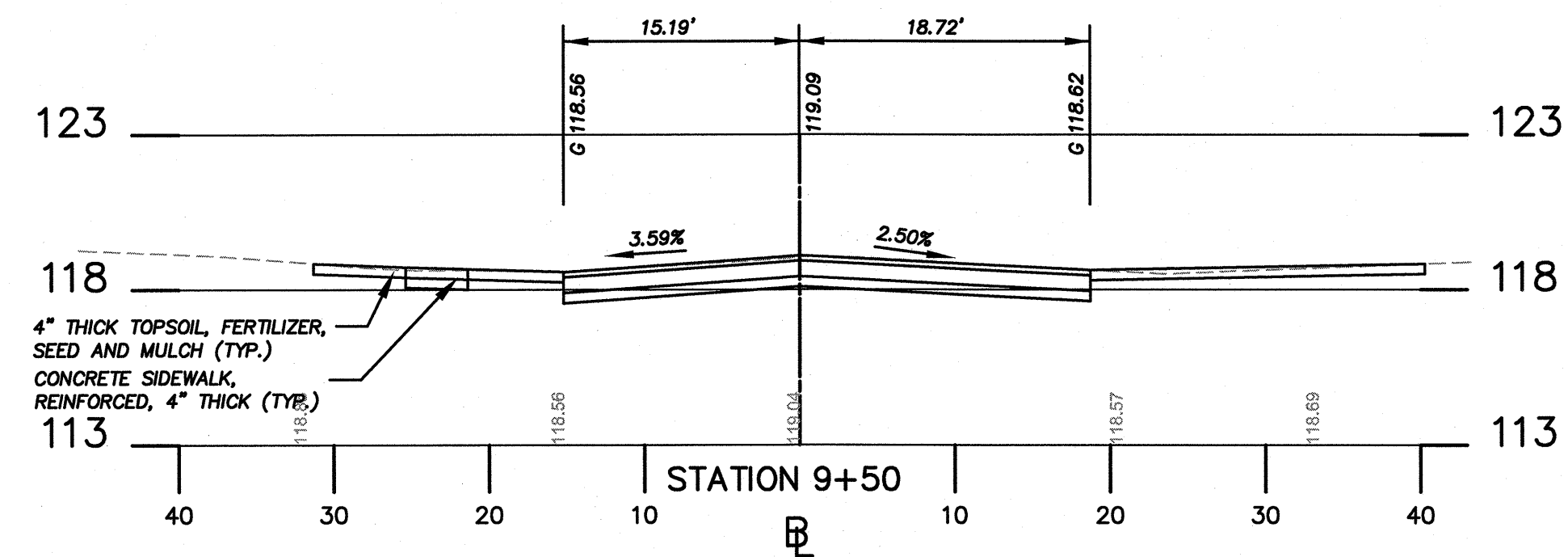
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

GRADING PLAN

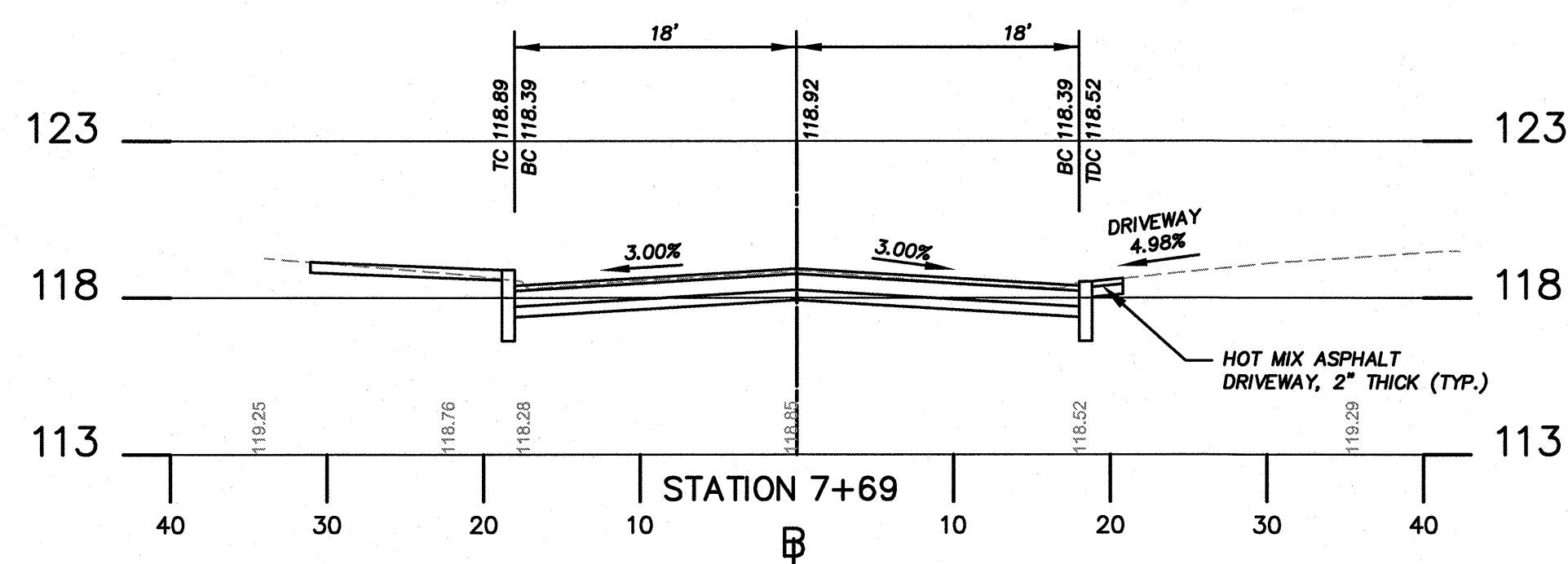
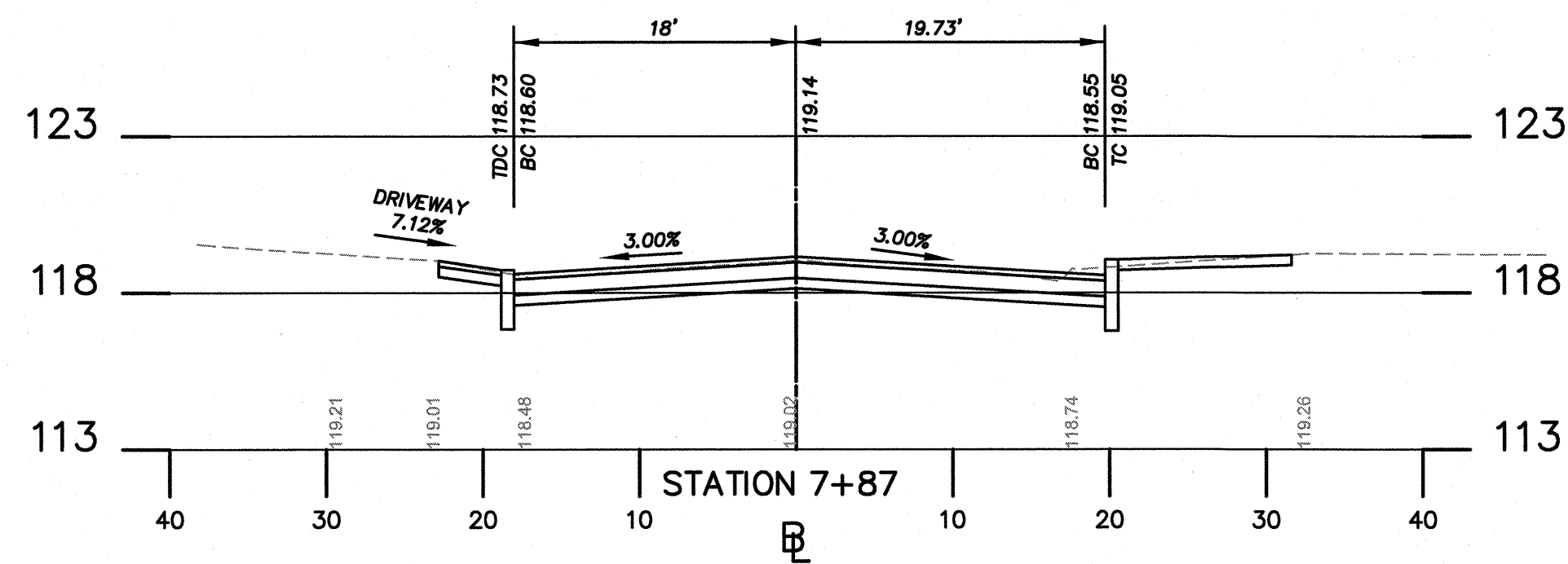
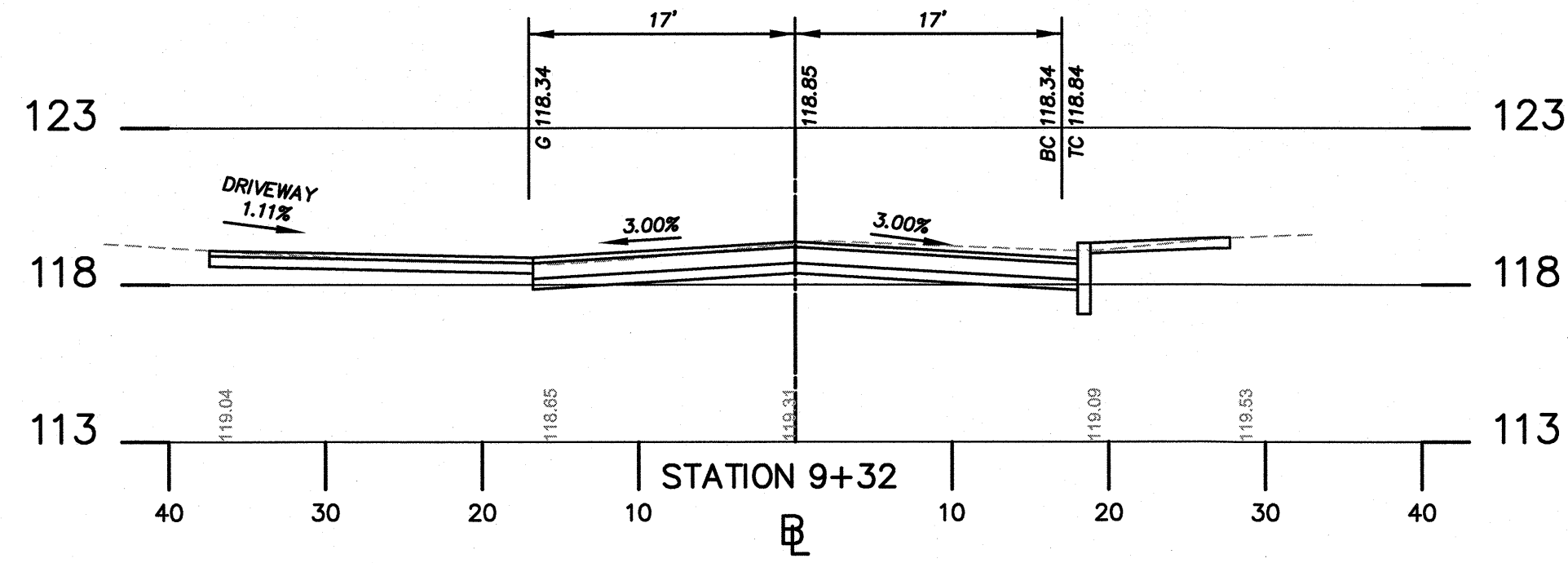
Designed By: Drawn By: Scale: AS SHOWN
AH AH Sheet No. 9 of 33
Checked By: Approved By: Drawing No.
Go Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



CROSS SECTIONS



CRITICAL SECTIONS

SCALE: 1"=10' (HOR.)
1"=5' (VERT.)



MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER J.C. 32468

Designed By: [Signature] Drawn By: AH
Checked By: [Signature] Approved By: AH

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE
REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

ROADWAY CROSS SECTIONS

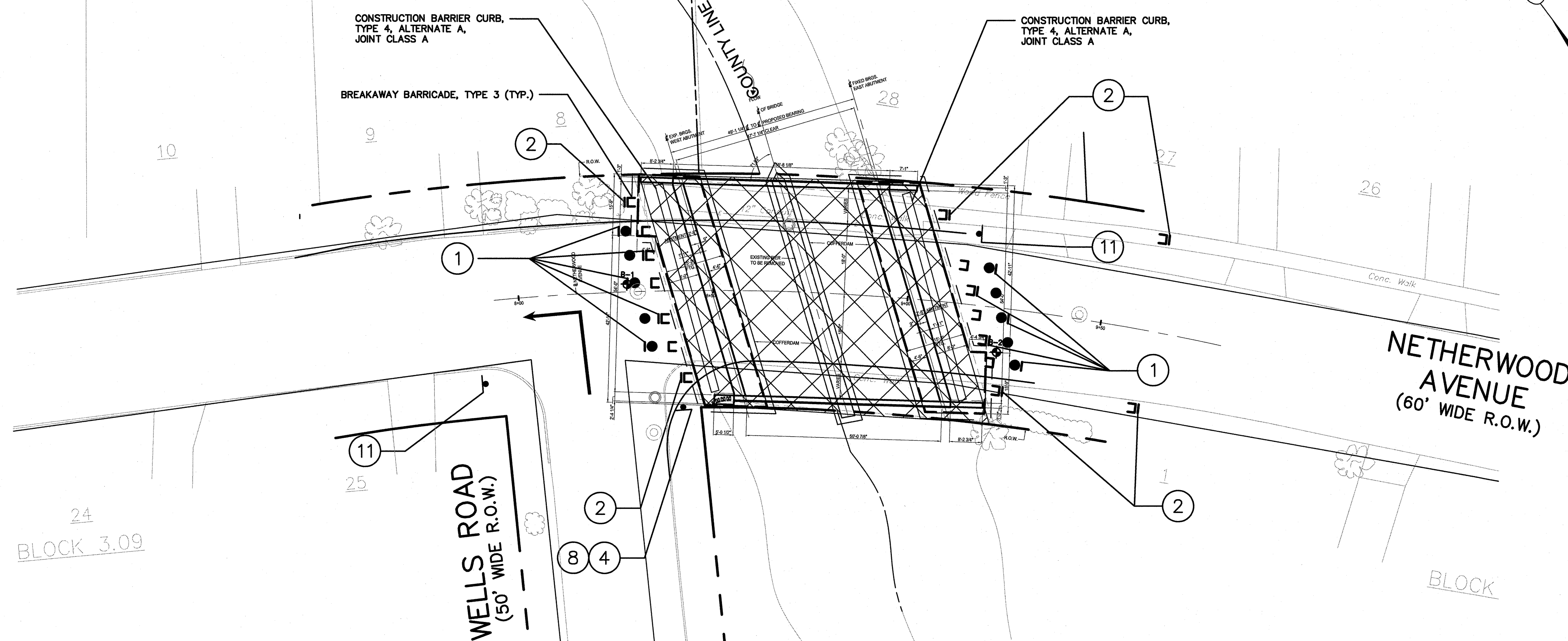
Scale: AS SHOWN
Sheet No. 10 of 33
Drawing No.
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

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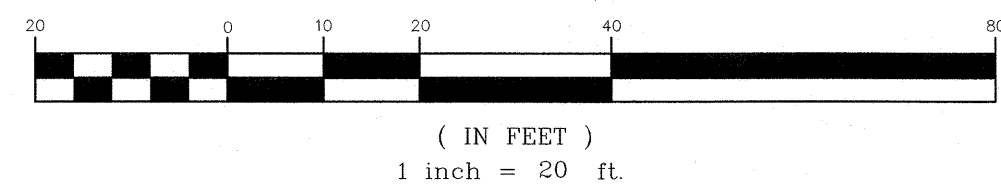
SOMERSET COUNTY
BOROUGH OF NORTH PLAINFIELD

UNION COUNTY
CITY OF PLAINFIELD



TRAFFIC CONTROL AND STAGING PLAN

GRAPHIC SCALE



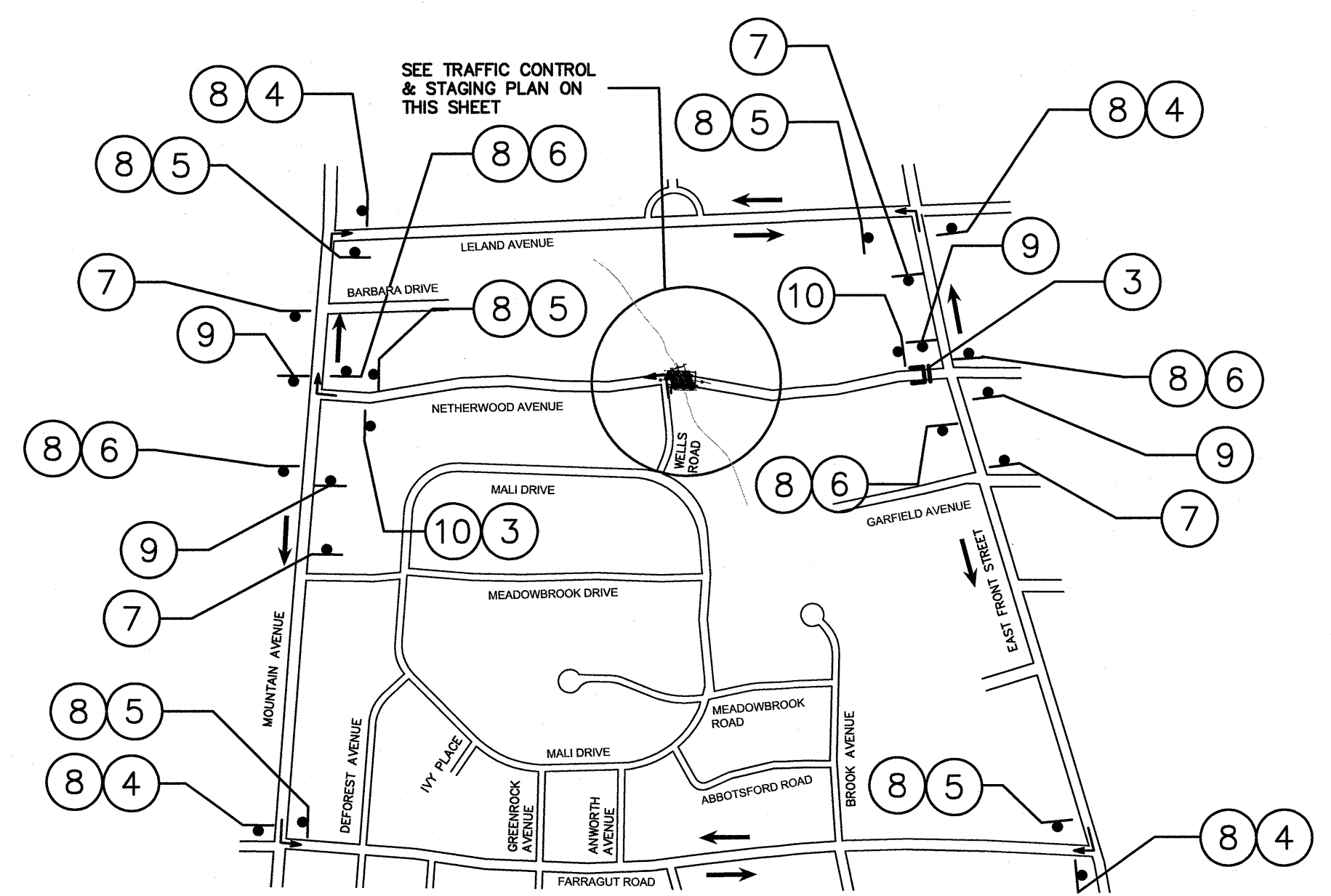
Construction Sign Legend						
Sign #	Sign Designation	Message	Size (Width X Height) Width (in.) Height (in.)	Area (SF)	# Required	Total Area (SF)
1	R11-2(Mod)	Bridge Closed	48 30	10	10	100
2	R9-9	Sidewalk Closed	24 12	2	6	12
3	R11-3(Mod)	Bridge Closed Feet Ahead Local Traffic Only	60 30	12.5	2	25
4	M4-9(L)	Detour Left	30 24	5	5	25
5	M4-9(R)	Detour Right	30 24	5	5	25
6	M4-9(S)	Detour Straight	30 24	5	4	20
7	M4-8A	End Detour	24 18	3	4	12
8	M4-9N	Netherwood Avenue	72 12	6	14	84
9	Sign A	Netherwood Ave. Closed Ahead Follow Detour	72 42	21	4	84
10	Sign B	On or About XXX XX, 20XX Netherwood Ave. Will Be Under Construction Plan Alt. Route	78 60	32.5	2	65
11	W20-3F(Mod)	Bridge Closed Ahead	36 36	9	2	18
					Construction Sign Total:	470

Item No.	To Be Constructed	Quantity	Unit
6	Breakaway Barricade	17	Units
7	Drum	10	Units
9	Construction Sign	470	SF
10	Construction Barrier Curb	110	LF

GENERAL NOTES

- INSTALL ALL TRAFFIC CONTROL MAINTENANCE & PROTECTION DEVICES IN ACCORDANCE WITH THE LATEST MUTCD, THE LATEST NJDOT STANDARDS, THE CONSTRUCTION STAGING PLANS AS SHOWN, & THE DIRECTION OF THE ENGINEER.
- USE DRUMS WHERE SHOWN ON THE PLANS IN CONJUNCTION WITH TEMPORARY STRIPING (4 INCH SOLID LINES) PLACED ADJACENT TO THE DRUMS AS DIRECTED BY THE ENGINEER.
- MAINTAIN ACCESS TO COMMERCIAL & RESIDENTIAL DRIVEWAYS AT ALL TIMES.
- PRIOR TO THE COMMENCEMENT OF ROADWAY WORK, VERIFY THAT ALL TRAFFIC CONTROL APPROVALS REQUIRED FROM THE STATE, EACH COUNTY, & ALL LOCAL AUTHORITIES HAVE BEEN OBTAINED AS APPROPRIATE. DO NOT PROCEED UNTIL ALL APPROVALS HAVE BEEN RECEIVED.
- ALL TRAFFIC CONTROL SUBJECT TO THE APPROVAL OF THE POLICE DEPARTMENTS IN PLAINFIELD & NORTH PLAINFIELD.
- CLOSE BRIDGE DURING THE CONSTRUCTION DURATION AS REQUIRED. EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO MINIMIZE THE DURATION OF THE ROAD CLOSURE.
- ENSURE POSITIVE CLOSURE OF BRIDGE AT ALL TIMES.
- REFER TO "NJDOT STANDARD TRAFFIC CONTROL DETAILS, TCD-1 & TCD-2" FOR GENERAL NOTES & DETAILS.
- DO NOT PERFORM NIGHTTIME CONSTRUCTION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE COUNTY.
- ERECT NO. 10 SIGNS A MINIMUM OF TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION.
- MOUNT SIGN NUMBERS 1, 2, 3, 12, & 13 ON BREAKAWAY BARRICADES.
- RESTRICT ON-STREET PARKING WITHIN WORK LIMITS. COORDINATE WITH LOCAL AUTHORITIES FOR SIGNAGE REQUIREMENTS.

1	BRIDGE CLOSED	R11-2 (MOD) 48"x30"			
2	SIDEWALK CLOSED	R9-9 24"x12"			
3	BRIDGE CLOSED FEET AHEAD LOCAL TRAFFIC ONLY	R11-3 (MOD) 60"x30"			
4	DETOUR	M4-9(L) 30"x24"			
5	DETOUR	M4-9(R) 30"x24"			
6	DETOUR	M4-9(S) 30"x24"			
7	END DETOUR	M4-8A 24"x18"			
8	Netherwood Ave	4"C M4-9N 72"x12"			
9	NETHERWOOD AVE CLOSED AHEAD FOLLOW DETOUR		6"C 6"C	SIGN A 72"x42"	
10	ON OR ABOUT XXX XX, 20XX NETHERWOOD AVE WILL BE UNDER CONSTRUCTION PLAN ALT. ROUTE		4"C 6"C 6"C 6"C	SIGN B 78"x60"	
11	BRIDGE CLOSED AHEAD				W20-3F (MOD) 36"x36"



DETOUR PLAN
SCALE: NOT TO SCALE

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER
LIC. 32468

DESIGNED BY: *[Signature]*
DRAWN BY: *[Signature]*
CHECKED BY: *[Signature]*
APPROVED BY: *[Signature]*

Revisions
Date: 05/2017 By: NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

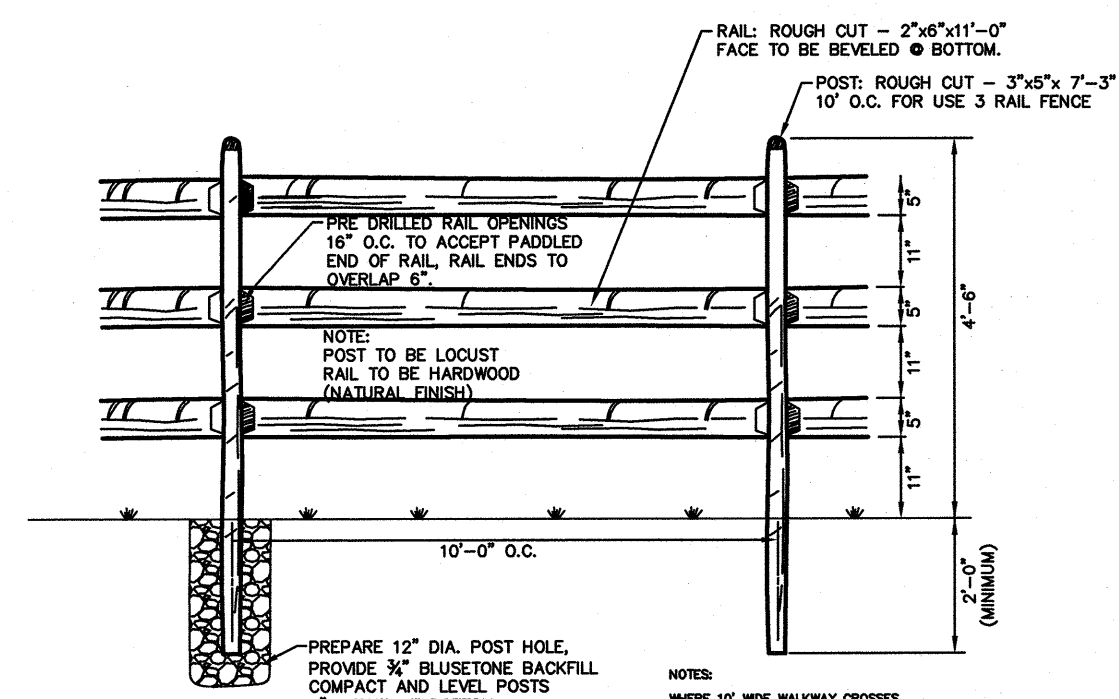
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

NETHERWOOD AVENUE DETOUR PLAN

Scale: AS SHOWN
Sheet No. 12 of 33
Drawing No.
Date: June 2016

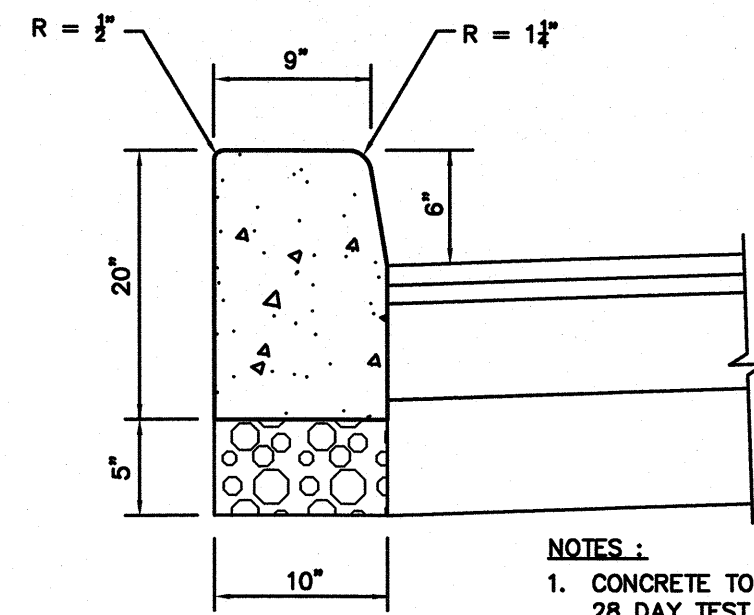
Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



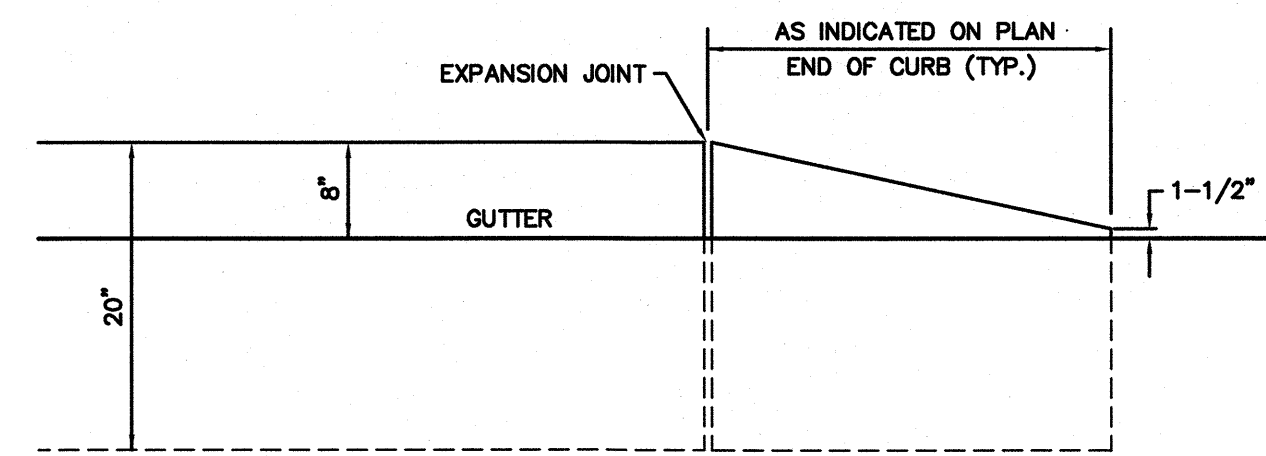
POST AND RAIL FENCE DETAIL

N.T.S.



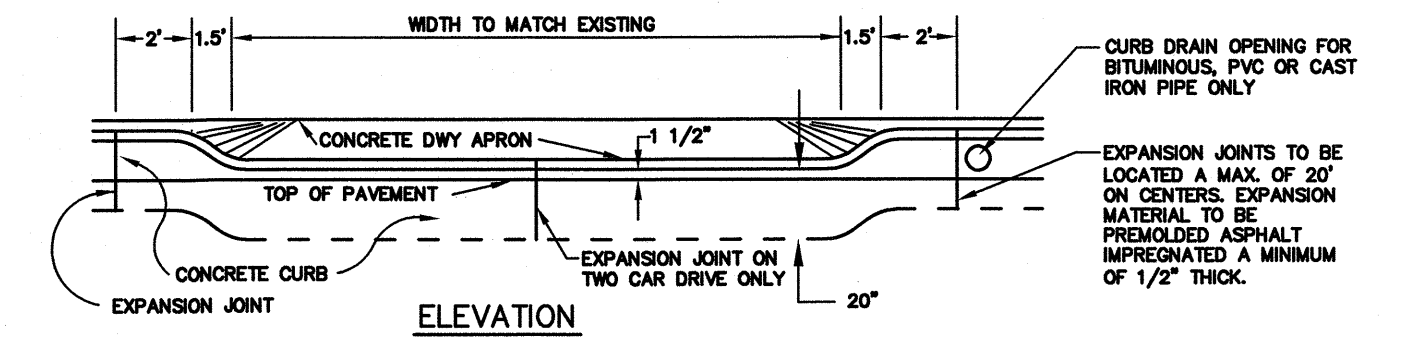
TYPICAL 10"x 20" CURB DETAIL

N.T.S.

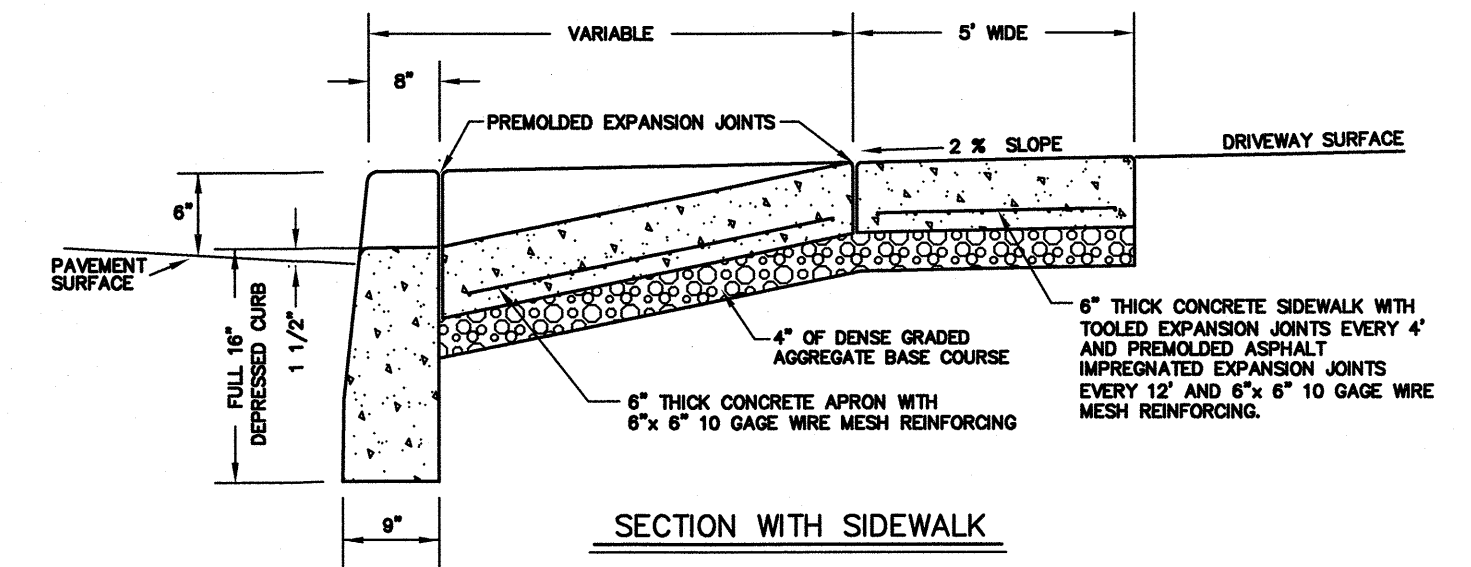


KNOCKOUT CURB

N.T.S.

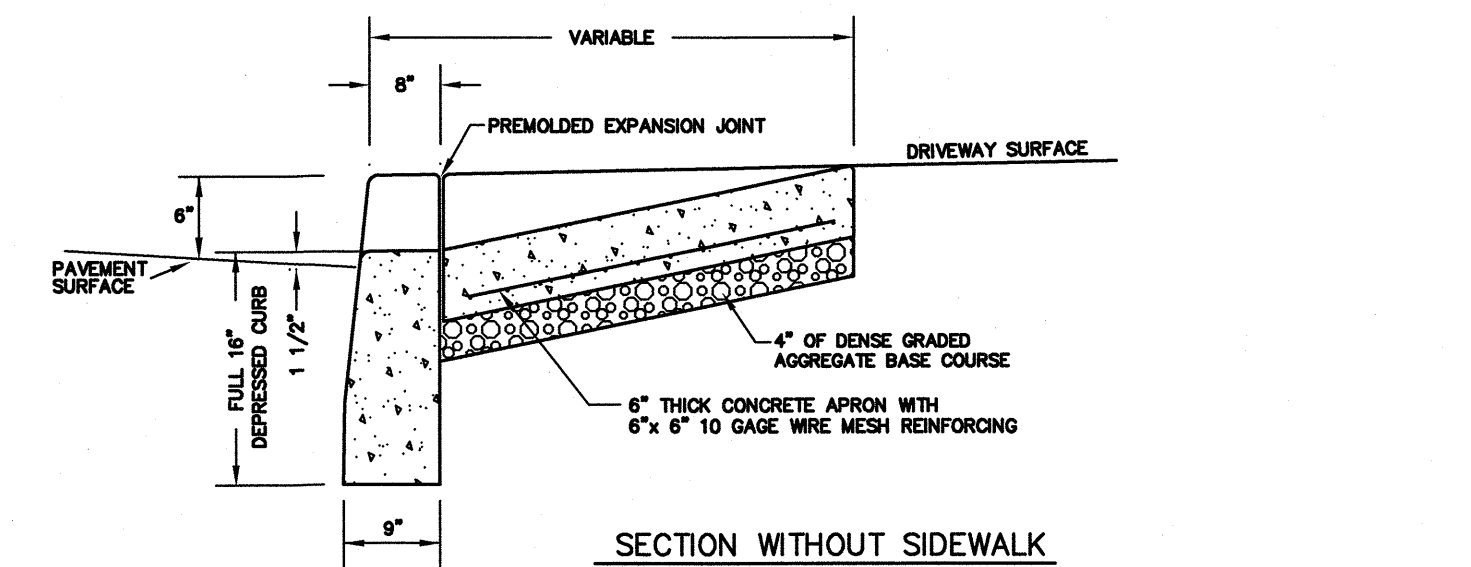


ELEVATION



SECTION WITH SIDEWALK

NOTE: ALL CONCRETE TO BE 4500 psi MIN.

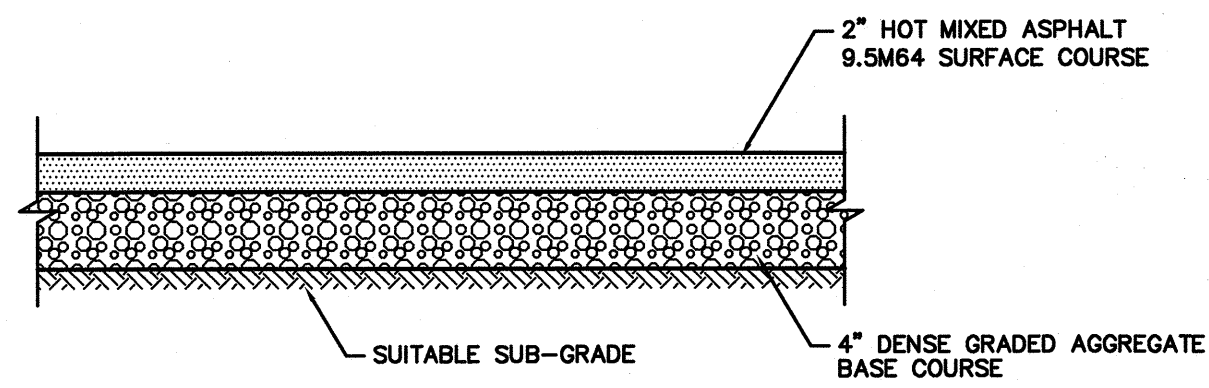


SECTION WITHOUT SIDEWALK

NOTE: ALL CONCRETE TO BE 4500 psi MIN.

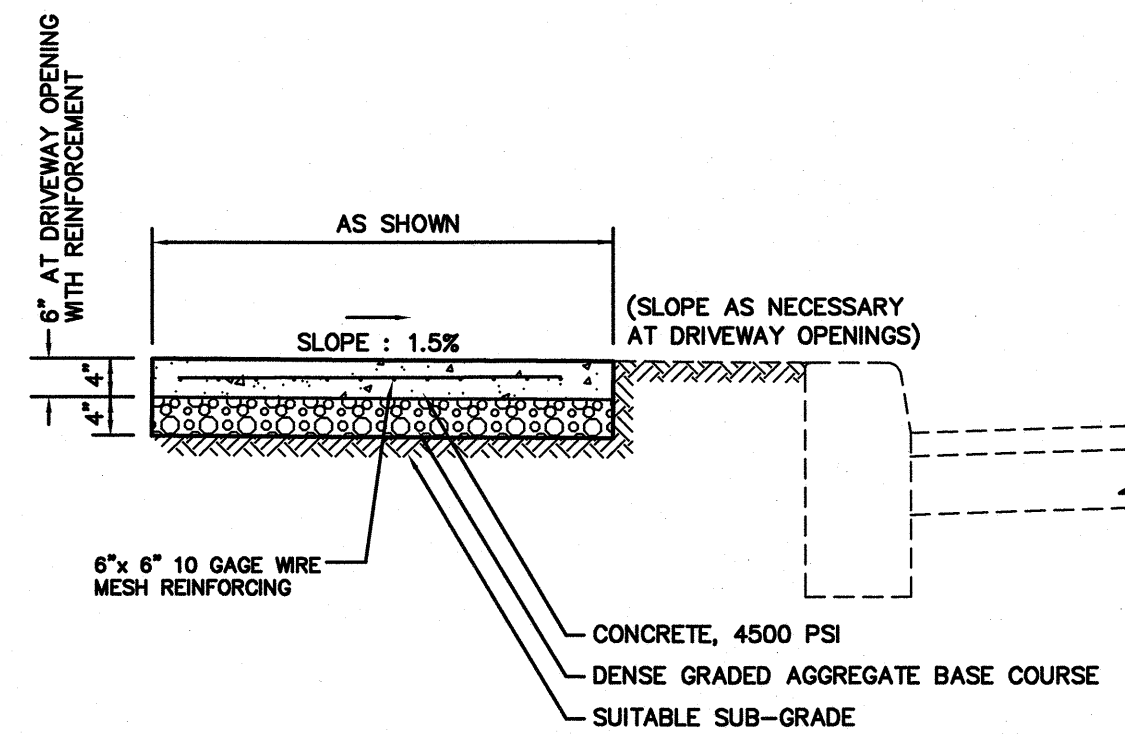
DRIVEWAY ENTRANCE
DEPRESSED CURB, DRIVEWAY APRON & SIDEWALK

N.T.S.



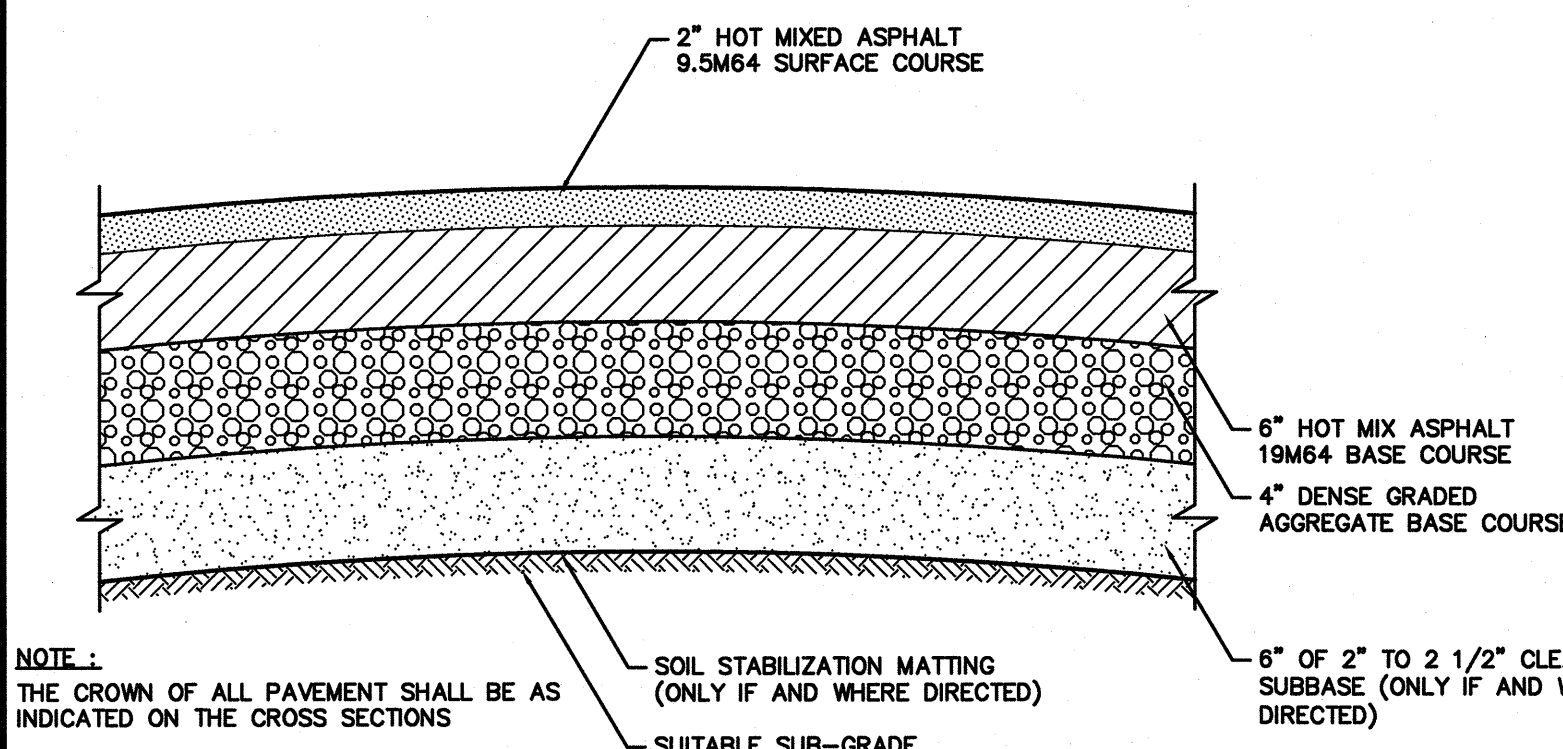
DRIVEWAY REPLACEMENT DETAIL

N.T.S.



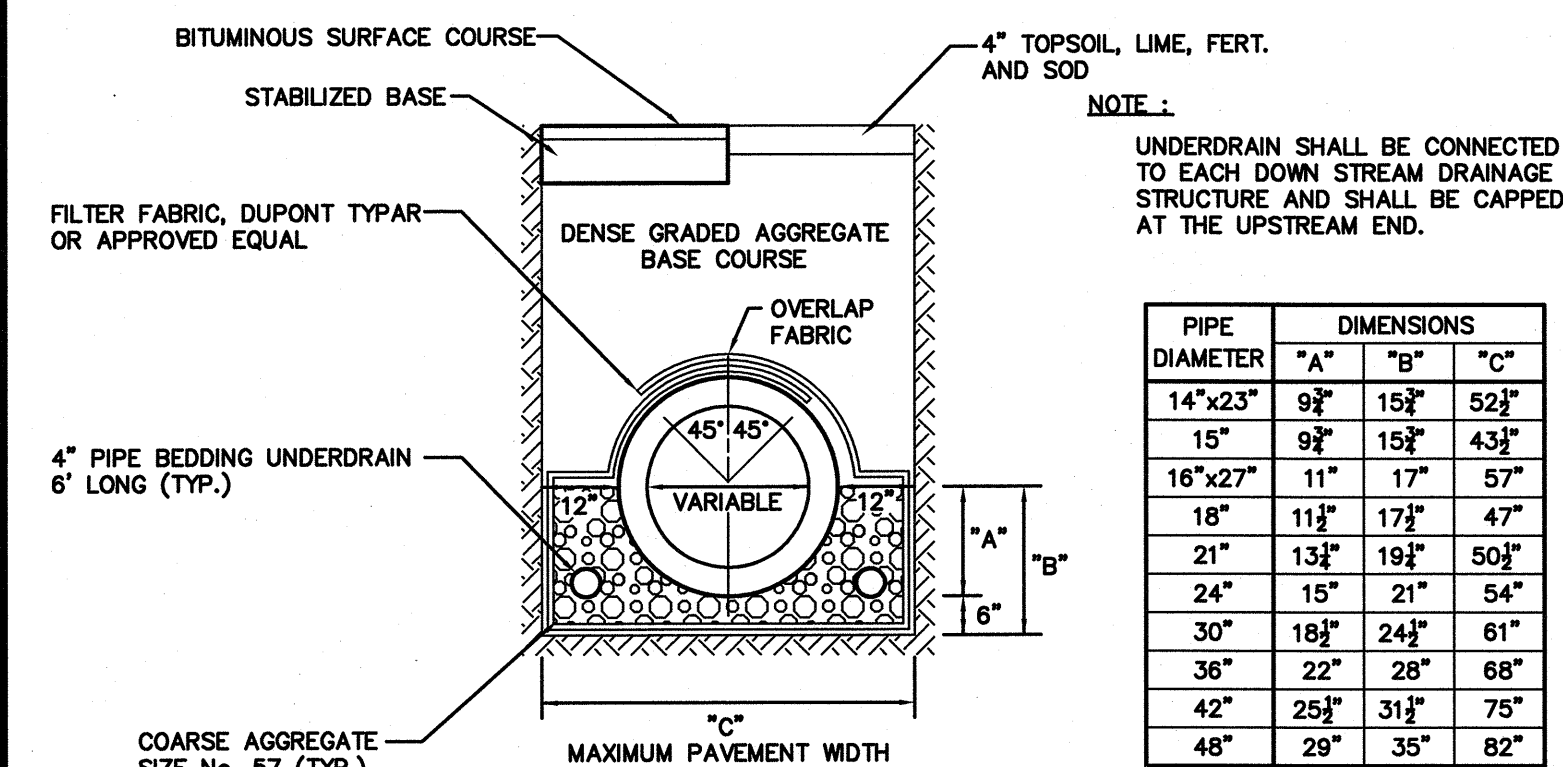
COUNTY SIDEWALK DETAIL

N.T.S.



TYPICAL PAVEMENT DETAIL

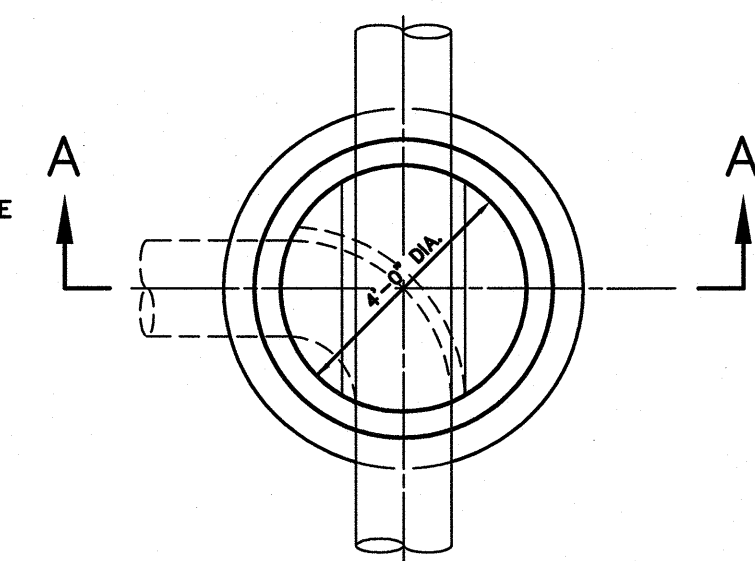
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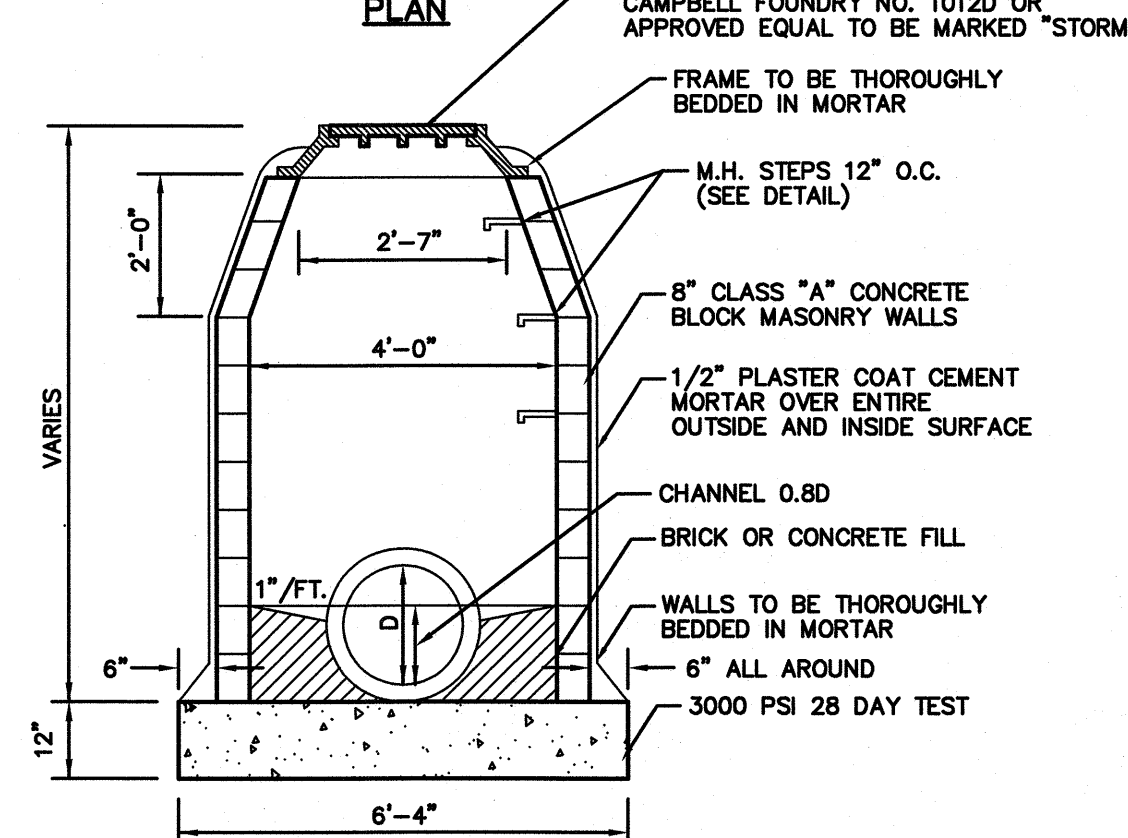
TYPICAL PIPE BEDDING
STORM SEWER

N.T.S.

PIPE DIAMETER	DIMENSIONS		
	"A"	"B"	"C"
14"x23"	9 1/2"	15 1/2"	52"
15"	9 1/2"	15 1/2"	43 1/2"
16"x27"	11"	17"	57"
18"	11 1/2"	17 1/2"	47"
21"	13 1/2"	19 1/2"	50 1/2"
24"	15"	21"	54"
30"	18 1/2"	24 1/2"	61"
36"	22"	28"	68"
42"	25 1/2"	31 1/2"	75"
48"	29"	35"	82"



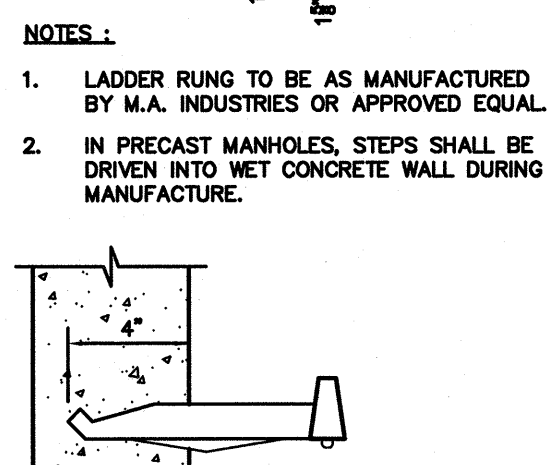
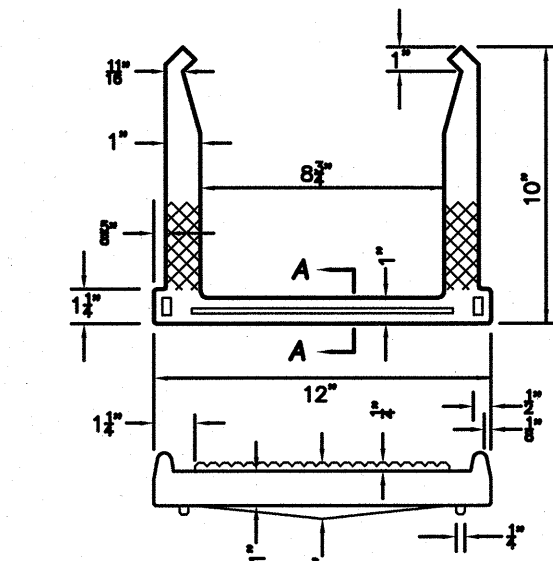
PLAN



SECTION A-A

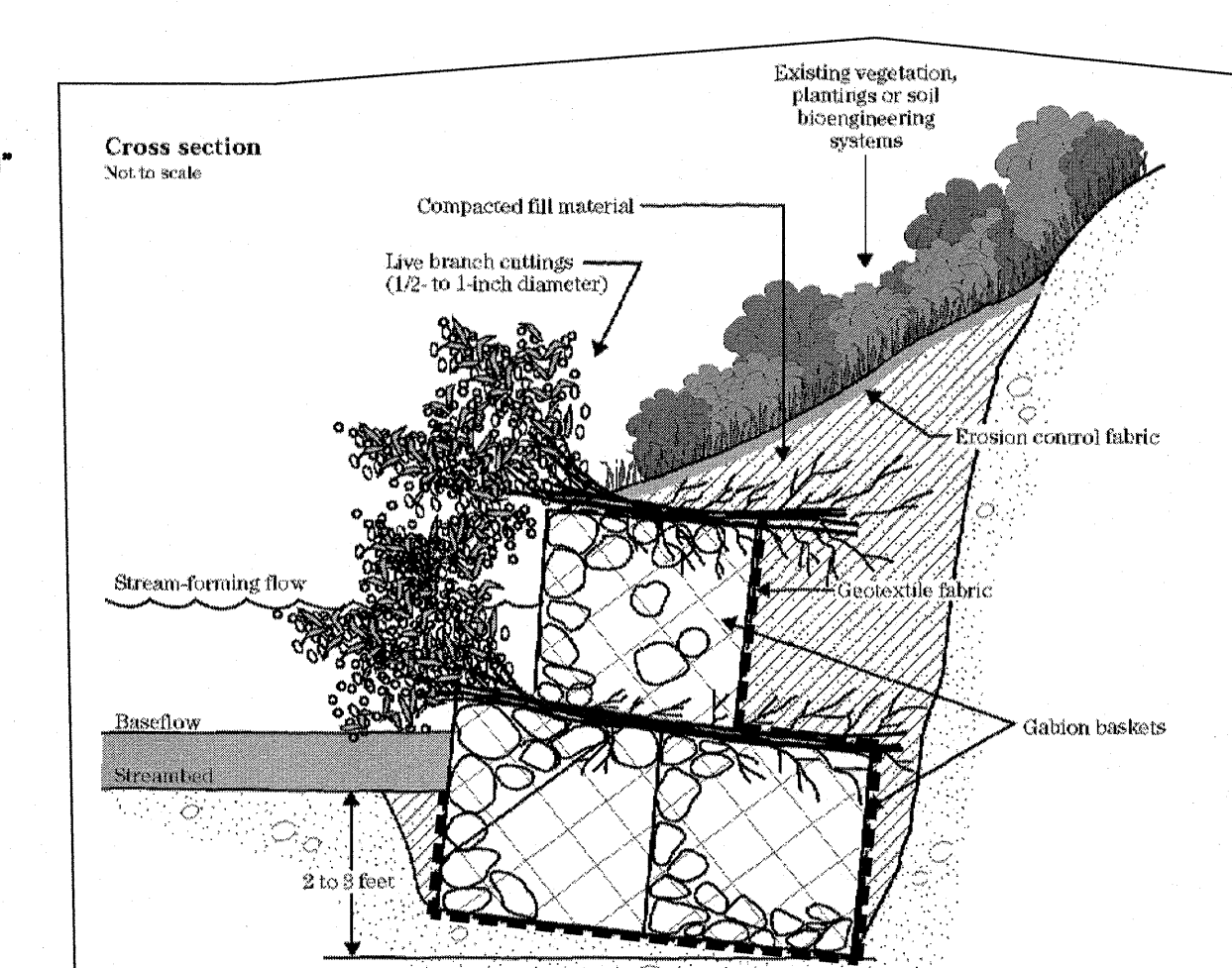
STORM SEWER MANHOLE

N.T.S.



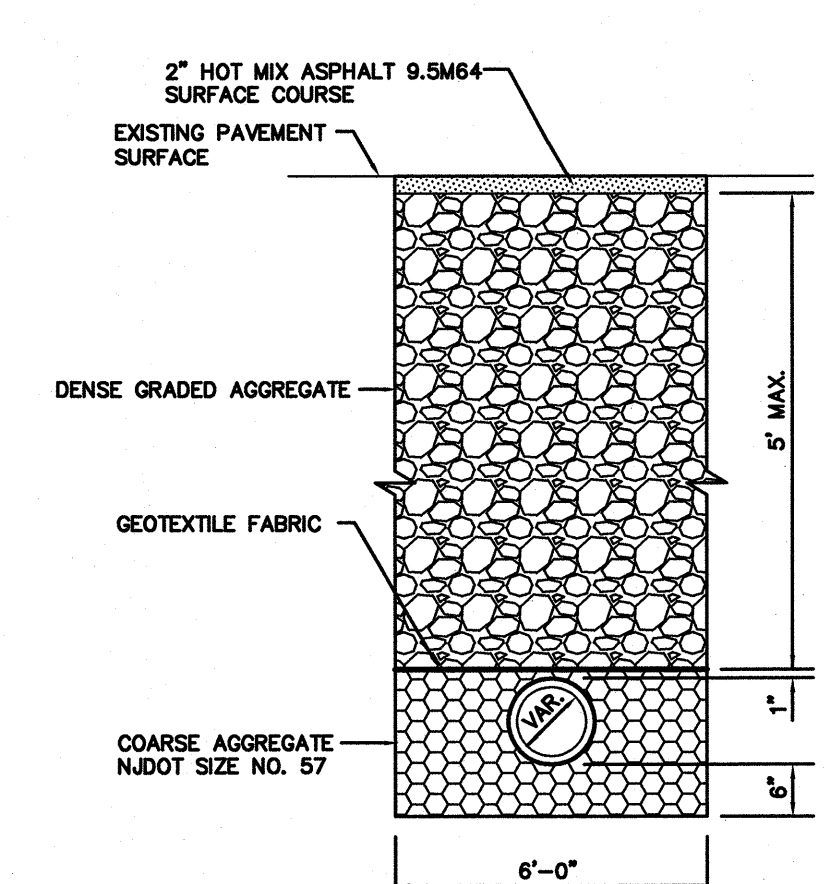
POLYPROPYLENE LADDER
RUNG DETAIL

N.T.S.



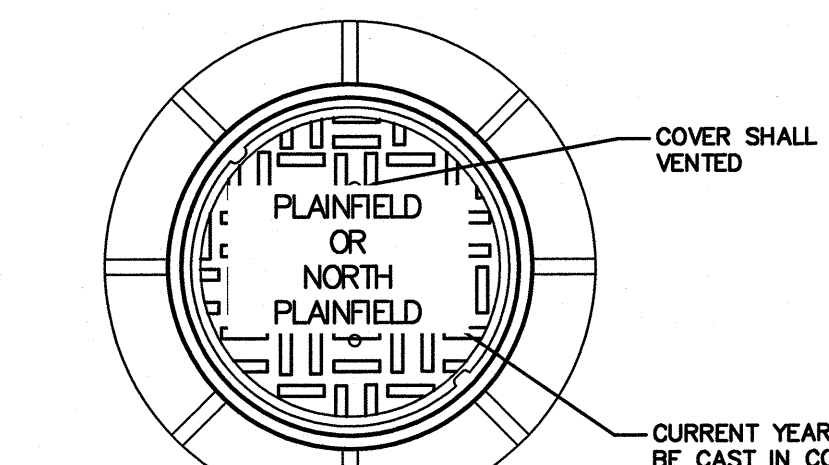
VEGETATED ROCK GABION AND
LIVE BRANCH CUTTINGS DETAIL

N.T.S.



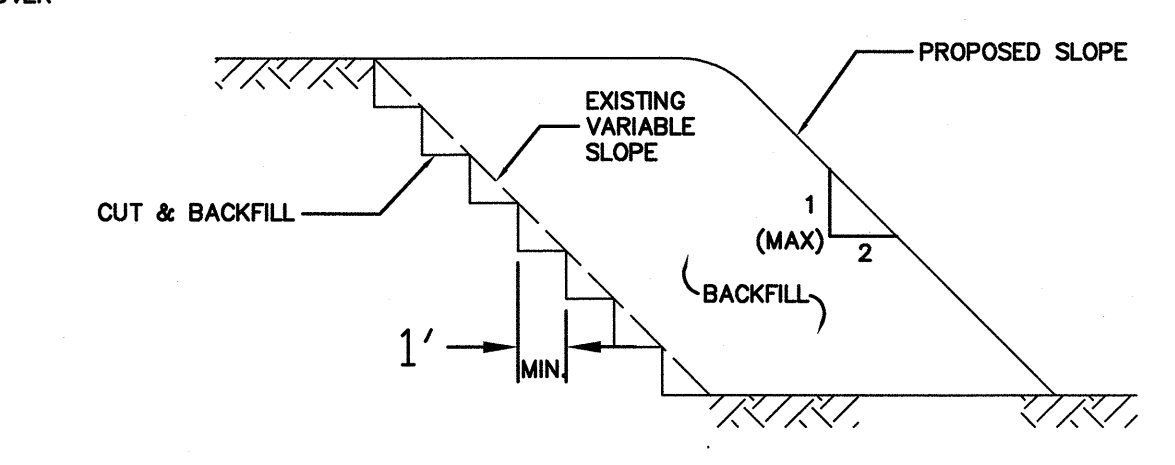
TEMPORARY TRENCH REPAIR

N.T.S.



TYPICAL STORM SEWER
MANHOLE FRAME & COVER

N.T.S.



BENCHING DETAIL

N.T.S.

OXE ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
841 BORDENTOWN AVENUE, PARLIN, NEW JERSEY 08859
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER
LIC. 32468

Michael J. McClelland

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

**NETHERWOOD AVENUE BRIDGE
REPLACEMENT, PL-37**

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

CONSTRUCTION DETAILS

Scale: AS SHOWN
Sheet No. 13 of 33
Drawing No.
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

GENERAL NOTES:

- DESIGN SPECIFICATIONS:**
 - 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, AS MODIFIED BY SECTION 3 OF THE 2016 NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES, 6TH EDITION.
- CONSTRUCTION SPECIFICATIONS:**
 - 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS MODIFIED BY THE SPECIAL PROVISIONS AND THE MIDDLESEX COUNTY SUPPLEMENTARY SPECIFICATIONS.
- LIVE LOAD:**
 - AASHTO LRFD HL-93 VEHICULAR LIVE LOAD.
- SUPERSTRUCTURE**
 - DEAD LOAD INCLUDES A SUPERIMPOSED DEAD LOAD OF 25 PSF FOR FUTURE 2" THICK OVERLAY ON BRIDGE DECK.
 - SEE BRIDGE DRAWINGS FOR ADDITIONAL DETAILS AND NOTES.
- SEISMIC DESIGN NOTES:**
 - SEISMIC PERFORMANCE ZONE I
 - BRIDGE OPERATIONAL CATEGORY: ESSENTIAL BRIDGE
 - PEAK GROUND ACCELERATION (PGA) = 0.155 x g
 - SPECTRAL ACCELERATION COEFFICIENTS
SHORT PERIOD (0.2 SEC) ACCELERATION COEFFICIENT (S_s) = 0.261 x g
1 SECOND PERIOD ACCELERATION COEFFICIENT (S₁) = 0.070 x g
 - SITE CLASSIFICATION: "D" STIFF SOIL PROFILE
F_{pga} = 1.491 As = F_{pga} x PGA = 0.230 x g
Fa = 1.591 S_{ds} = Fa x S_s = 0.277 x g
Fv = 2.400 S_{d1} = Fv x S₁ = 0.112 x g
- CONCRETE DESIGN STRESSES:**
 - IN ACCORDANCE WITH SECTION 27.1 OF THE NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES, 6TH EDITION, THE FOLLOWING ARE THE RECOMMENDED MINIMUM DESIGN COMPRESSIVE STRENGTHS REQUIRED FOR CAST-IN-PLACE (CIP) AND PRECAST CONCRETE (PC), UNLESS OTHERWISE NOTED ON THE DRAWINGS:
 - CLASS A (CIP APPROACH SLABS)4,000 PSI
 - CLASS B (CIP ABUTMENTS, WINGWALLS, FOOTINGS)3,000 PSI
 - CLASS HPC-1 (CIP DECKS, SIDEWALKS, CONCRETE PATCH, PARAPETS, CURBS AND PYLONS)4,000 PSI
 - CLASS P (PRECAST BEAMS OR CULVERTS)5,000 PSI
 - IN ACCORDANCE WITH TABLES 903.03.06-3, 903.05.02-1 AND 903.05.04-1 OF THE 2007 NJDOT STANDARD SPECIFICATIONS, THE FOLLOWING ARE THE SPECIFIED MINIMUM COMPRESSIVE STRENGTHS REQUIRED FOR CAST-IN-PLACE (CIP) AND PRECAST CONCRETE (PC), UNLESS OTHERWISE NOTED ON THE DRAWINGS:
 - CLASS DESIGN STRENGTHS:

CLASS A	.....4,600 PSI
CLASS B	.....3,700 PSI
CLASS HPC-1	.....4,400 PSI
CLASS P	.....5,500 PSI
 - VERIFICATION STRENGTHS:

CLASS A	.....5,400 PSI
CLASS B	.....4,500 PSI
CLASS HPC-1	.....5,400 PSI
CLASS P	.....6,000 PSI
 - ALLOWABLE STRESS, EXTREME FIBER IN COMPRESSION (f_c):

CLASS A	.....1,600 PSI
CLASS B	.....1,200 PSI
CLASS HPC-1	.....1,600 PSI
CLASS P	.....2,000 PSI
- REINFORCEMENT STEEL:**
 - ASTM A615 (GRADE 60), f_y = 60,000 PSI, f_w = 24,000 PSI
 - ALL REINFORCEMENT STEEL TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A767. ELECTRO PLATED GALVANIZING IS NOT ACCEPTABLE AND WILL BE REJECTED.
- BORINGS:**
 - INDICATES APPROXIMATE LOCATION OF THE PROJECT BORINGS. FOR LOCATIONS OF BORINGS, SEE DRAWING NO. B-3.
- ELEVATION DATUM:**
 - NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 1988)
 - CONVERSION TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD 29) IS 0.97' ADDED TO THE PROVIDED ELEVATIONS.
- STRUCTURAL STEEL**
 - STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270, GRADE 50 (ASTM A 709, GRADE 50) DESIGNATION, EXCEPT WHERE NOTED OTHERWISE.
 - STEEL SHEET PILING SHALL CONFORM TO ASTM A572 GRADE 50.
 - STEEL ANCHOR RODS SHALL CONFORM TO AASHTO M270, GRADE 50 ASTM A 709, GRADE 50.
- FOUNDATION DESIGN CRITERIA:**
 - BRIDGE AND WINGWALLS: USE SPREAD FOOTINGS ON SOIL. MAXIMUM ALLOWABLE SERVICE BEARING CAPACITY = 6,500 PSF.
 - FRICTION COEFFICIENT FOR SLIDING = 0.60 AND SOIL FRICTION ANGLE (φ) = 36°.
 - LOADS
 - UNIT WEIGHT OF SOIL 125 PCF
 - UNIT WEIGHT OF CONCRETE 150 PCF
- UTILITIES:**
 - UTILITY LOCATIONS SHOWN ON THESE PLANS ARE FROM ABOVE GROUND OBSERVATIONS AND RECORD INFORMATION PROVIDED BY THE VARIOUS UTILITY COMPANIES.
 - THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON INFORMATION AVAILABLE AT THE TIME OF THE DESIGN AND IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF ALL UNDERGROUND AND ABOVE GROUND UTILITIES WITHIN THE PROJECT LIMITS AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE POTENTIAL FOR CONFLICTS IN ORDER TO AVOID ANY DISRUPTION OF SERVICE.
 - NEW JERSEY ONE-CALL MUST BE CONTACTED AT 1-800-272-1000 AT LEAST THREE (3) FULL WORKING DAYS, BUT NOT MORE THAN TEN (10) DAYS, PRIOR TO THE PLANNED START DATE OF THE DIGGING OPERATIONS.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE FOR ALL UTILITY WORK ESSENTIAL FOR THE COMPLETION OF THE PROJECT AND TO COORDINATE THE WORK CARRIED ON BY THE PUBLIC UTILITIES WITH HIS OWN WORK. THE CONTRACTOR SHALL COOPERATE WITH UTILITY COMPANIES IN THE REMOVAL, RELOCATIONS AND REPLACEMENT OF UTILITIES. LOCATION OF RELOCATED UTILITIES SHALL BE VERIFIED WITH RESPECTIVE UTILITY COMPANIES. WHENEVER UNDERGROUND UTILITIES ARE ENCOUNTERED, THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS TO PREVENT BREAKAGE AND TO AVOID ANY DISRUPTION OF SERVICE.
 - THERE ARE VARIOUS OVERHEAD FACILITIES WITHIN THE PROJECT LIMITS. UNLESS THE RESPONSIBLE UTILITY ALLOWS HIM TO TEMPORARILY OR PERMANENTLY RELOCATE THESE FACILITIES, THE CONTRACTOR SHALL ASSUME THAT THE FACILITIES CANNOT BE SHUT DOWN FOR ANY SIGNIFICANT AMOUNT OF TIME. THEREFORE, THE CONTRACTOR SHALL STAGE HIS WORK AROUND THE OVERHEAD UTILITY LINES, INCLUDING ANY WORK REQUIRING THE USE OF CRANES, WHILE MEETING ALL OSHA STANDARDS, INCLUDING THE VOLTAGE PROXIMITY ACT. THE CONTRACTOR SHALL ALSO CONSIDER THE IMPACT OF THE OVERHEAD UTILITIES WHEN SCHEDULING OPERATIONS AND SELECTING EQUIPMENT TO PERFORM THE WORK REQUIRED FOR THIS PROJECT. PARTICULAR ATTENTION SHALL BE GIVEN TO THE TEMPORARY SHEETING/COFFERDAMS, PILES AND/OR BEAM ERECTION TO BE CONSTRUCTED IN THE VICINITY OF THE OVERHEAD UTILITIES. NO CLAIM FOR ADDITIONAL COMPENSATION OR EXTENSION IN CONTRACT TIME WILL BE CONSIDERED FOR PROBLEMS OR DELAYS ENCOUNTERED AS A RESULT OF WORKING IN THE VICINITY OF THE OVERHEAD UTILITIES.

GENERAL NOTES (CONTINUED):

- THERE MAY BE UNDERGROUND SEWER, GAS AND/OR OTHER EXISTING UTILITY LINES WITHIN THE PROJECT LIMITS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL UTILITY SERVICE FLOWS AND PRESSURES FOR THESE LINES, UNLESS WRITTEN APPROVAL BY THE RESPONSIBLE UTILITY PERMITS HIM TO DO OTHERWISE. NO SEPARATE PAYMENT WILL BE MADE FOR COORDINATION WITH THE UTILITY OR FOR THE TEMPORARY SUPPORT OF EXISTING FACILITIES TO REMAIN DURING CONSTRUCTION. ALL ASSOCIATED COSTS FOR SUCH WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR THE ITEM "CLEARING SITE".
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ADEQUATELY PROTECT THE EXISTING STRUCTURES, FACILITIES, UTILITIES AND/OR EQUIPMENT THAT ARE TO REMAIN. ANY DAMAGE WHATSOEVER TO THE EXISTING STRUCTURES, FACILITIES, UTILITIES AND/OR EQUIPMENT THAT ARE TO REMAIN RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.
- NO SEPARATE PAYMENT SHALL BE MADE FOR REMOVAL OF ITEMS THAT INTERFERE WITH CONSTRUCTION ACTIVITY, ITEMS DESIGNATED TO BE RELOCATED, AND NEW TRAFFIC SIGNS. ALL COSTS THEREOF ARE TO BE INCLUDED IN THE BID PRICE FOR THE PAY ITEM "CLEARING SITE".
- THE CONTRACTOR SHALL EXAMINE AND VERIFY IN THE FIELD ALL EXISTING CONDITIONS AND DIMENSIONS WITH THOSE SHOWN ON THE PLANS. IF FIELD CONDITIONS AND DIMENSIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL USE THE FIELD CONDITIONS AND DIMENSIONS AND MAKE THE APPROPRIATE CHANGES TO THOSE SHOWN ON THE PLANS AS APPROVED BY THE ENGINEER. THE RESULTS OF THIS CHECK OF CONDITIONS AND DIMENSIONS SHALL BE SO NOTED ON THE DRAWINGS SUBMITTED FOR APPROVAL.
- THERE SHALL BE NO CLAIM AGAINST THE COUNTY MADE BY THE CONTRACTOR FOR WORK PERTAINING TO MODIFICATIONS AS MAY BE REQUIRED DUE TO ANY DIFFERENCES BETWEEN ACTUAL FIELD CONDITIONS AND THE DETAILS AND DIMENSIONS SHOWN ON THE CONTRACT PLANS.
- ALL TEMPORARY SHEETING, SHEETING LEFT-IN-PLACE, AND ANY OTHER MEANS NECESSARY TO CONSTRUCT THE COFFERDAM SHALL BE INCLUDED IN THE BID PRICE FOR THE PAY ITEM, "MAINTENANCE OF STREAM FLOW".
- ROCK BACKFILL SHALL BE INSTALLED ADJACENT TO SUBSTRUCTURE WALLS, FOOTINGS AND RENO MATTRESS AS DIRECTED BY THE RESIDENT ENGINEER. THE WORK WILL BE PERFORMED ON AN "IF AND WHERE DIRECTED" BASIS.
- SHOP DRAWINGS**
THE CONTRACTOR IS REQUIRED TO SUBMIT FOR THE ENGINEER'S REVIEW AND APPROVAL SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW JERSEY FOR ALL CONCRETE REINFORCING STEEL PLACEMENT, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: FOOTINGS, ABUTMENTS, WINGWALLS, RETAINING WALLS, PARAPETS, BARRIERS, DECKS, APPROACH SLABS, SIDEWALKS, PRECAST CONCRETE CULVERTS AND/OR PRESTRESSED CONCRETE BOX BEAMS AND DIAPHRAGMS. THE CONTRACT DRAWINGS WILL NOT BE PERMITTED AS A SUBSTITUTE FOR THESE REQUIRED SHOP DRAWINGS UNDER ANY CIRCUMSTANCE. CONSTRUCTION WILL NOT BE ALLOWED TO PROCEED WITHOUT APPROVED SHOP DRAWINGS.

COFFERDAM NOTES:

- COFFERDAM SHALL BE CONSTRUCTED TO SEPARATE THE STREAM FLOW FROM EXCAVATED AREAS DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. THE COFFERDAM SHALL CONSIST OF PERMANENT AND/OR TEMPORARY STRUCTURAL MEMBERS (SEE BRIDGE DRAWINGS FOR ADDITIONAL DETAILS).
- THE PERMANENT AND/OR TEMPORARY COFFERDAM ELEMENTS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW JERSEY RETAINED BY THE CONTRACTOR, EXPERIENCED AND WELL QUALIFIED IN THE DESIGN OF EXCAVATION SUPPORT SYSTEMS. THE DESIGN SHALL CONSIDER MAINTENANCE OF EXCAVATION SUPPORT AND STREAM FLOW. SIGNED AND SEALED WORKING DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- THE PERMANENT COFFERDAM STEEL SHEETING SHALL EXTEND TO THE SURFACE OF THE ROCK AND SHALL BE SUPPORTED WITHIN THE ROCK LAYER AND OTHER OVERLYING SOIL LAYERS BY SOLDIER PILES DRILLED AND GROUTED INTO THE ROCK AT MAXIMUM 8 FEET ON CENTER AND SHALL BE DRILLED A MINIMUM OF 8 FEET OR DEEPER AS REQUIRED BY THE EXCAVATION SUPPORT DESIGN.
- THE SOLDIER PILES, IF APPLICABLE, SHALL BE FITTED WITH SHEET PILE INTERLOCKS TO PERMIT CONNECTION TO THE SHEET PILE INTERLOCKS INSTALLED BETWEEN SOLDIER PILES.
- THE COFFERDAM, IF APPLICABLE, SHALL BE PROVIDED WITH A MINIMUM 1 FOOT THICK PLAIN CONCRETE SEAL/WORKING MAT TO REDUCE INFLOW BENEATH THE BASE OF THE SHEETING. PROVISIONS SHALL BE MADE FOR INTERNAL DEWATERING TO MITIGATE THE DEVELOPMENT OF EXCESSIVE UPLIFT PRESSURES BENEATH THE SLABS.
- PREDRILLING OR ANY OTHER MEANS NECESSARY TO INSTALL THE COFFERDAM WILL NOT BE MEASURED. IF NECESSARY, PLACE A CONCRETE SEAL TO FACILITATE DEWATERING. ALL COSTS TO INSTALL THE TEMPORARY AND/OR PERMANENT PORTIONS OF THE COFFERDAM, CONCRETE SEAL AND CONCRETE WORKING MAT SHALL BE INCLUDED IN THE PAY ITEM "MAINTENANCE OF STREAM FLOW".

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT QUANTITY
13	CLEARING SITE	LS	1.00	
15	EXCAVATION, UNCLASSIFIED	CY	1,100	
18	I-11 SOIL AGGREGATE	CY	590	
19	I-14 SOIL AGGREGATE	CY	102	
29	TEMPORARY SHIELDING	LS	1.00	
30	MAINTENANCE OF STREAM FLOW	LS	1.00	
31	VIBRATION MONITORING	LS	1.00	
32	REINFORCEMENT STEEL IN STRUCTURES, HOT-DIPPED GALVANIZED	LB	62,175	
33	CONCRETE IN SUBSTRUCTURE: FOOTING	CY	220	
34	CONCRETE IN SUBSTRUCTURE: WINGWALL	CY	60	
35	CONCRETE IN SUBSTRUCTURE: ABUTMENT WALL	CY	110	
36	EPOXY WATERPROOFING (FOR ABUTMENTS ONLY)	SY	60	
37	PRESTRESSED CONCRETE BOX BEAMS, TYPE BI-48, 48"x27"	LF	643	
38	CONCRETE IN SUPERSTRUCTURE: SIDEWALKS (9'-0" AND 9'-0" WIDE)	CY	27	
39	REINFORCED ELASTOMERIC BEARING ASSEMBLY (4 PER BEAM)	U	48	
40	CONCRETE IN SUPERSTRUCTURE: DECK SLAB, HPC (12.75" THICK MAX.)	CY	120	
41	SAWCUT GROOVING FOR BRIDGE DECKS	SY	240	
42	DECK PROTECTIVE COATING	SY	250	
43	BALUSTRADE PARAPET	LF	139	
44	BRONZE BRIDGE PLAQUE	U	2.00	
45	8" CORRUGATED PIPE - UNDERDRAIN PIPE	LF	130	

INDEX OF DRAWINGS	
DWG. NO.	TITLE
B-1	GENERAL STRUCTURAL NOTES
B-2	EXISTING BRIDGE PLAN AND SECTIONS - DEMOLITION PLAN
B-3	BRIDGE PLAN, ELEVATION AND SECTION
B-4	BRIDGE PROFILE AND WORKING POINTS
B-5	FOOTING PLANS
B-6	WEST ABUTMENT PLAN AND ELEVATION
B-7	EAST ABUTMENT PLAN AND ELEVATION
B-8	SOUTH WINGWALL ELEVATIONS
B-9	NORTH WINGWALL ELEVATIONS
B-10	TYPICAL ABUTMENT AND WINGWALL SECTIONS
B-11	REINFORCING BAR SCHEDULES
B-12	FRAMING PLAN, ELEVATION, SECTIONS AND DETAILS
B-13	BEAM DETAILS SHEET 1 OF 2
B-14	BEAM DETAILS SHEET 2 OF 2
B-15	DECK REINFORCEMENT PLAN, SECTION AND DETAILS
B-16	PARAPET ELEVATIONS AND REINFORCEMENT DETAILS
B-17	END DIAPHRAGM DECK REINFORCEMENT SECTIONS AND DETAILS
B-18	MISCELLANEOUS DETAILS SHEET 1 OF 2
B-19	MISCELLANEOUS DETAILS SHEET 2 OF 2
B-20	LOGS OF TEST BORINGS

HYDRAULIC AND HYDROLOGIC DATA

FREQUENCY	100 YEAR	FHA DESIGN STORM (FHADS: 125% OF 100 YEAR)
DRAINAGE AREA (SQ. MI.)	8.50	8.50
DESIGN DISCHARGE (CFS)	2,100	2,625
DESIGN WATER SURFACE ELEVATION (FT)	119.21	119.06
ENERGY LINE ELEVATION (FT)	119.69	119.87

NOTES:

- FOR THE EXISTING BRIDGE PLAN AND SECTION, SEE DRAWING NO. B-2.
- FOR THE PROPOSED BRIDGE PLAN AND SECTION, SEE DRAWING NO. B-3.
- FOR EXISTING AND PROPOSED ROADWAY GRADES AND UTILITY INFORMATION, SEE THE CIVIL DRAWINGS.
- FOR LOGS OF TEST BORINGS, SEE DRAWING NO. B-20.

LIST OF ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS	POUNDS	POUNDS
ACI	AMERICAN CONCRETE INSTITUTE	L.F.	LINEAR FEET
ADDL	ADDITIONAL	LG.	LONG
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LL	LIVE LOAD
ALT.	ALTERNATE	LLH	LONG LEG HORIZONTAL
ALUM.	ALUMINUM	LLV	LONG LEG VERTICAL
@	AT	LV	ANGLE(S)
APPD	APPROVED	LP	LOAD AND RESISTANCE FACTOR DESIGN
APPROX.	APPROXIMATE	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
ARCH.	ARCHITECTURAL	LT.	LEFT
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	LT. WT.	LIGHTWEIGHT
AVG.	AVERAGE	MANUF.	MANUFACTURER
AWS	AMERICAN WELDING SOCIETY	MAS.	MASONRY
BF	BACK FACE	MAX.	MAXIMUM
BET.	BETWEEN	MECH.	MECHANICAL
BLDG.	BUILDING	MET.	METRIC
BM, BMS	BEAMS(S)	MIN.	MINIMUM
B.O.F.	BOTTOM OF FOOTING	MISC.	MISCELLANEOUS
BOTT., B	BOTTOM	MPH	MILES PER HOUR
BP	BASE OR BEARING PLATE	MATL.	MATERIAL
BRG.	BEARING	MTL.	METAL
BW	BOTTOM OF WALL	N	NORTH
CFM	CUBIC FEET PER MINUTE	NAVD	NORTH AMERICAN VERTICAL DATUM
CFS	CUBIC FEET PER SECOND	NGVD	NATIONAL GEODETIC VERTICAL DATUM
C.I.P.	CAST IN PLACE	N.I.C.	NOT IN CONTRACT
C.J.	CONTROL JOINT	NJDOT	NEW JERSEY DEPARTMENT OF TRANSPORTATION
C, CL, C/L	CENTER LINE	No., #	NUMBER
CLR	CLEAR	N.T.S.	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	N.W.	NORMAL WEIGHT
CNT.	CLEAROUT	o/c	ON CENTER
COL.	COLUMN	O.D.	OUTSIDE DIAMETER
CONC.	CONCRETE	O.F.	OUTSIDE FACE
CONN.	CONNECT/CONNECTION	OPNG.(S)	OPENING(S)
CONSTR.	CONSTRUCTION	OPP.	OPPOSITE
CONT.	CONTINUOUS	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
COORD.	COORDINATE	OVHD	OVERHEAD
CORP.	CORPORATION	P	PIER
COV.	COVER	PARTN	PARTITION
CTR.	CENTER	PCF	POUNDS PER CUBIC FOOT
CY	CUBIC YARD	PERP.	PERPENDICULAR
DEG.	DEGREE	PL, P	PLATE
DELAM.	DELAMINATION	PPT L	PERFORATED POLYETHYLENE TUBING
DEMO.	DEMOLITION; DEMOLISH	PROJ.	PROJECTION
DET.(S)	DETAIL(S)	PSF	POUNDS PER SQUARE FOOT
DIAG.	DIAGONAL	PSI	POUNDS PER SQUARE INCH
DIA. Ø	DIAMETER	QTY.	QUANTITY
DIM., DIM'S	DIMENSION(S)	RCP	REINFORCED CONCRETE PIPE
DL	DEAD LOAD	RCSC	RESEARCH COUNCIL ON STEEL CONNECTIONS
DN	DOWN	RD	ROOF DRAIN
DO	DITTO	REF.	REFERENCE
DS	DOWNSTREAM	REV.	REVISION
DWG.(S)	DRAWING(S)	REINF.	REINFORCEMENT
DWL(S)	DOWEL(S)	REQ'D	REQUIRED
EA.	EACH	RF	REAR FACE
E.F.	EACH FACE	R.O.W.	RIGHT OF WAY
E.J.	EXCAVATION JOINT	RT.	RIGHT
ELEC.	ELECTRICAL	RTU	ROOF TOP UNIT
EL. ELEV.	ELEVATION	SAN. SCHED.	SANITARY SCHEDULE
EMBED.	EMBEDMENT	SDI	STEEL DECK INSTITUTE
ENGL.	ENGLISH	SECT.	SECTION
ENGR.	ENGINEER	SHT.	SHEET
E.O.P.	EDGE OF PAVEMENT	SIM.	SIMILAR
EQ.	EQUATE	SPAC.	SPACING
ETC.	ETCETERA	SPA.	SPLICING
E.W.	EACH WAY	SPEC.(S)	SPECIFICATION(S)
EX., EXIST.	EXISTING	SPL	SPLICE
EXP.	EXPANSION	SQ. FT., SF	SQUARE FOOT(FEET)
EXT.	EXTERIOR	SQ. IN.	SQUARE INCH(ES)
FD	FLOOR DRAIN	SQ. MI.	SQUARE MILE(S)
FF	FRONT FACE	S.S.	STAINLESS STEEL
FIN.	FINISH	S.SPC	STEEL STRUCTURES PAINTING COUNCIL
FL.	FLANGE	STA.	STATION
FLR.	FLOOR	STD.	STANDARD
FNDN.	FOUNDATION	STL.	STEEL
F.P.	FIRE PROOFING	SYM.	SYMMETRICAL
FT.,'	FEET, FOOT	T	TOP
FTG.,_F	FOOTING	TEMP.	TEMPORARY
GALV.	GALVANIZED	THK.	THICK
GB	GRADE BEAM	T.O.	TOP OF
GC	GENERAL CONTRACTOR	T.O.F.	TOP OF FOOTING
GEN.	GENERAL	T.O.S.	TOP OF STEEL
GR.	GRADE	TW	TOP OF WALL
HORIZ.	HORIZONTAL	TYP.	TYPICAL
H.P.	HIGH POINT	U.O.N.	UNLESS OTHERWISE NOTED
HT.	HEIGHT	U.S.	UPSTREAM
IBC	INTERNATIONAL BUILDING CODE	VERT.	VERTICAL
ID.	INSIDE DIAMETER	V.I.F.	VERIFY IN FIELD
I.F.	INSIDE FACE	W/	WITH
IN.,'	INCH	W/O	WITHOUT
INFO	INFORMATION	WF	WIDE FLANGE
INSUL.	INSULATION	WP	WORKING POINT
INT.	INTERIOR	WWF	WELDED WIRE FABRIC
INV.	INVERT	YRS.	YEARS
JT.	JOINT		
K	KIP		
KSI	KIPS PER SQUARE INCH		

AVE ASSOCIATES
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2941 ROBERTSON AVENUE, PARK, NEW JERSEY 08660
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER LIC. 324468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

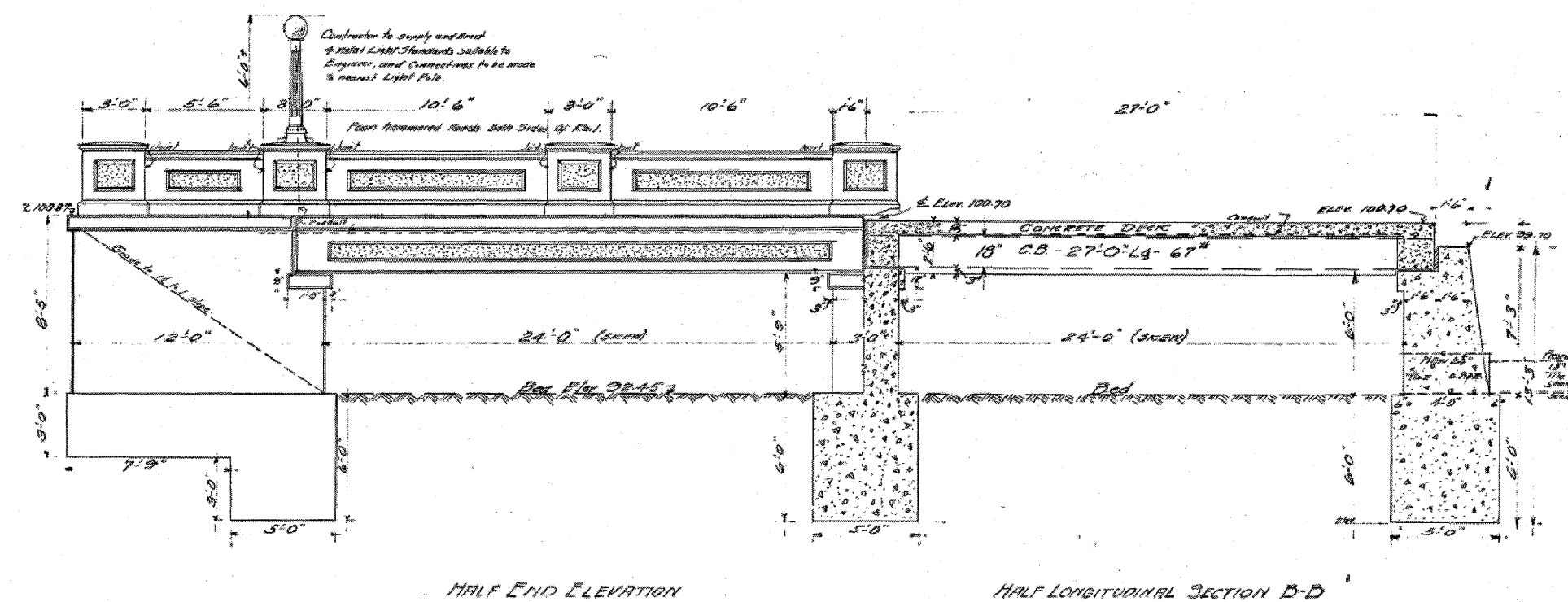
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

GENERAL STRUCTURAL NOTES

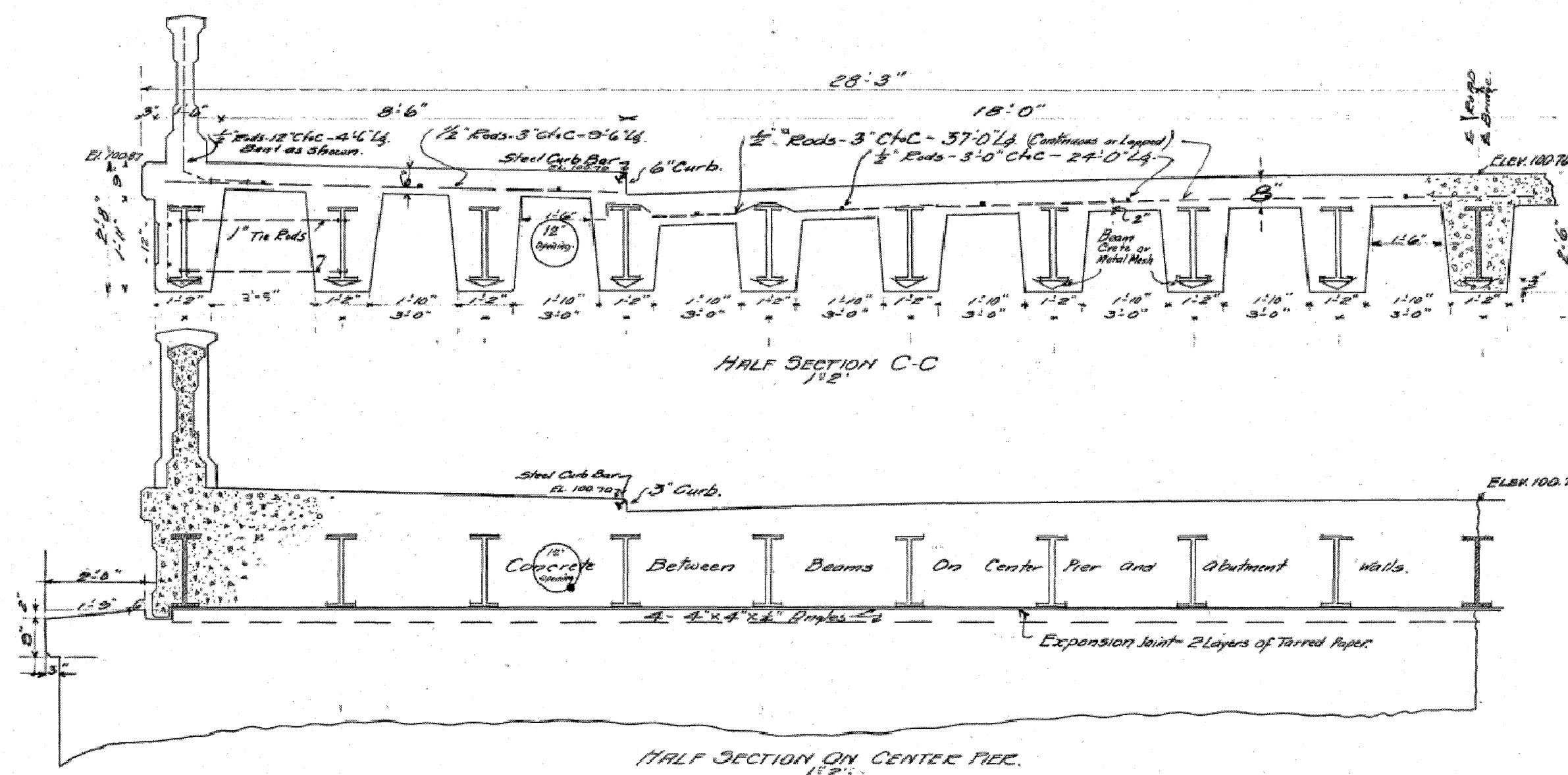
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Sheet No. 14 of 33
Drawing No. B-1
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

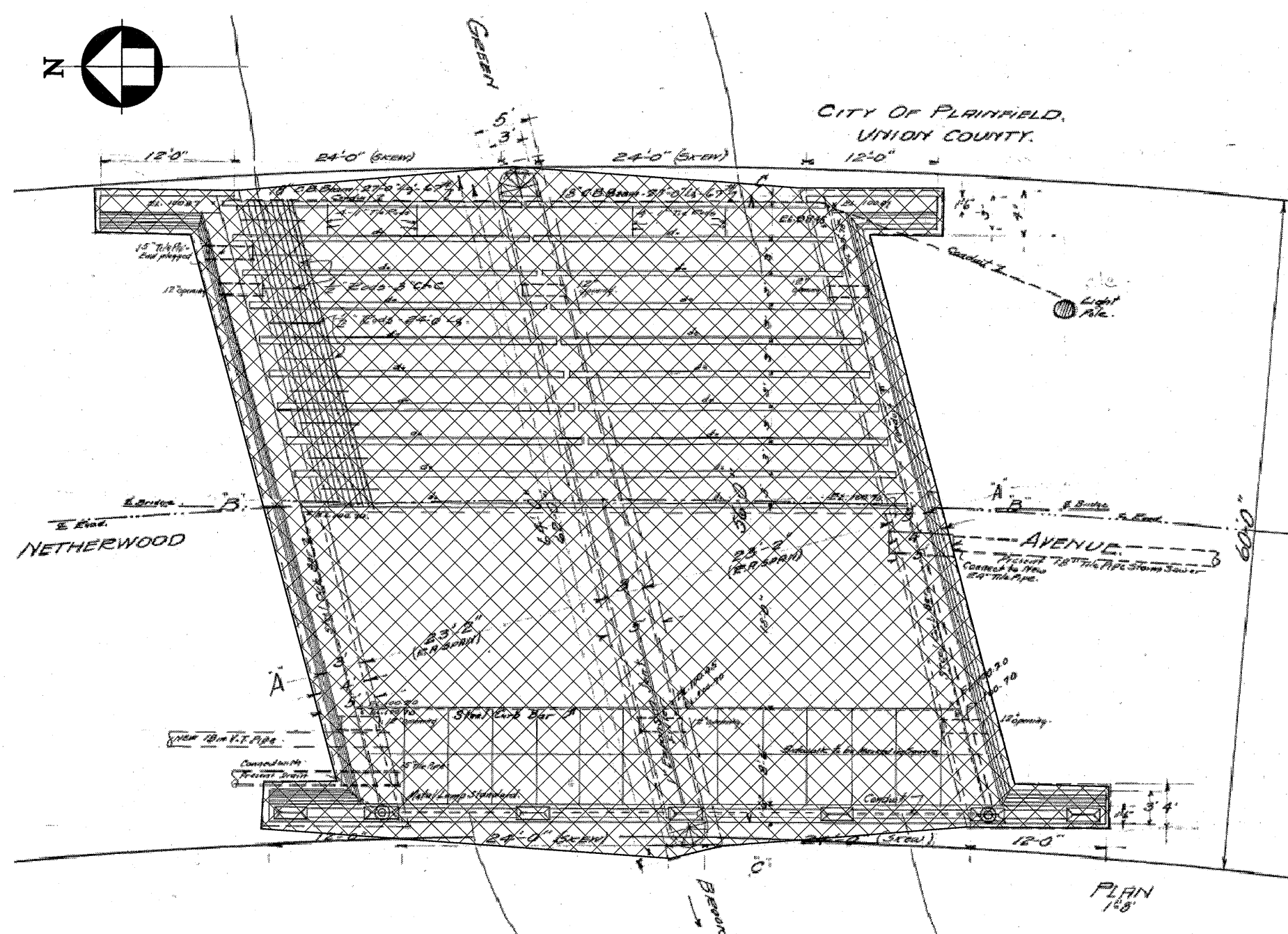
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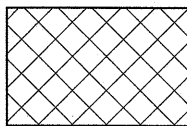
NORTH ELEVATION
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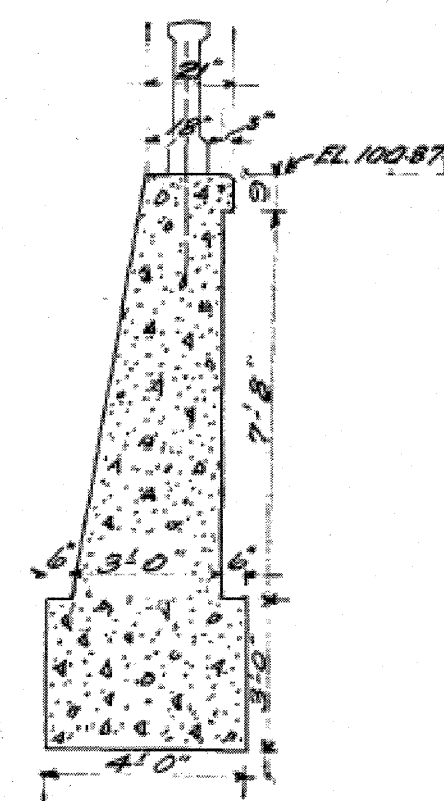


HALF SECTIONS
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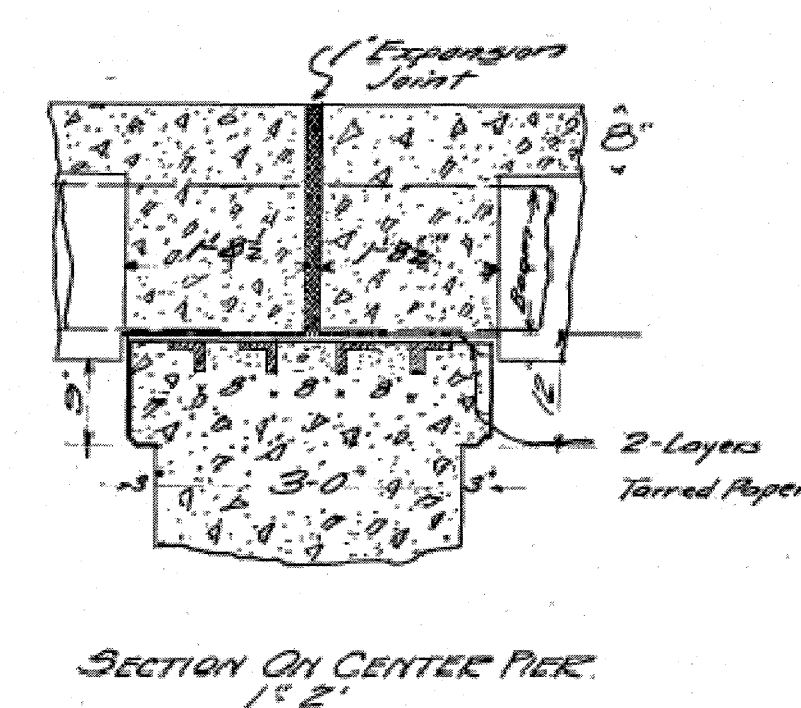


DEMOLITION PLAN
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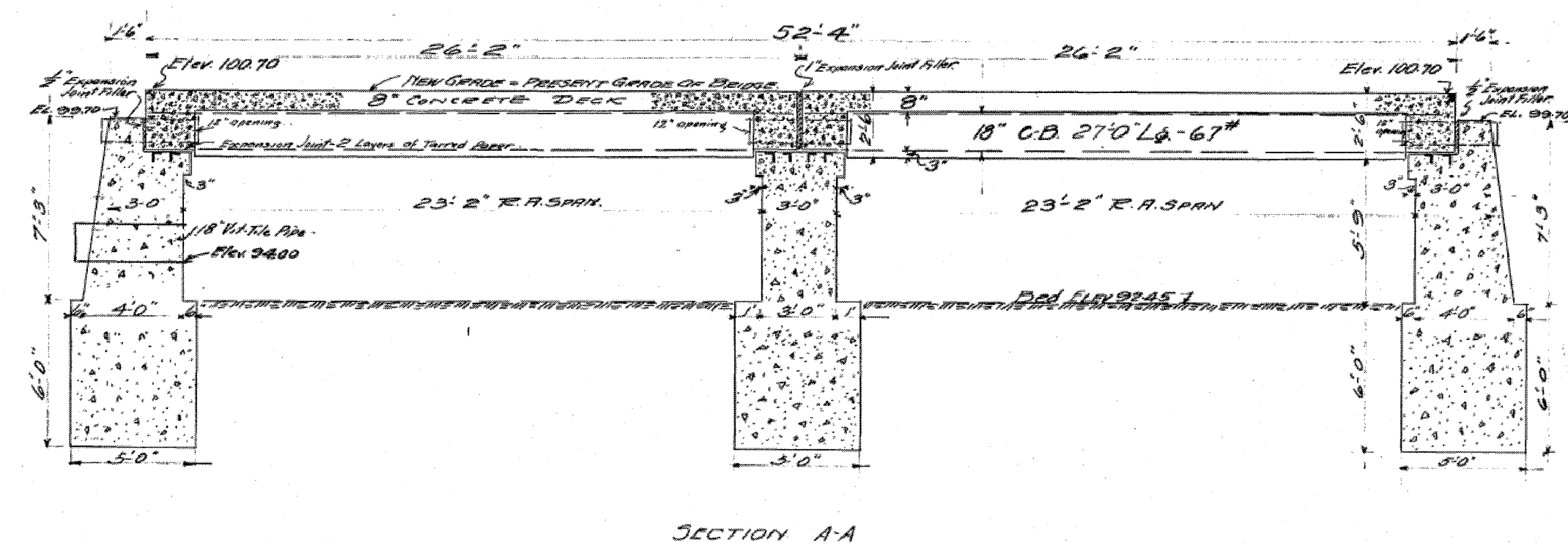
LEGEND:
 DENOTES EXISTING STRUCTURE TO BE DEMOLISHED, "CLEARING SITE".



WING WALL SECTION
N.T.S.




CENTER PIER SECTION
N.T.S.

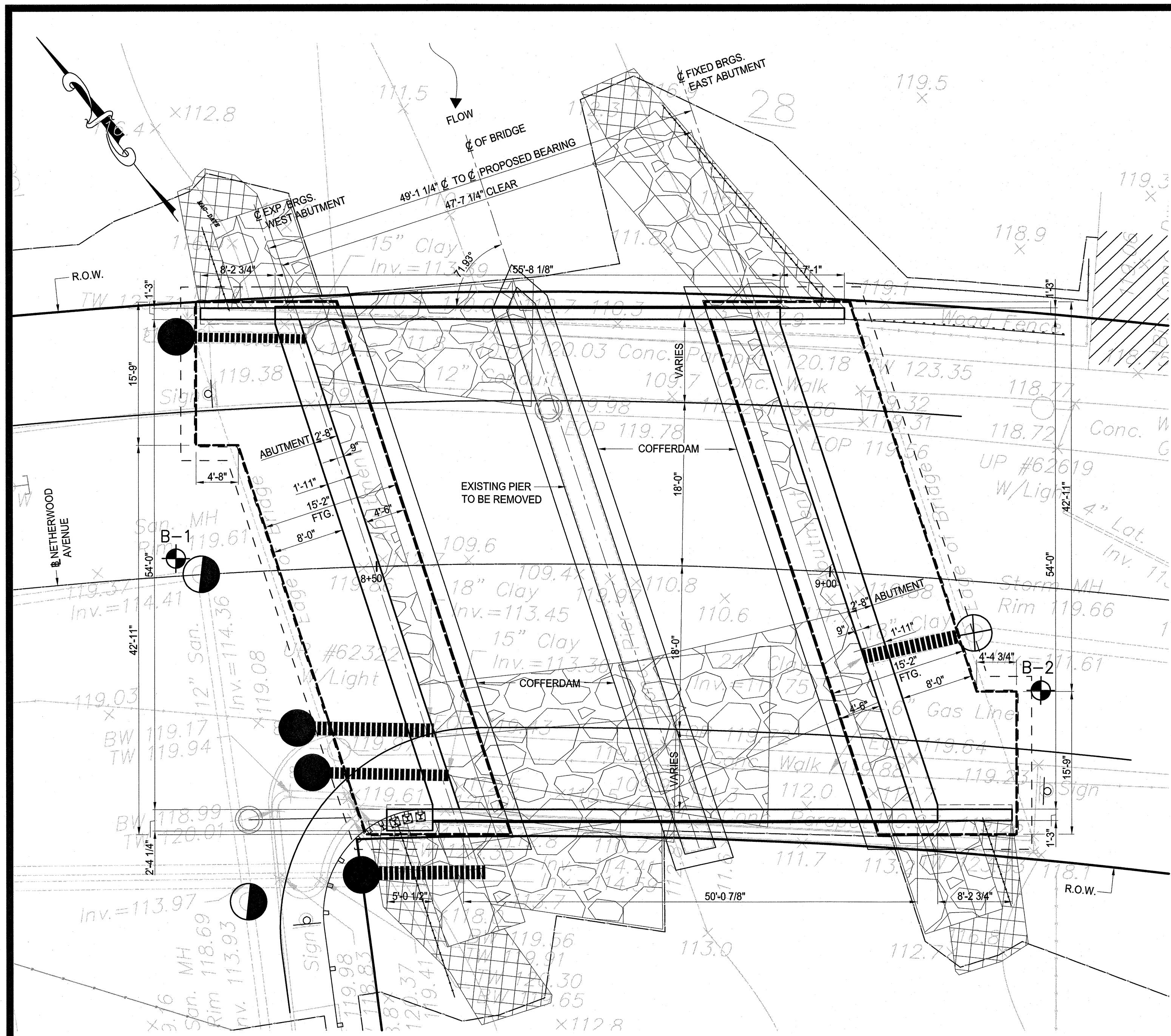


ABUTMENT SECTIONS
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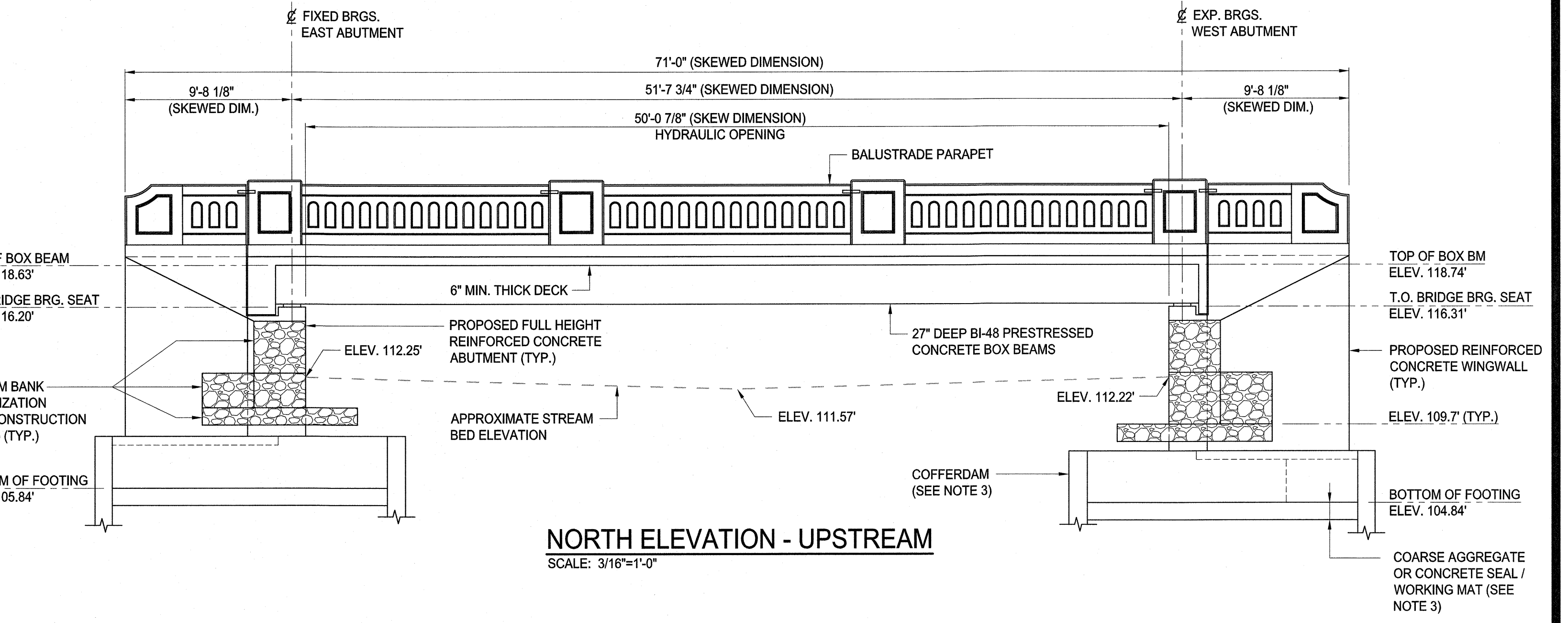
NOTES:

1. THE EXISTING BRIDGE STRUCTURE INCLUDING SUPERSTRUCTURE, ABUTMENTS, WINGWALLS, PIER, FOOTINGS, UTILITY SUPPORTS, AND PARAPETS SHALL BE DEMOLISHED IN ITS ENTIRETY AND REMOVED FROM THE SITE. PAYMENT FOR THE REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE SHALL BE INCLUDED IN THE LUMP SUM FOR THE PAY ITEM ENTITLED "CLEARING SITE".
2. THE CONTRACTOR IS ALERTED TO THE FACT THAT THERE ARE UTILITIES IN THIS AREA. THE UTILITIES HAVE BEEN LOCATED ON THE CONTRACT DRAWINGS USING THE MOST UP-TO-DATE AVAILABLE INFORMATION. THIS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF CONTACTING THE UTILITY AGENCIES AND ACCURATELY LOCATING ALL THE UTILITIES WHICH MAY INTERFERE WITH THE CONSTRUCTION OF THIS PROJECT PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL INCLUDE ALL THE LOCATIONS OF THE UTILITIES ON ANY APPLICABLE WORKING DRAWINGS. TEST PITS WILL BE REQUIRED AS DIRECTED BY ENGINEER. THE COSTS FOR TEST PITS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS BID FOR THE PROJECT.
3. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION SO AS NOT TO DAMAGE ADJACENT EXISTING UTILITIES TO REMAIN. ANY DAMAGE DONE SHALL BE REPAIRED OR RESTORED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE COUNTY.
4. THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN TO THE ENGINEER FOR APPROVAL SHOWING THE METHODS AND EQUIPMENT THAT WILL BE USED IN ORDER TO REMOVE THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE BEFORE STARTING DEMOLITION.
5. TEMPORARY SHIELDING SHALL BE PROVIDED BY THE CONTRACTOR TO PREVENT DEBRIS FROM FALLING INTO THE GREEN BROOK DURING THE DEMOLITION OF THE EXISTING BRIDGE, AS NECESSARY OR AS DIRECTED BY THE ENGINEER. ANY MATERIAL OR DEBRIS THAT INADVERTENTLY ENTERS THE WATERWAY DURING DEMOLITION OR CONSTRUCTION SHALL BE REMOVED IMMEDIATELY.
6. THE INFORMATION PRESENTED HEREON IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT GUARANTEED TO BE CORRECT. ELEVATIONS SHOWN HERE ARE FROM EXISTING PLANS. BIDDERS SHALL VISIT THE SITE BEFORE SUBMITTING BIDS TO ASCERTAIN THE EXTENT OF THE WORK.
7. TEMPORARY SHIELDING SHALL BE PAID FOR UNDER THE LUMP SUM PAY ITEM "TEMPORARY SHIELDING."
8. SEPARATE PAYMENT WILL NOT BE MADE FOR REMOVAL OF EXISTING UTILITIES ON THE BRIDGE.
9. ELEVATIONS SHOWN ON THIS DRAWING ARE IN AN ASSUMED VERTICAL DATUM.
10. THE EXISTING BRIDGE CARRIES MULTIPLE EXISTING UTILITY LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL UTILITY SERVICE FLOWS AND PRESSURES FOR THESE LINES UNLESS WRITTEN APPROVAL BY THE RESPONSIBLE UTILITY PERMITS HIM TO DO OTHERWISE. NO SEPARATE PAYMENT WILL BE MADE FOR COORDINATION WITH THE UTILITY OR FOR THE TEMPORARY SUPPORT OF EXISTING FACILITIES. ALL COSTS SHALL BE INCLUDED IN THE LUMP SUM BID FOR THE ITEM "CLEARING SITE".

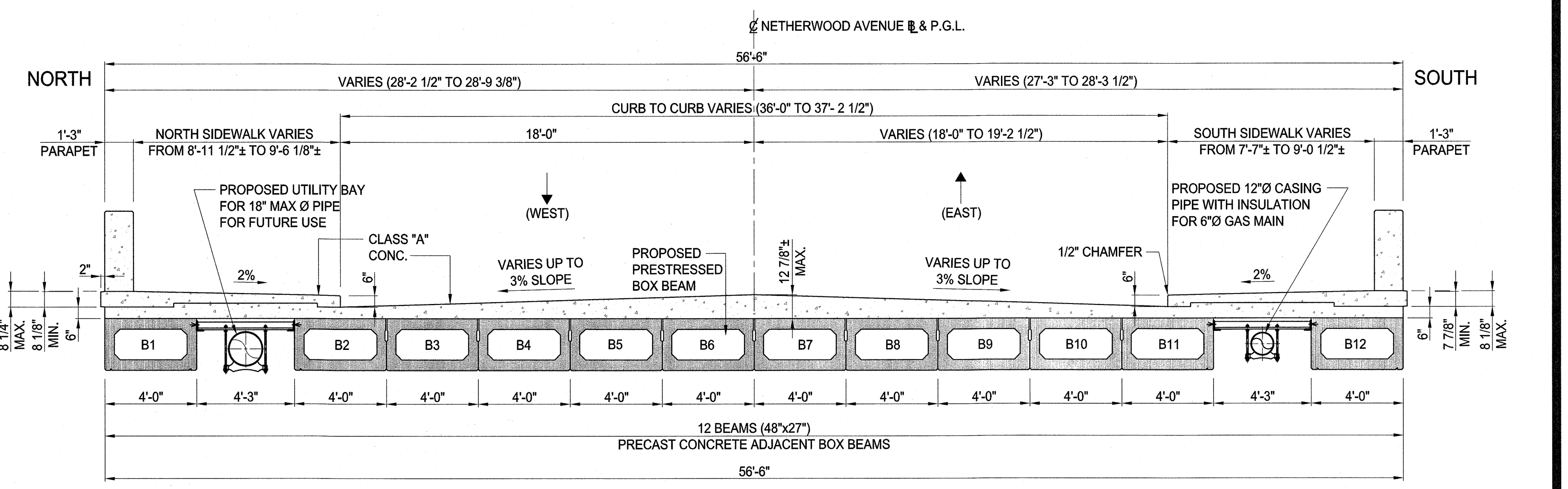
 MICHAEL J. MCGLELLAND P.E. PROFESSIONAL ENGINEER LIC. 32468 <i>Michael J. McGlelland</i>	Revisions No. Date By 1 05/2017 NH	County of Union Division of Engineering 2325 South Avenue, Scotch Plains, N.J. 07076 NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37 City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY EXISTING BRIDGE PLAN AND SECTIONS - DEMOLITION PLAN
	Designed By Drawn By JN JN Checked By Approved By NH NH	Scale: AS SHOWN Sheet No. 15 of 33 Drawing No. B-2 Date: June 2016	Thomas O. Mineo County Engineer N.J.P.E. No. 19646



PROPOSED BRIDGE PLAN
SCALE: 1/8"=1'-0"

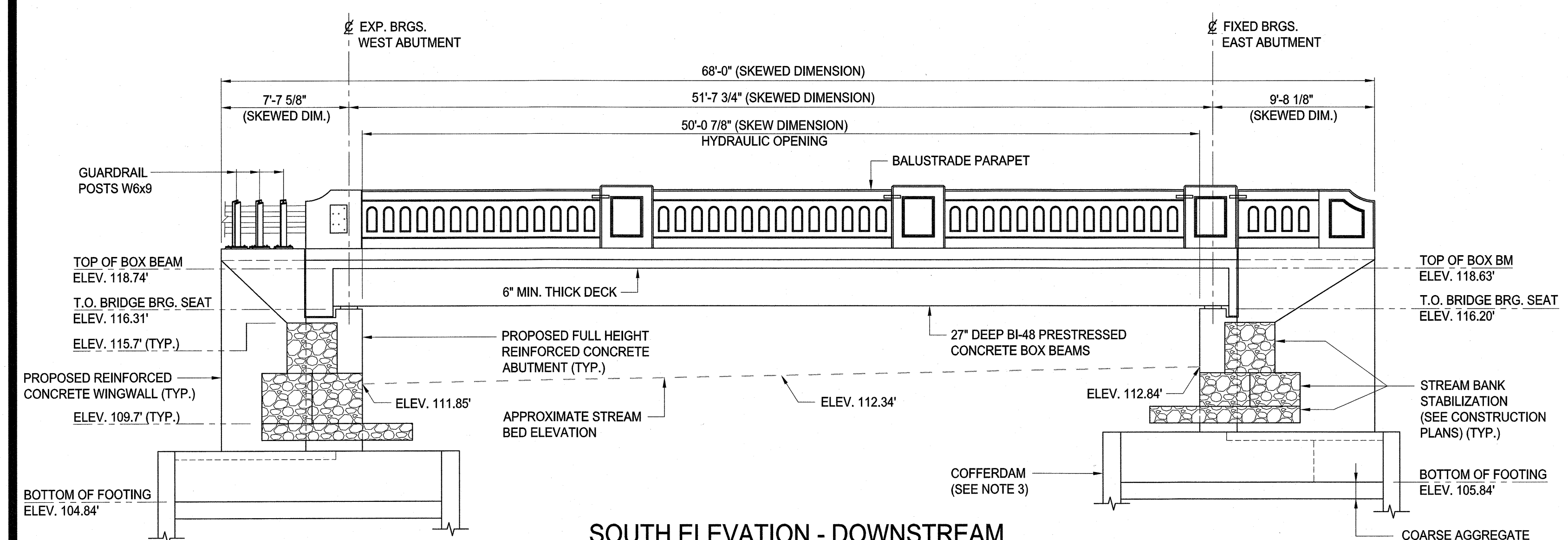


NORTH ELEVATION - UPSTREAM
SCALE: 3/16"=1'-0"

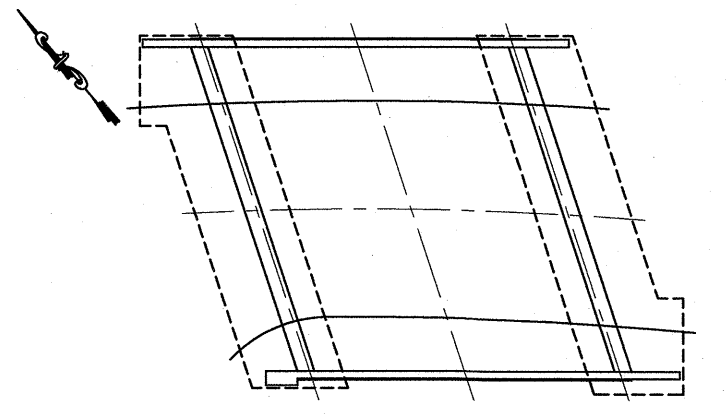


TYPICAL BRIDGE CROSS SECTION
SCALE: 1/4"=1'-0" (LOOKING EAST)

- NOTES:**
- FOR THE EXISTING BRIDGE PLAN AND ELEVATION, SEE DRAWING NO. B-2.
 - FOR THE PROPOSED BRIDGE WORKING POINT TABLE, SEE DRAWING NO. B-4.
 - FOR THE SCHEMATIC COFFERDAM SECTION AND NOTES, SEE DRAWING NO. B-10.



SOUTH ELEVATION - DOWNSTREAM
SCALE: 3/16"=1'-0"



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

CONSULTING AND MUNICIPAL ENGINEERS
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1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER LIC. 32468

Michael J. McClelland

Revisions		
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1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

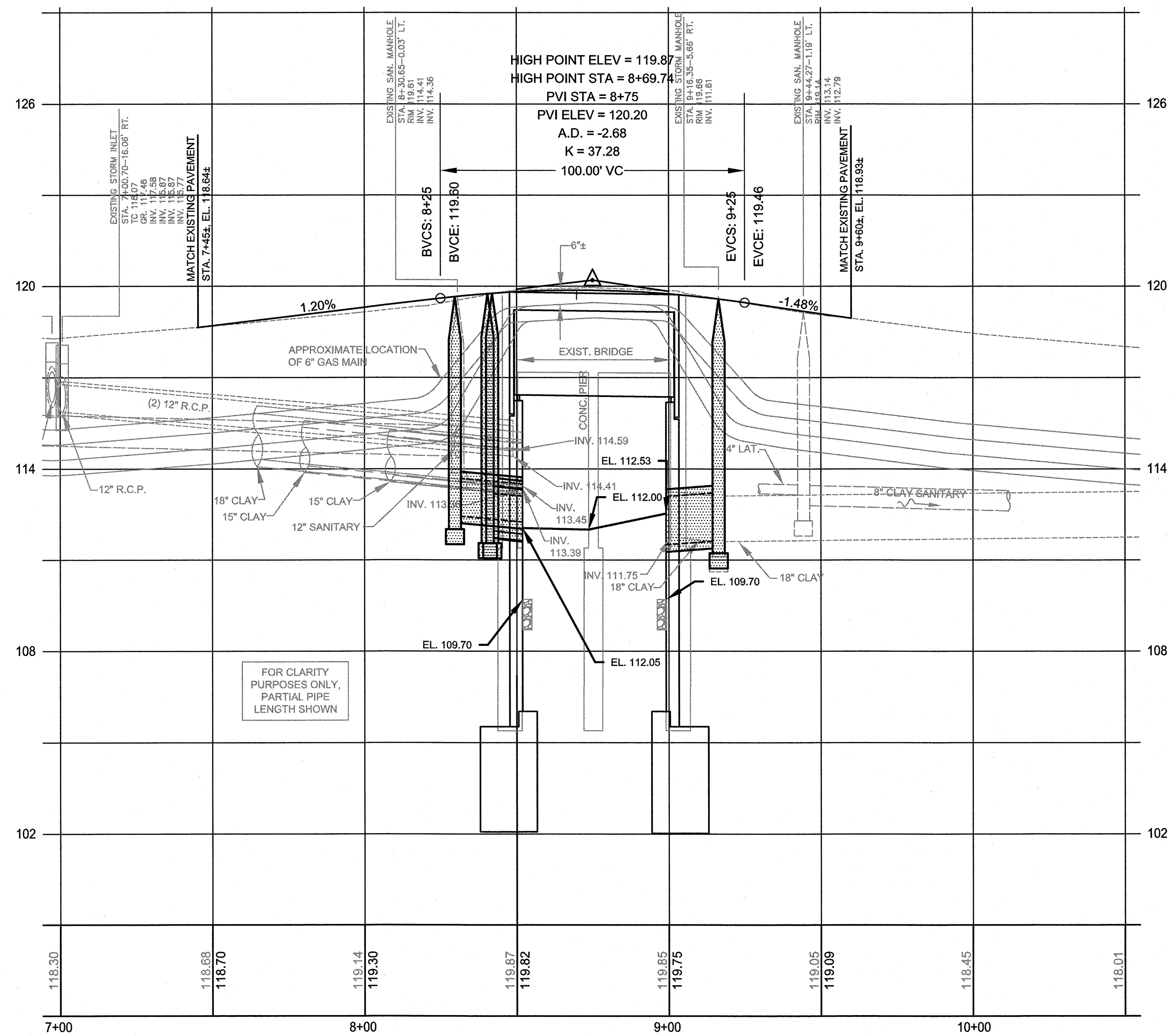
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

BRIDGE PLAN, ELEVATION AND SECTION

Scale: AS SHOWN
Sheet No. 16 of 33
Drawing No. B-3
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

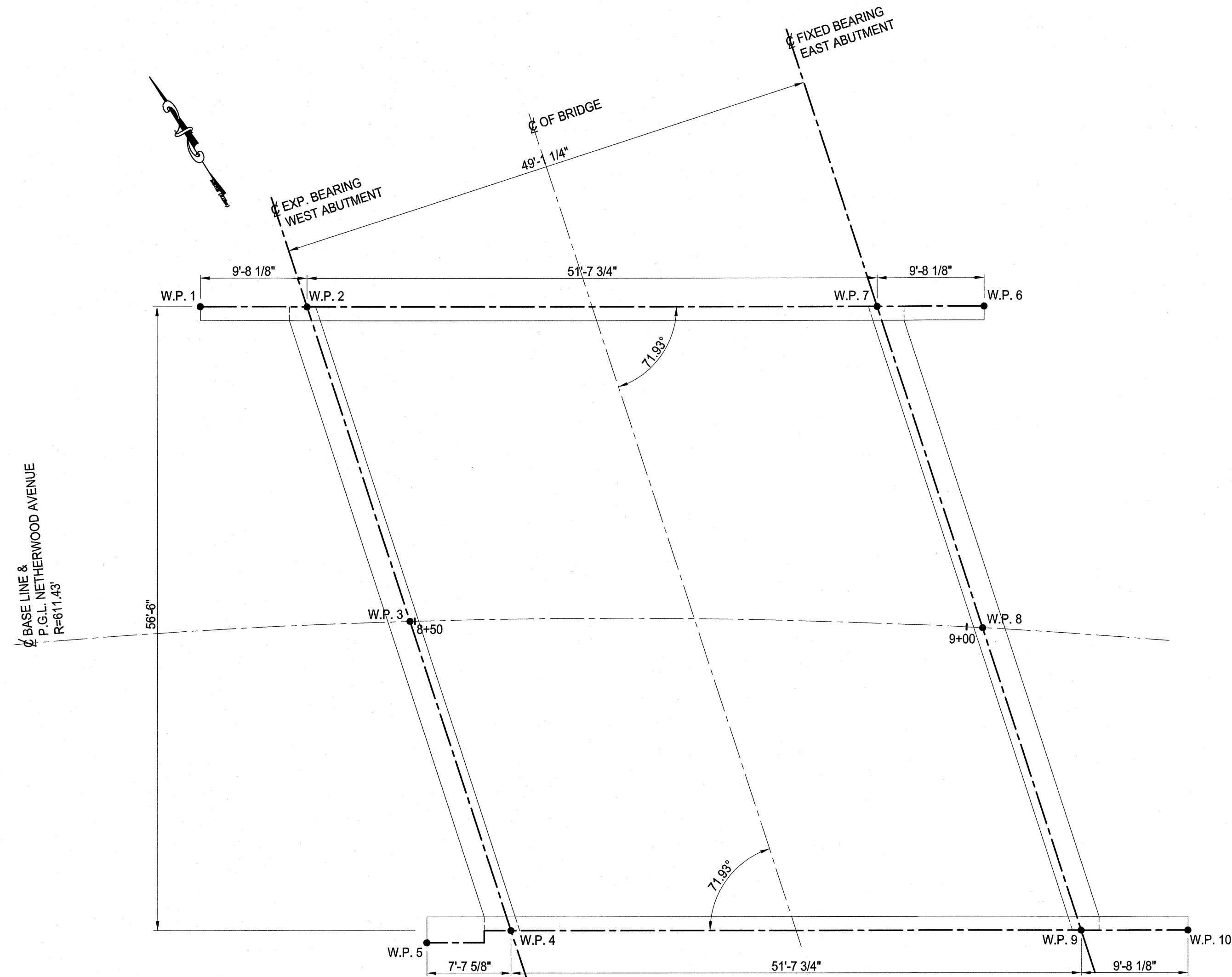


THE NETHERWOOD AVENUE BRIDGE PROFILE
N.T.S.

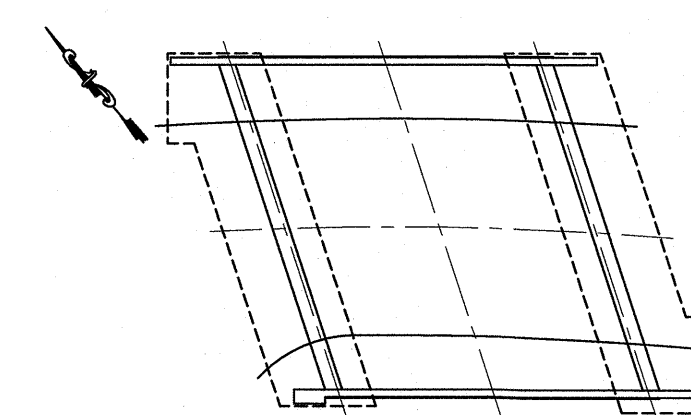
WORKING POINT TABLE				
W.P.	COORDINATES		NETHERWOOD AVE. BASELINE	
	NORTH	EAST	STATION	OFFSET
1	656,562.0664	515,712.1641	8+32.28	29.28' Lt.
2	656,555.9963	515,719.6988	8+41.51	28.80' Lt.
3	656,527.9914	515,709.0715	8+49.57	0.00'
4	656,500.4300	515,698.6124	8+58.28	28.23' Rt.
5	656,504.3592	515,691.9746	8+50.24	29.16' Rt.
6	656,517.5240	515,767.4541	9+00.08	29.10' Lt.
7	656,523.5941	515,759.9193	8+90.85	28.66' Lt.
8	656,494.9460	515,749.0478	9+01.45	0.00'
9	656,468.0279	515,738.8328	9+12.35	26.74' Rt.
10	656,461.9578	515,746.3676	9+22.43	25.96' Rt.

NOTES:

- FOR THE EXISTING BRIDGE PLAN AND ELEVATION, SEE DRAWING NO. B-2.
- FOR THE PROPOSED BRIDGE PLAN AND ELEVATION, SEE DRAWING NO. B-3.



WORKING POINT LAYOUT
SCALE 1/8"=1'-0"



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

CONSULTING AND MUNICIPAL ENGINEERS
 2441 BORDENTOWN AVENUE, PARLIN, NEW JERSEY 08859
 1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
 PROFESSIONAL ENGINEER I.C. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
 Division of Engineering
 2325 South Avenue, Scotch Plains, N.J. 07076

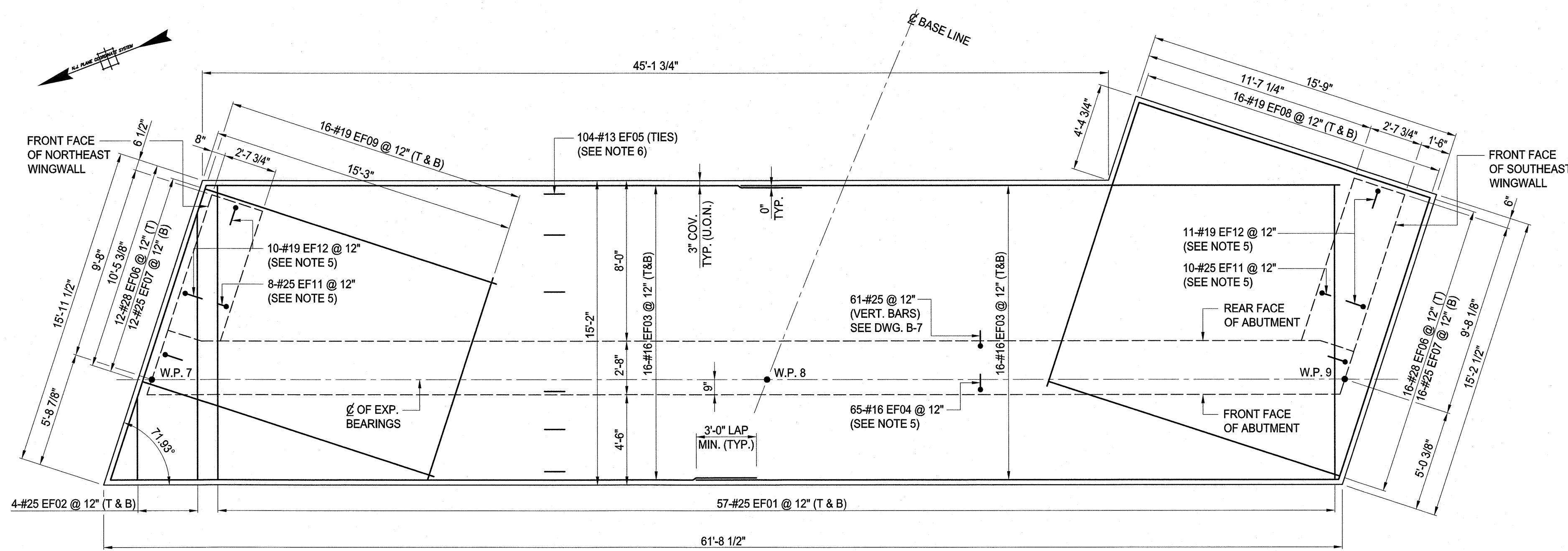
NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37
 City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

BRIDGE PROFILE AND WORKING POINTS

Scale: AS SHOWN
 Sheet No. 17 of 33
 Drawing No. B-4
 Date: June 2016

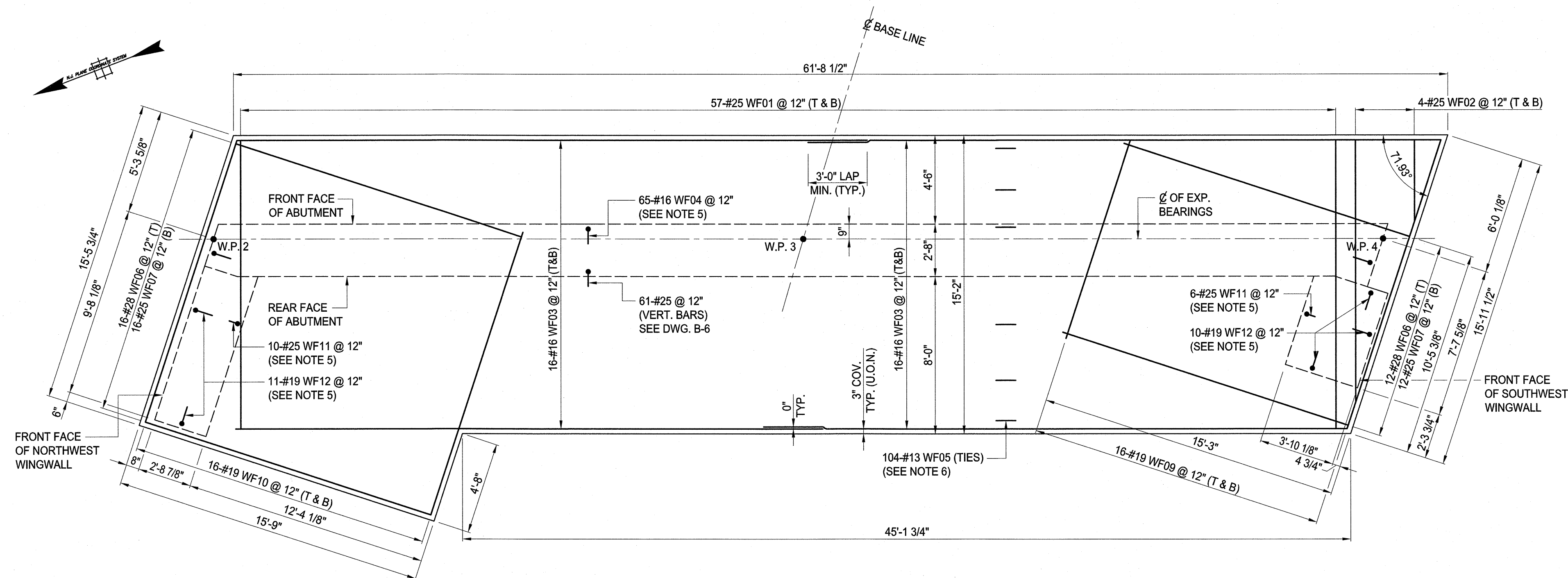
Thomas O. Mineo
 County Engineer
 N.J.P.E. No. 19646

PUN00612.01



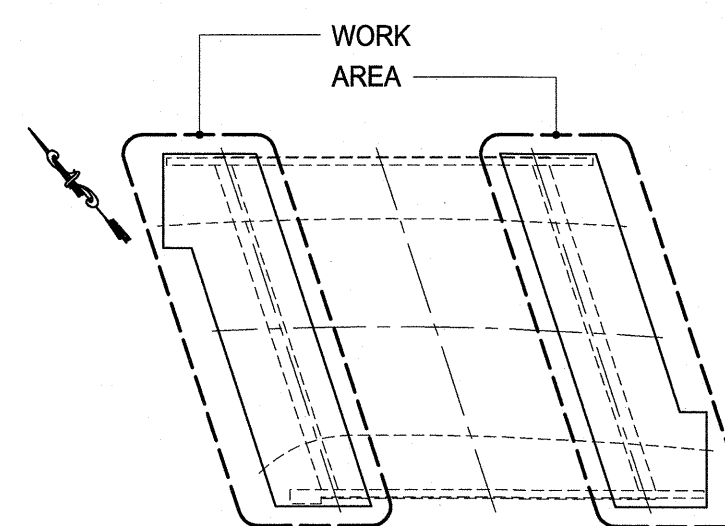
EAST ABUTMENT FOOTING PLAN

SCALE: 1/4"=1'-0"



WEST ABUTMENT FOOTING PLAN

SCALE: 1/4"=1'-0"



BRIDGE KEY PLAN

SCALE: 1/32"=1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE DRAWING NO. B-1.
2. FOR WORKING POINT TABLE, SEE DRAWING NO. B-4.
3. FOR ABUTMENT PLANS AND ELEVATIONS, SEE DRAWING NOS. B-6 AND B-7.
4. FOR WINGWALL ELEVATIONS, SEE DRAWING NOS. B-8 AND B-9.
5. FOR LOCATION AND SPACING OF DOWELS TO BE PLACED WITH FOOTING REINFORCEMENT, SEE ABUTMENT ELEVATION AND WINGWALL ELEVATION DRAWINGS.
6. FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE DRAWING NO. B-10.
7. FOR THE SCHEMATIC COFFERDAM SECTION AND NOTES, SEE DRAWING NO. B-10.
8. FOR REINFORCING BAR SCHEDULES, SEE DRAWING NO. B-11.

LEGEND:

- QUANTITY - SIZE - WEST - TYPING - MARK NUMBER - AT - SPACING - TOP
- A - ABUTMENT
 - BB - BRIDGE BEAM
 - D - DECK SLAB
 - F - FOOTING
 - R - RETAINING WALL
 - P - PARAPET
 - S - SIDEWALK
 - W - WINGWALL
 - E - EAST
 - W - WEST
 - (T) - TOP
 - (B) - BOTTOM
 - (FF) - FRONT FACE
 - (RF) - REAR FACE
 - (EF) - EACH FACE

OXE ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
2941 ROBERTSON AVENUE, PARSIPpany, NEW JERSEY 08654
1440 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER UC 32468

Michael J. McClelland 6/15/16

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

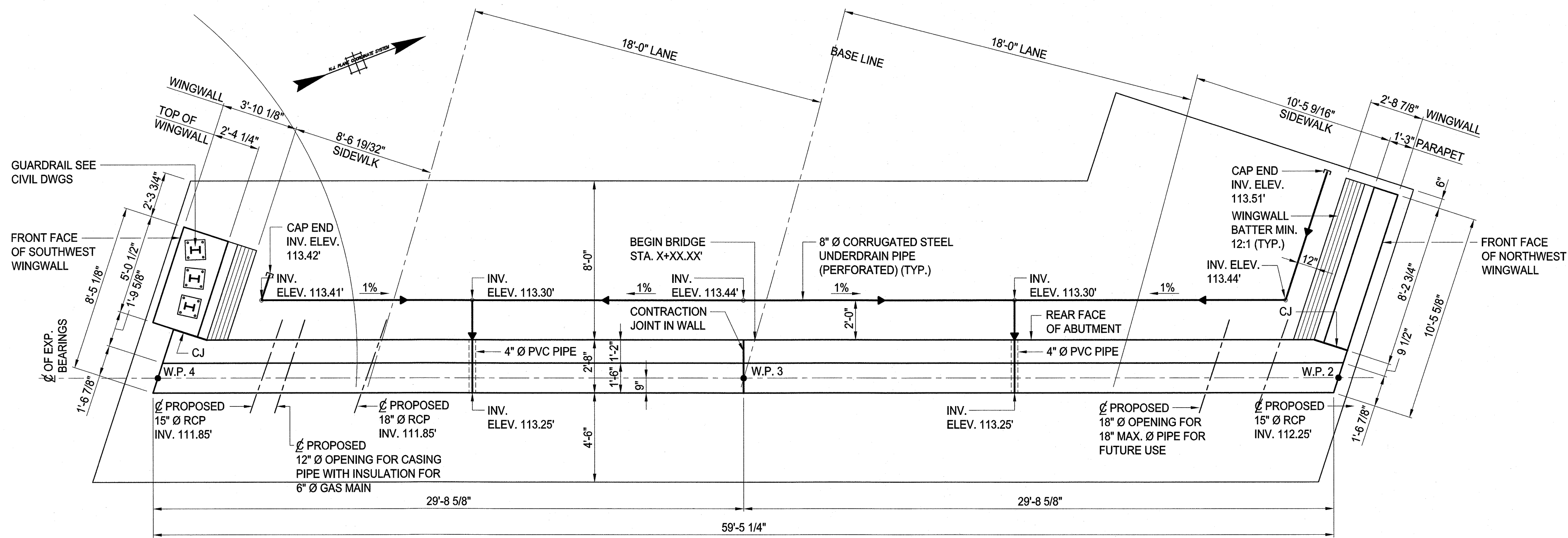
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

FOOTING PLANS

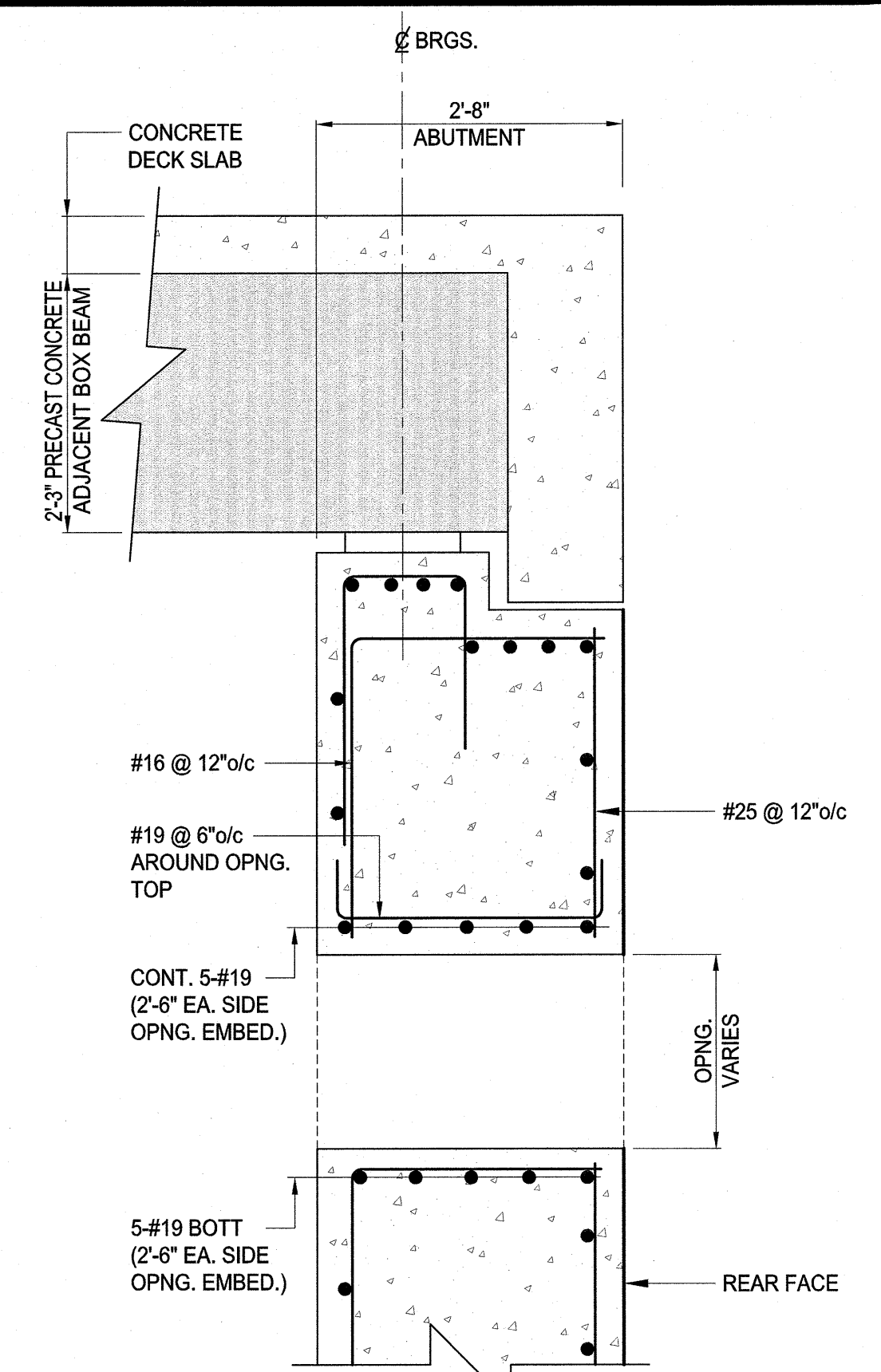
Designed By: Drawn By: Scale: AS SHOWN
Checked By: Approved By: Sheet No. 18 of 33
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



WEST ABUTMENT PLAN
SCALE: 1/4"=1'-0"



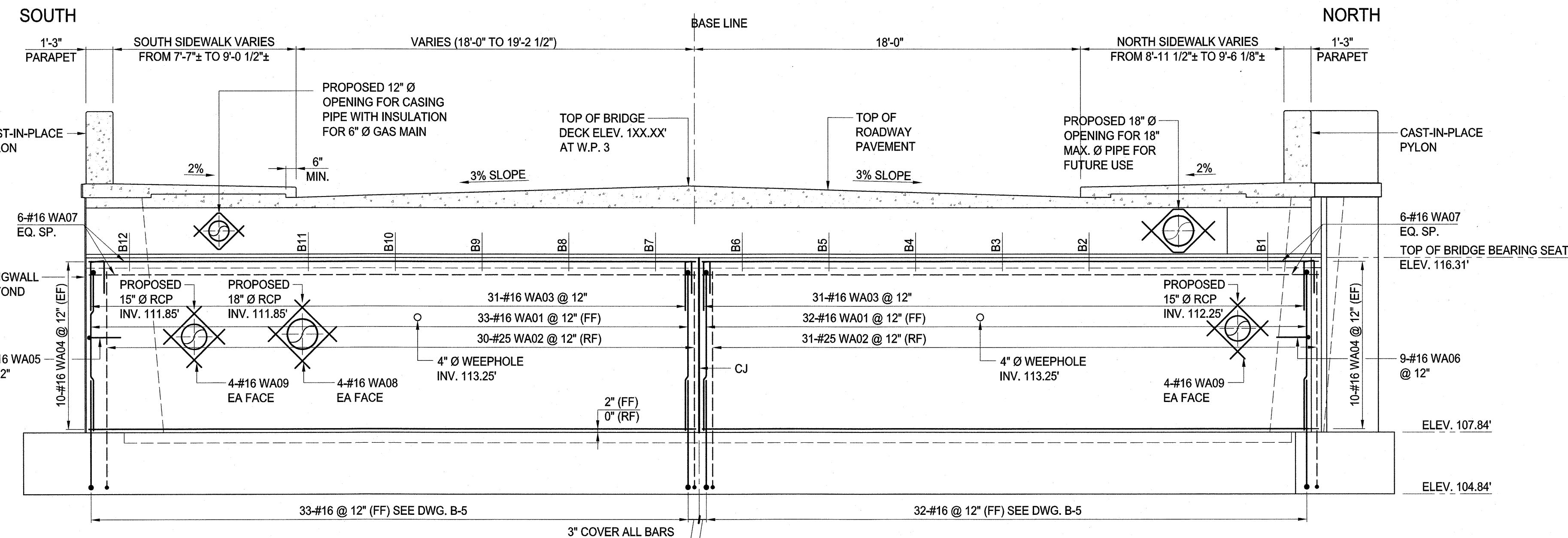
CROSS SECTION OF OPENING IN CONCRETE WALL

DETAIL 1
SCALE: 3/4"=1'-0"

- NOTES:**
- FOR GENERAL NOTES, SEE DRAWING NO. B-1.
 - FOR WORKING POINT TABLE, SEE DRAWING NO. B-4.
 - FOR WINGWALL ELEVATIONS, SEE DRAWING NOS. B-8 AND B-9.
 - FOR LOCATION AND SPACING OF DOWELS TO BE PLACED WITH FOOTING REINFORCEMENT, SEE FOOTING PLANS ON DRAWING NO. B-5.
 - FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE DRAWING NO. B-10.
 - FOR REINFORCING BAR SCHEDULES, SEE DRAWING NO. B-11.
 - ELEVATIONS SHOWN AT BEARING LOCATIONS ARE AT THE TOP OF CONCRETE BRIDGE SEAT AND ELEVATIONS ARE COMPUTED BASED ON TOTAL HEIGHT OF THE BEARING ASSEMBLY OF 2.125 IN.
 - COST OF 4" PVC PIPE (FOR WEEPHOLES) TO BE INCLUDED IN PAY ITEM "8" CORRUGATED STEEL UNDERDRAIN PIPE", SEE DRAWING NO. B-18.
 - THE BRIDGE SEAT SHALL HAVE AN EPOXY WATERPROOFING SEAL FOR ITS ENTIRE LENGTH, SEE DRAWING NO. B-14.
 - FOR BRIDGE SEAT DETAILS, SEE DRAWING NO. B-14.

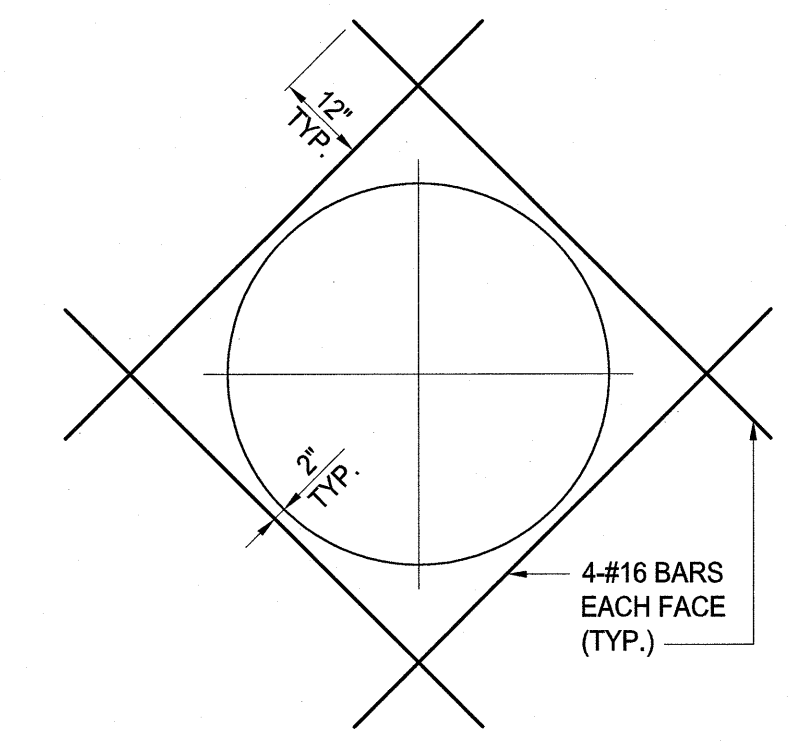
LEGEND:

- QUANTITY
- SIZE
 - WEST
 - ABUTMENT
 - MARK NUMBER
 - AT
 - SPACING
 - EACH FACE
- 10-#16 WA04 @ 12" (EF)
- A - ABUTMENT
 - BB - BRIDGE BEAM
 - D - DECK SLAB
 - F - FOOTING
 - R - RETAINING WALL
 - P - PARAPET
 - S - SIDEWALK
 - W - WINGWALL
 - E - EAST
 - W - WEST
 - (T) - TOP
 - (B) - BOTTOM
 - (FF) - FRONT FACE
 - (RF) - REAR FACE
 - (EF) - EACH FACE



WEST ABUTMENT ELEVATION
SCALE: 1/4"=1'-0"

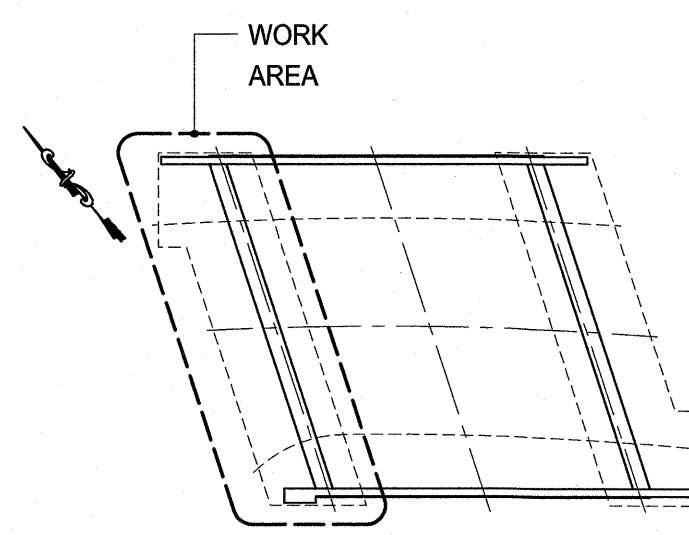
NOTE:
* - DIMENSIONS SHOWN ARE MEASURED NORMAL/RADIAL TO THE BASELINE OF NETHERWOOD AVE.



TYPICAL REINFORCEMENT DETAIL AT OPENINGS IN CONCRETE WALL (TO BE PROVIDED AT EACH FACE)

DETAIL 2
N.T.S.

- NOTES:**
- HOOK ALL INTERRUPTED CONTINUOUS BARS.
 - ONE-HALF OF REINFORCING BAR AREA INTERRUPTED BY OPENING SHALL BE PROVIDED EACH SIDE OF OPENING IN THE SAME FACE. MINIMUM = 2-#5 EACH SIDE.



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

CONSULTING AND MUNICIPAL ENGINEERS
3941 SCIENTIFIC AVENUE, PARLIN, NEW JERSEY 08859
1440 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER LIC. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

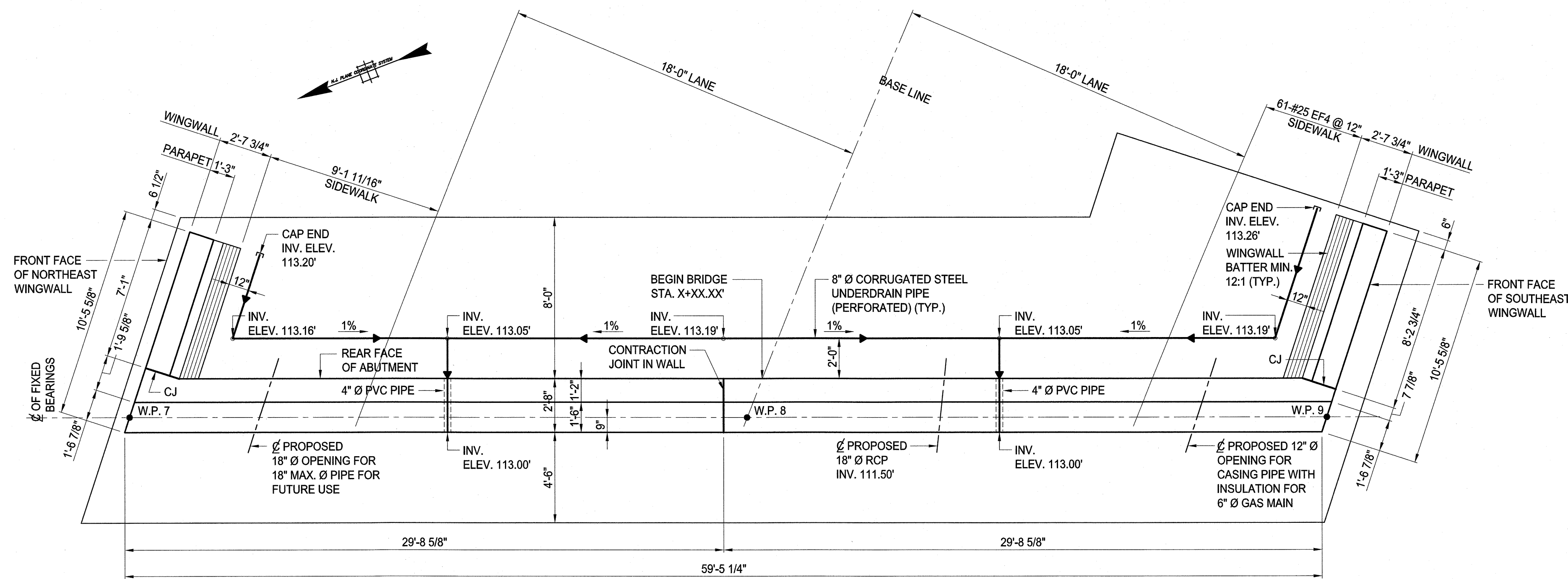
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

WEST ABUTMENT PLAN AND ELEVATION

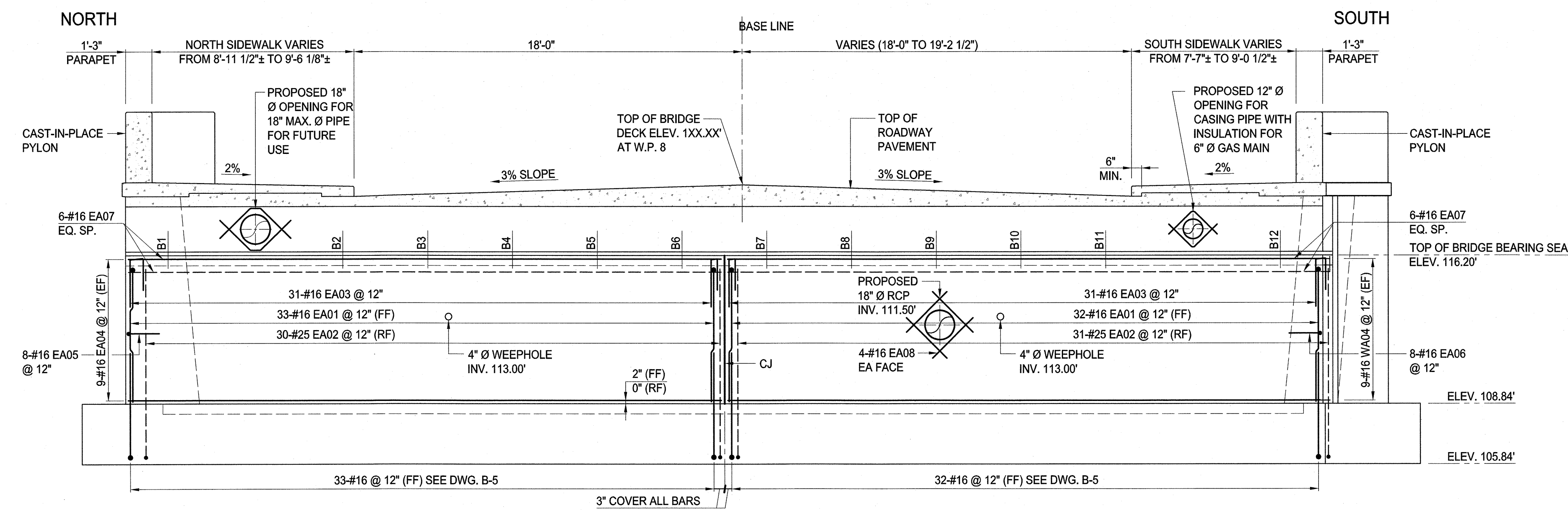
Scale: AS SHOWN
Sheet No. 19 of 33
Drawing No. B-6
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

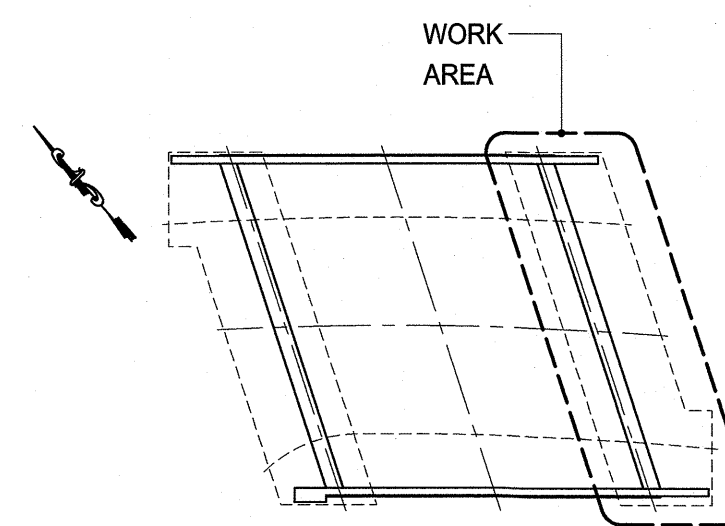


EAST ABUTMENT PLAN
SCALE: 1/4"=1'-0"



EAST ABUTMENT ELEVATION
SCALE: 1/4"=1'-0"

NOTE:
* - DIMENSIONS SHOWN ARE MEASURED NORMAL/RADIAL TO THE BASELINE OF NETHERWOOD AVE.



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

NOTES:

- FOR GENERAL NOTES, SEE DRAWING NO. B-1.
- FOR WORKING POINT TABLE, SEE DRAWING NO. B-4.
- FOR WINGWALL ELEVATIONS, SEE DRAWING NOS. B-8 AND B-9.
- FOR LOCATION AND SPACING OF DOWELS TO BE PLACED WITH FOOTING REINFORCEMENT, SEE FOOTING PLANS ON DRAWING NO. B-5.
- FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE DRAWING NO. B-10.
- FOR REINFORCING BAR SCHEDULES, SEE DRAWING NO. B-11.
- ELEVATIONS SHOWN AT BEARING LOCATIONS ARE AT THE TOP OF CONCRETE BRIDGE SEAT AND ELEVATIONS ARE COMPUTED BASED ON TOTAL HEIGHT OF THE BEARING ASSEMBLY OF 2.125 IN.
- COST OF 4" PVC PIPE (FOR WEEPHOLES) TO BE INCLUDED IN PAY ITEM "8" CORRUGATED STEEL UNDERDRAIN PIPE", SEE DRAWING NO. B-18.
- THE BRIDGE SEAT SHALL HAVE AN EPOXY WATERPROOFING SEAL FOR ITS ENTIRE LENGTH, SEE DRAWING NO. B-14.
- FOR BRIDGE SEAT DETAILS, SEE DRAWING NO. B-14.

LEGEND:

- QUANTITY
 - SIZE
 - WEST
 - ABUTMENT
 - MARK NUMBER
 - AT
 - SPACING
 - EACH FACE
- 10-#16 WA04 @ 12" (EF)**
- A - ABUTMENT
 - BB - BRIDGE BEAM
 - D - DECK SLAB
 - F - FOOTING
 - R - RETAINING WALL
 - P - PARAPET
 - S - SIDEWALK
 - W - WINGWALL
 - E - EAST
 - W - WEST
 - (T) - TOP
 - (B) - BOTTOM
 - (FF) - FRONT FACE
 - (RF) - REAR FACE
 - (EF) - EACH FACE

OXE ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
841 BORDENTOWN AVENUE, PEARL, NEW JERSEY 08867
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER U.C. 32468

Michael J. McClelland

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

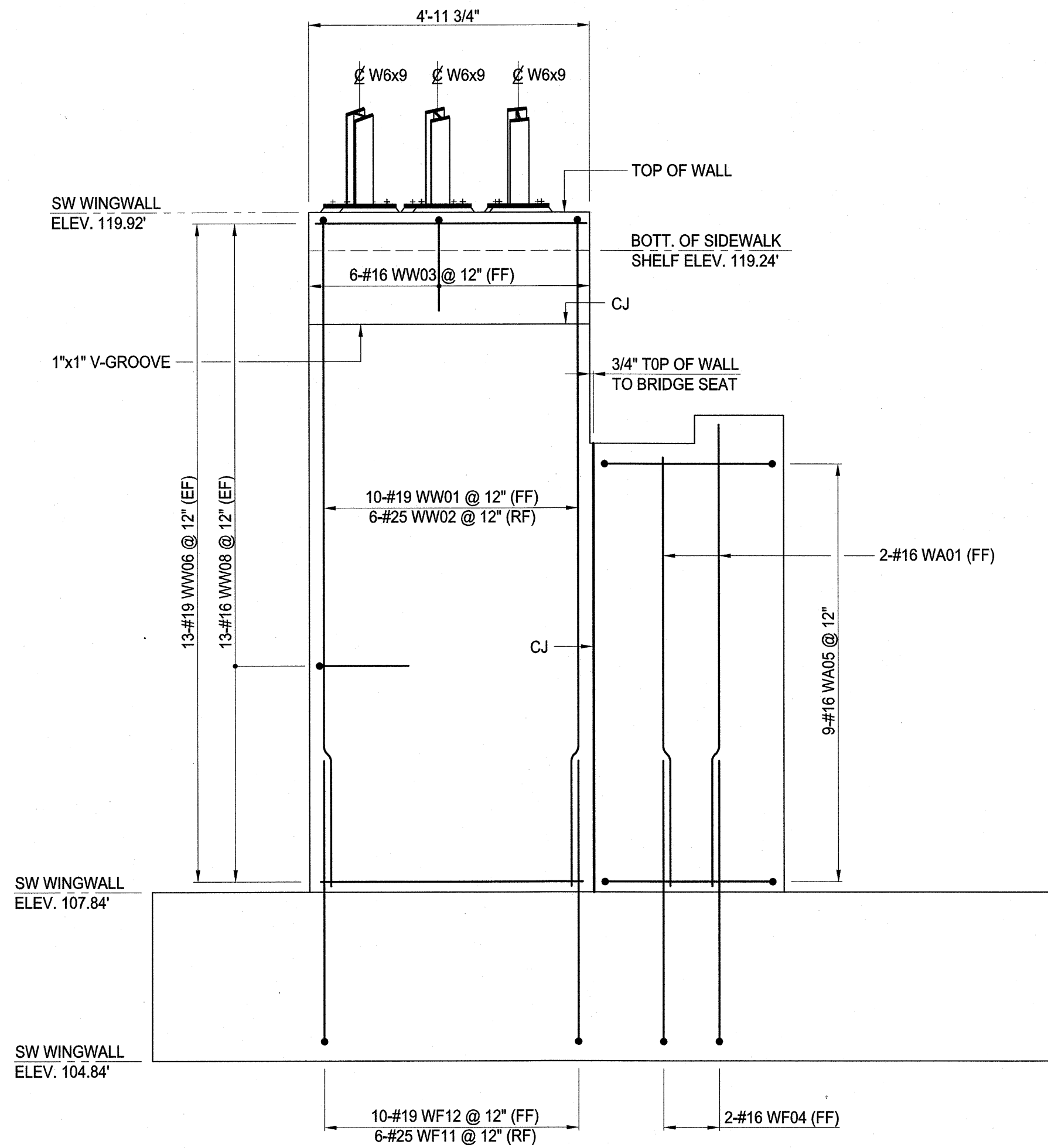
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

EAST ABUTMENT PLAN AND ELEVATION

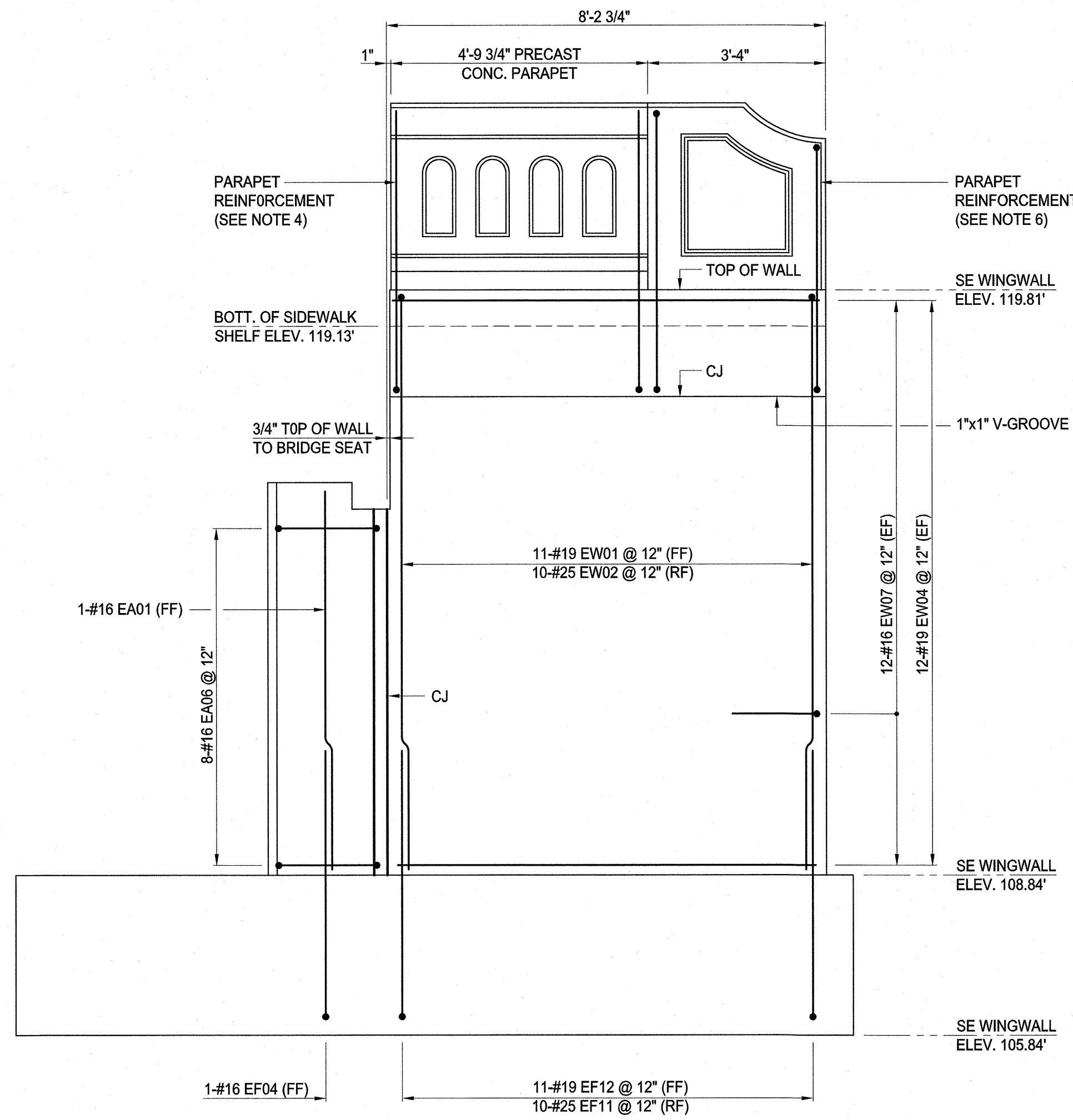
Scale: AS SHOWN
Sheet No. 20 of 33
Drawing No. B-7
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



SOUTHWEST WINGWALL ELEVATION
SCALE: 1/2"=1'-0"



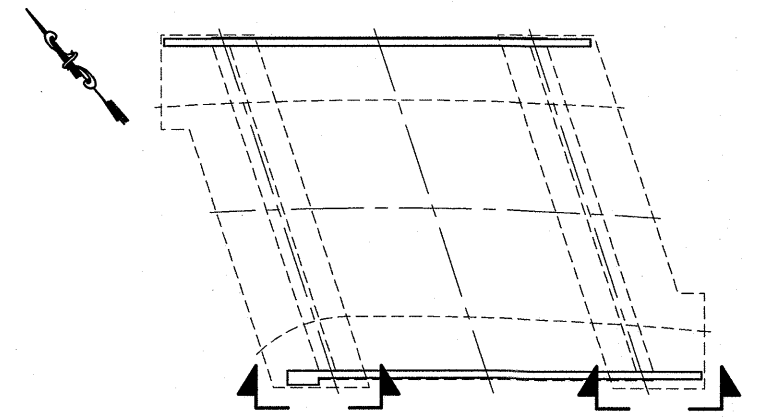
SOUTHEAST WINGWALL ELEVATION
SCALE: 1/2"=1'-0"

NOTES:

- FOR GENERAL NOTES, SEE DRAWING NO. B-1.
- FOR WORKING POINT TABLE, SEE DRAWING NO. B-4.
- FOR LOCATION AND SPACING OF DOWELS TO BE PLACED WITH FOOTING REINFORCEMENT, SEE FOOTING PLANS ON DRAWING NO. B-5.
- FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE DRAWING NO. B-10.
- FOR REINFORCING BAR SCHEDULES, SEE DRAWING NO. B-11.
- FOR CAST-IN-PLACE PYLON AND PRECAST CONCRETE PARAPET REINFORCEMENT, SEE DRAWING NO. B-16.

LEGEND:

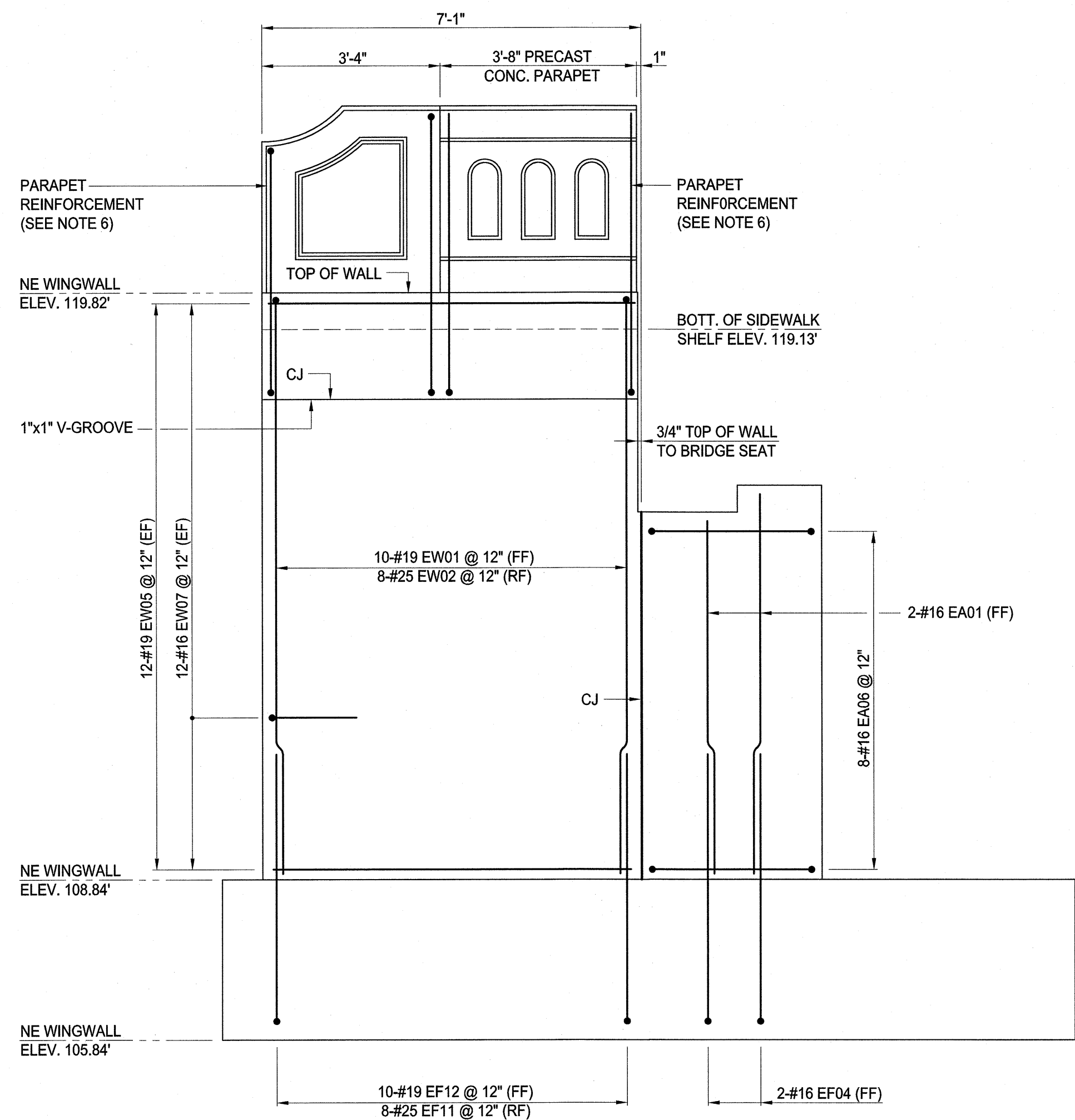
- QUANTITY
 - SIZE
 - WEST
 - WINGWALL
 - MARK NUMBER
 - AT
 - SPACING
 - EACH FACE
- 10-#16 WW04 @ 12" (EF)**
- A - ABUTMENT
 BB - BRIDGE BEAM
 D - DECK SLAB
 F - FOOTING
 R - RETAINING WALL
 P - PARAPET
 S - SIDEWALK
 W - WINGWALL
 E - EAST
 W - WEST
 (T) - TOP
 (B) - BOTTOM
 (FF) - FRONT FACE
 (RF) - REAR FACE
 (EF) - EACH FACE
 CJ - CONTRACTION JOINT



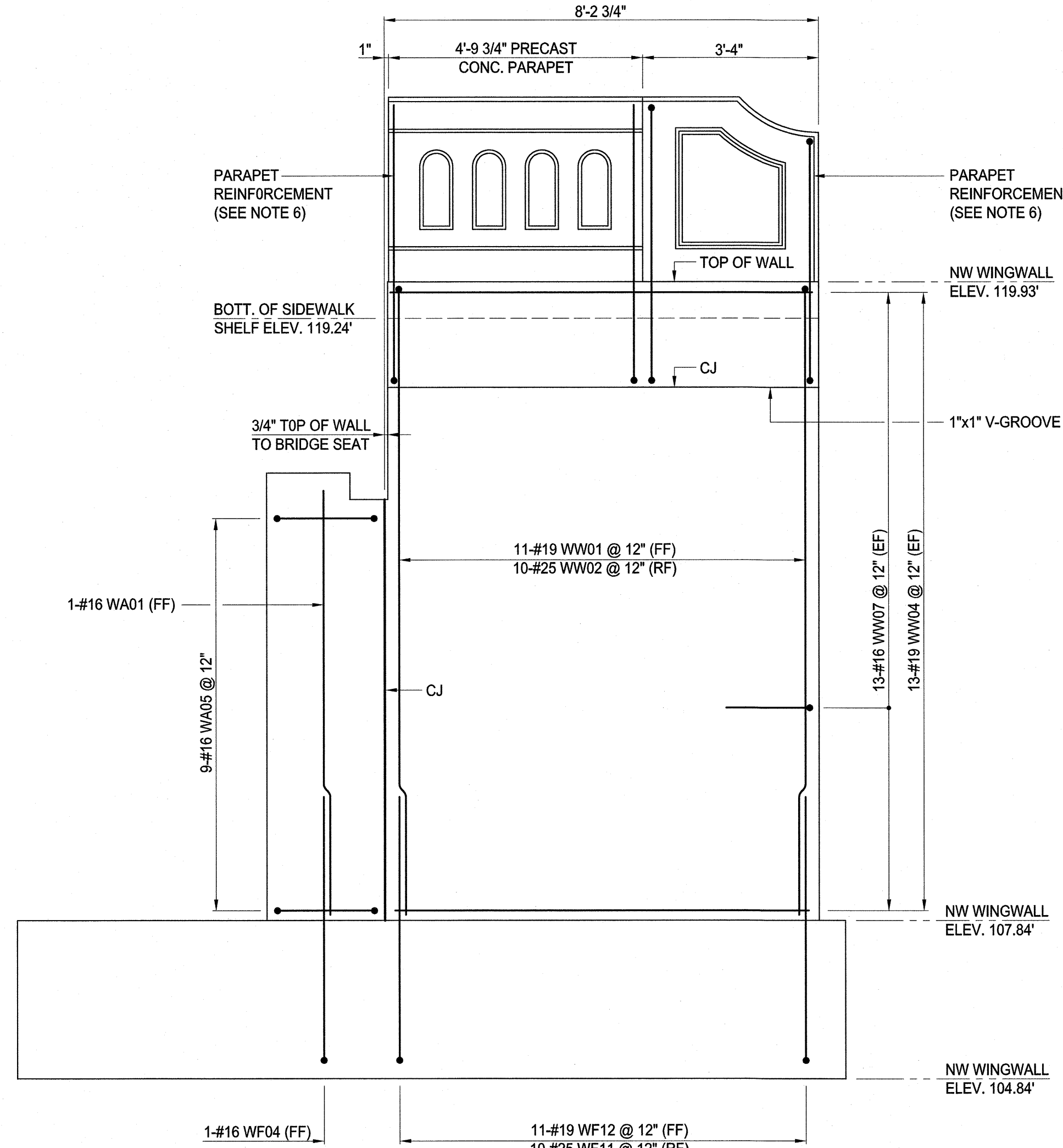
BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

	Revisions			County of Union Division of Engineering 2325 South Avenue, Scotch Plains, N.J. 07076 NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37 City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY
	No.	Date	By	
	1	05/2017	NH	SOUTH WINGWALL ELEVATIONS
Designed By: Drawn By:			Scale: AS SHOWN Sheet No. 21 of 33 Drawing No. B-8 Date: June 2016	
Checked By: Approved By:			Thomas O. Mineo County Engineer N.J.P.E. No. 19646	
MICHAEL J. McCLELLAND P.E. PROFESSIONAL ENGINEER LIC. 32468				

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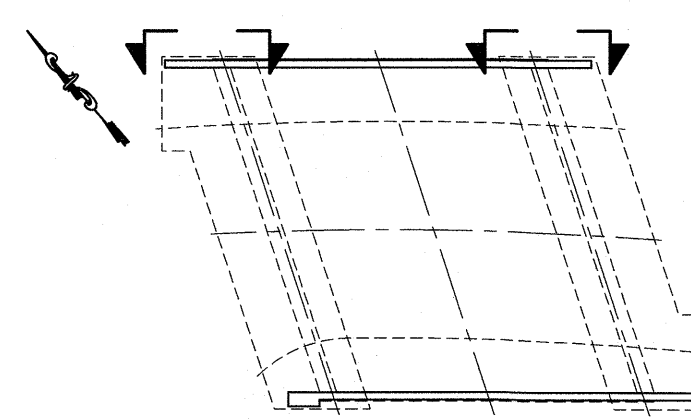
NORTHEAST WINGWALL ELEVATION
SCALE: 1/2"=1'-0"



NORTHWEST WINGWALL ELEVATION
SCALE: 1/2"=1'-0"

- NOTES:**
- FOR GENERAL NOTES, SEE DRAWING NO. B-1.
 - FOR WORKING POINT TABLE, SEE DRAWING NO. B-4.
 - FOR LOCATION AND SPACING OF DOWELS TO BE PLACED WITH FOOTING REINFORCEMENT, SEE FOOTING PLANS ON DRAWING NO. B-5.
 - FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE DRAWING NO. B-10.
 - FOR REINFORCING BAR SCHEDULES, SEE DRAWING NO. B-11.
 - FOR CAST-IN-PLACE PYLON AND PRECAST CONCRETE PARAPET REINFORCEMENT, SEE DRAWING NO. B-16.

- LEGEND:**
- QUANTITY
 - SIZE
 - WEST
 - WINGWALL
 - MARK NUMBER
 - AT
 - SPACING
 - EACH FACE
- 10-#16 WW04 @ 12" (EF)**
- A - ABUTMENT
 - BB - BRIDGE BEAM
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 - W - WINGWALL
 - E - EAST
 - W - WEST
 - (T) - TOP
 - (B) - BOTTOM
 - (FF) - FRONT FACE
 - (RF) - REAR FACE
 - (EF) - EACH FACE
 - CJ - CONTRACTION JOINT



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

Michael J. McClelland P.E.
PROFESSIONAL ENGINEER
LIC. 32468

Revisions		
No.	Date	By
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County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

NORTH WINGWALL ELEVATIONS

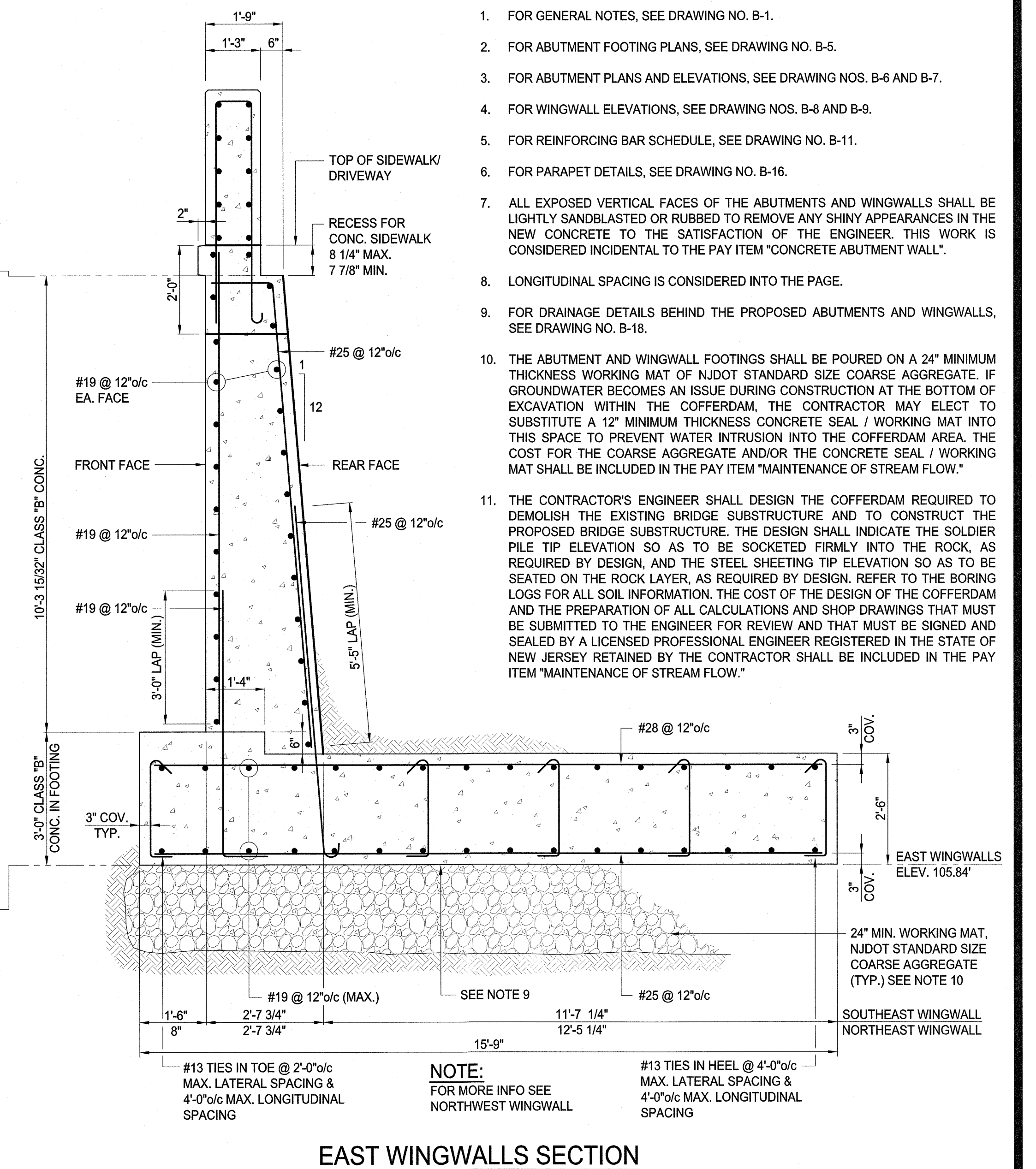
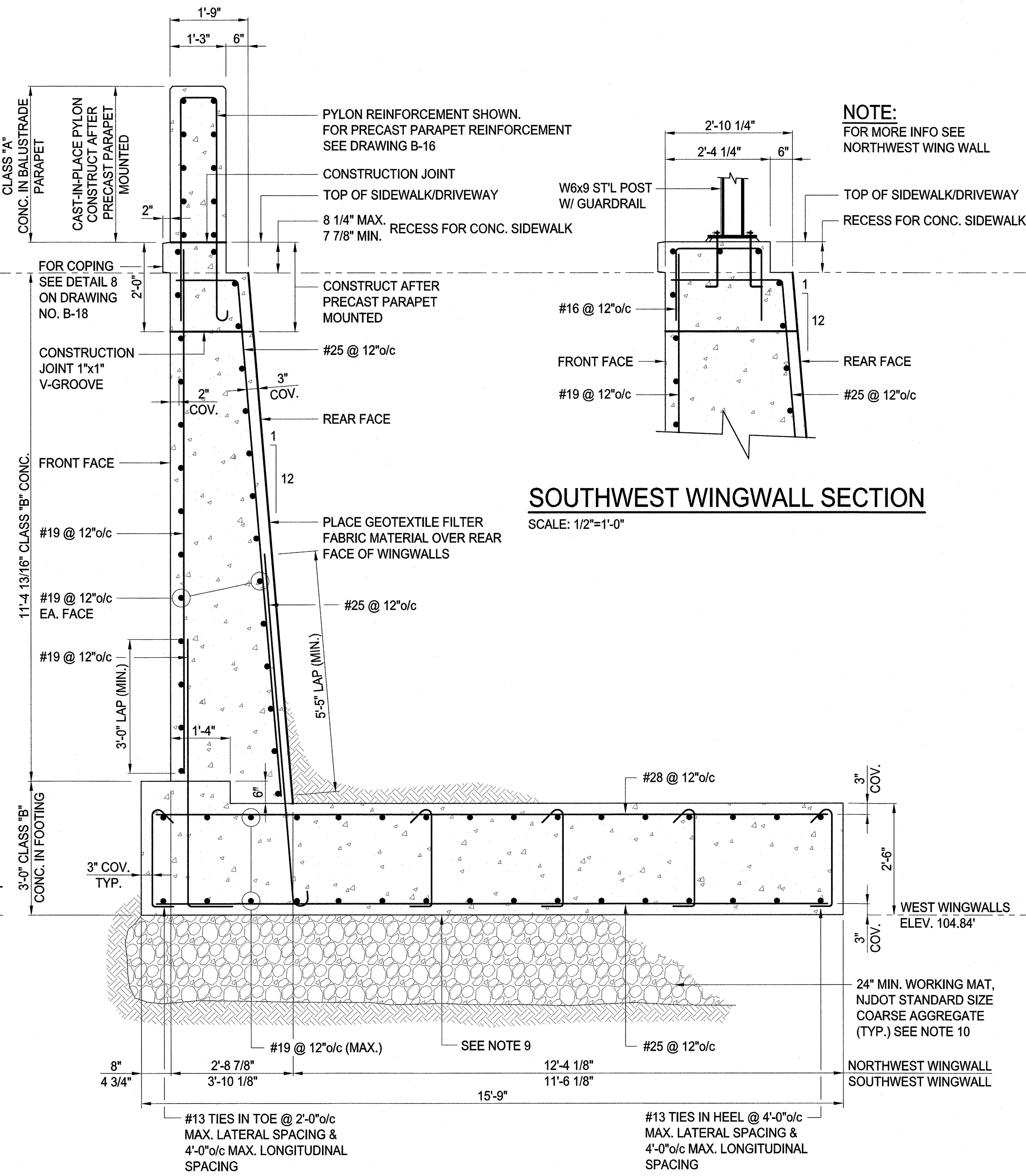
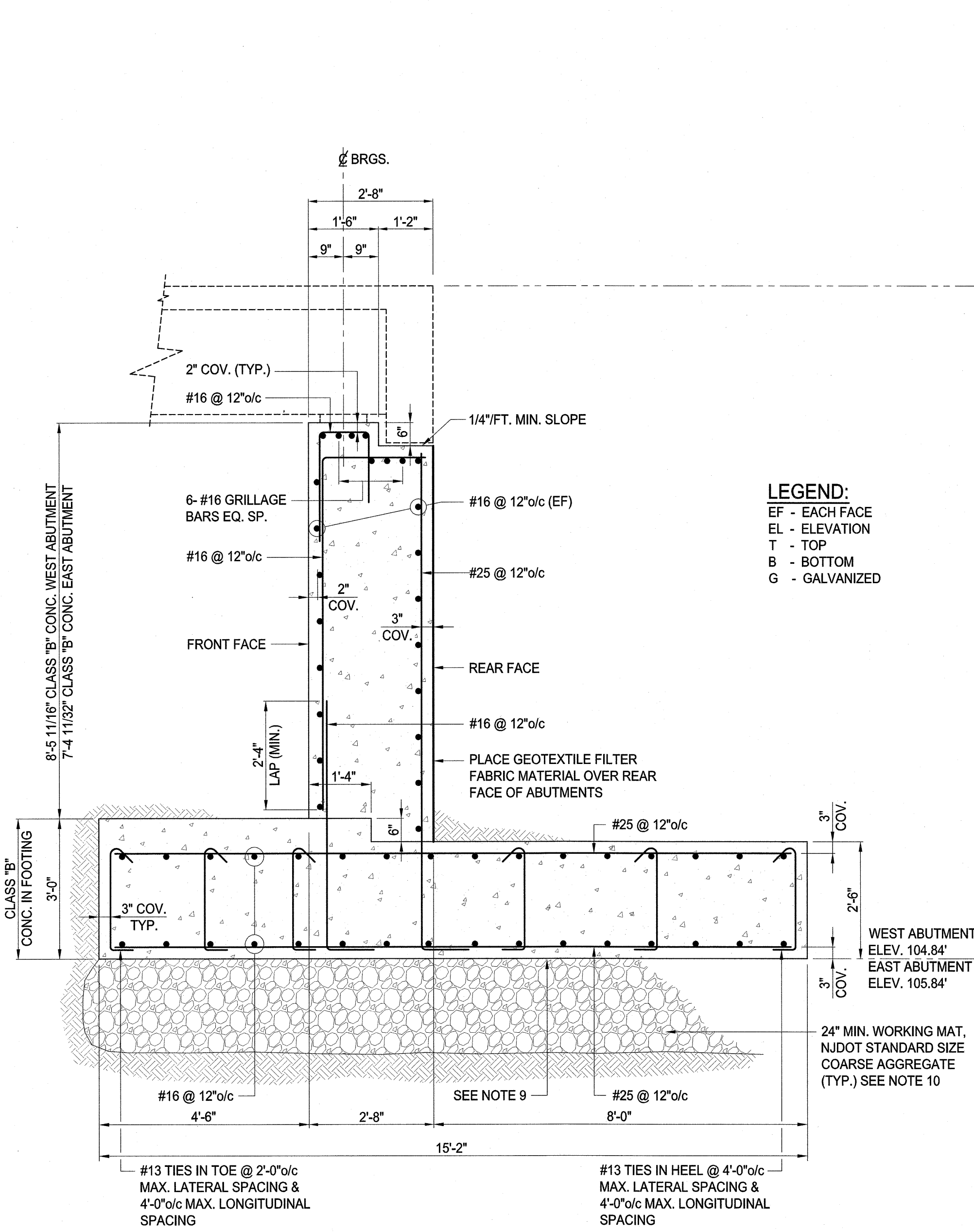
Designed By: Drawn By: Scale: AS SHOWN
Checked By: Approved By: Sheet No. 22 of 33
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

NOTES:

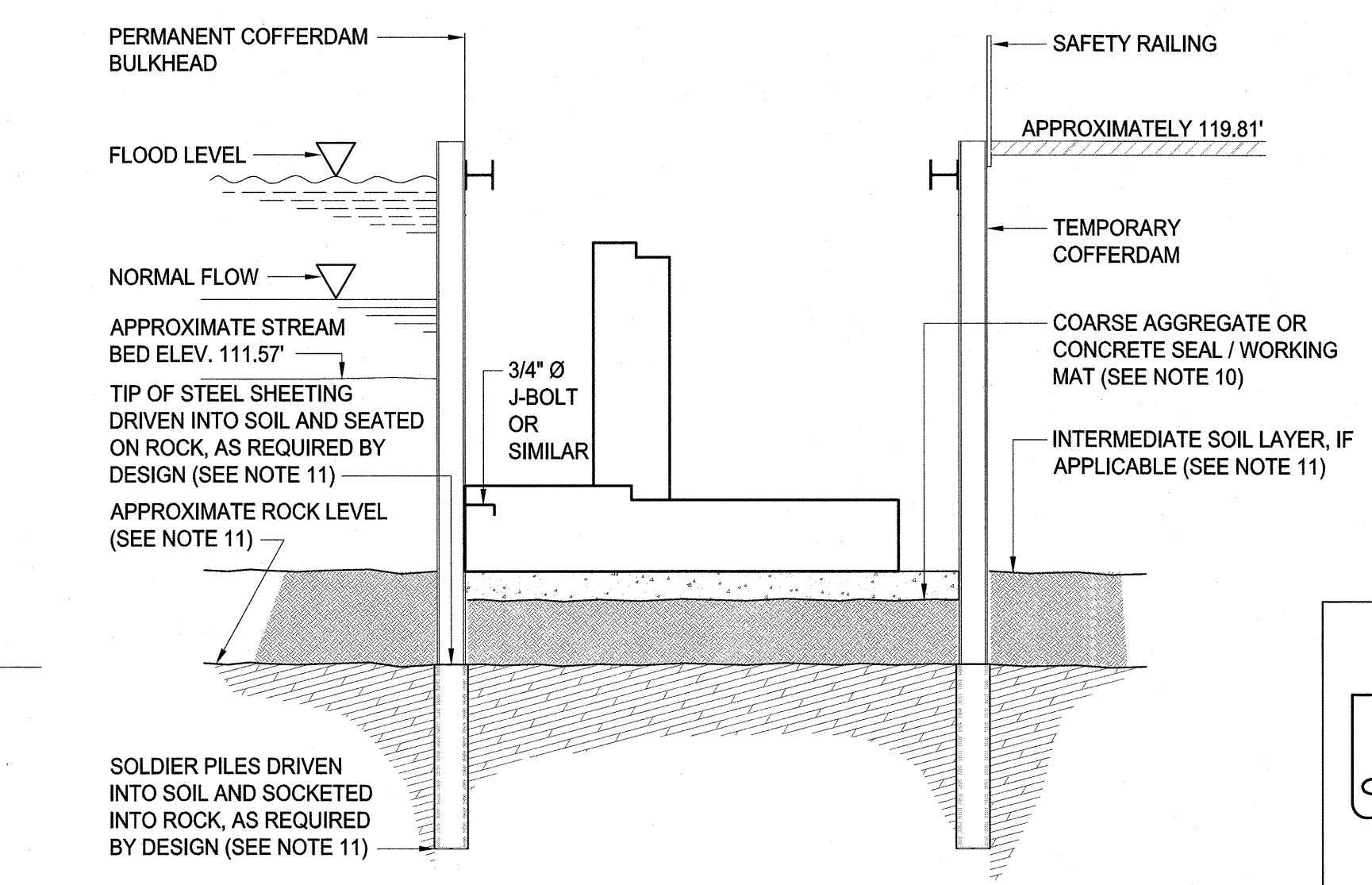
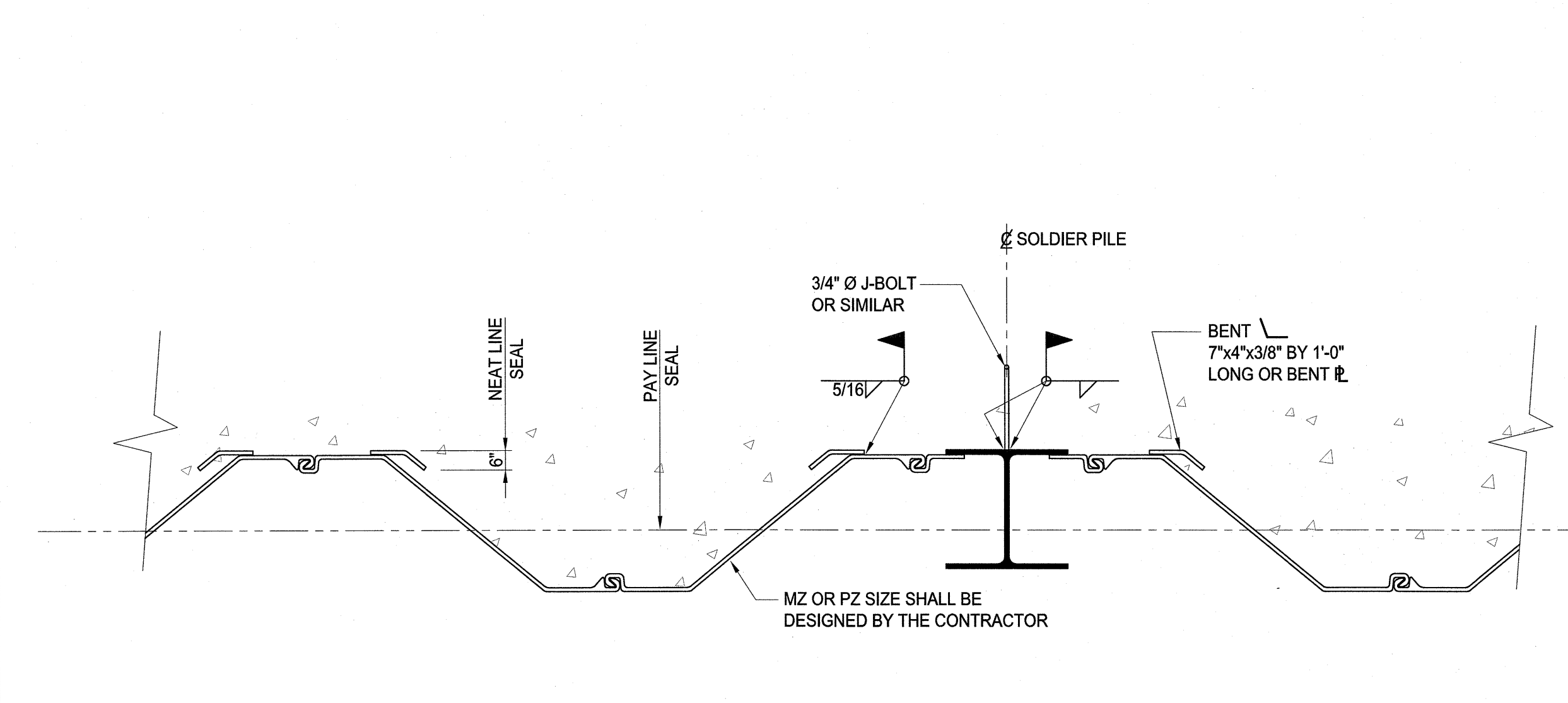
- FOR GENERAL NOTES, SEE DRAWING NO. B-1.
- FOR ABUTMENT FOOTING PLANS, SEE DRAWING NO. B-5.
- FOR ABUTMENT PLANS AND ELEVATIONS, SEE DRAWING NOS. B-6 AND B-7.
- FOR WINGWALL ELEVATIONS, SEE DRAWING NOS. B-8 AND B-9.
- FOR REINFORCING BAR SCHEDULE, SEE DRAWING NO. B-11.
- FOR PARAPET DETAILS, SEE DRAWING NO. B-16.
- ALL EXPOSED VERTICAL FACES OF THE ABUTMENTS AND WINGWALLS SHALL BE LIGHTLY SANDBLASTED OR RUBBED TO REMOVE ANY SHINY APPEARANCES IN THE NEW CONCRETE TO THE SATISFACTION OF THE ENGINEER. THIS WORK IS CONSIDERED INCIDENTAL TO THE PAY ITEM "CONCRETE ABUTMENT WALL".
- LONGITUDINAL SPACING IS CONSIDERED INTO THE PAGE.
- FOR DRAINAGE DETAILS BEHIND THE PROPOSED ABUTMENTS AND WINGWALLS, SEE DRAWING NO. B-18.
- THE ABUTMENT AND WINGWALL FOOTINGS SHALL BE POURED ON A 24" MINIMUM THICKNESS WORKING MAT OF NJDOT STANDARD SIZE COARSE AGGREGATE. IF GROUNDWATER BECOMES AN ISSUE DURING CONSTRUCTION AT THE BOTTOM OF EXCAVATION WITHIN THE COFFERDAM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE A 12" MINIMUM THICKNESS CONCRETE SEAL / WORKING MAT INTO THIS SPACE TO PREVENT WATER INTRUSION INTO THE COFFERDAM AREA. THE COST FOR THE COARSE AGGREGATE AND/OR THE CONCRETE SEAL / WORKING MAT SHALL BE INCLUDED IN THE PAY ITEM "MAINTENANCE OF STREAM FLOW".
- THE CONTRACTOR'S ENGINEER SHALL DESIGN THE COFFERDAM REQUIRED TO DEMOLISH THE EXISTING BRIDGE SUBSTRUCTURE AND TO CONSTRUCT THE PROPOSED BRIDGE SUBSTRUCTURE. THE DESIGN SHALL INDICATE THE SOLDIER PILE TIP ELEVATION SO AS TO BE SOCKETED FIRMLY INTO THE ROCK, AS REQUIRED BY DESIGN, AND THE STEEL SHEETING TIP ELEVATION SO AS TO BE SITED ON THE ROCK LAYER, AS REQUIRED BY DESIGN. REFER TO THE BORING LOGS FOR ALL SOIL INFORMATION. THE COST OF THE DESIGN OF THE COFFERDAM AND THE PREPARATION OF ALL CALCULATIONS AND SHOP DRAWINGS THAT MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND THAT MUST BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW JERSEY RETAINED BY THE CONTRACTOR SHALL BE INCLUDED IN THE PAY ITEM "MAINTENANCE OF STREAM FLOW".



TYPICAL ABUTMENT SECTION
SCALE: 1/2"=1'-0"

WEST WINGWALLS SECTION
SCALE: 1/2"=1'-0"

EAST WINGWALLS SECTION
SCALE: 1/2"=1'-0"



SCHEMATIC SHEETING DETAIL
SCALE: 1"=1'-0"

SCHEMATIC COFFERDAM SECTION
NOT TO SCALE

OXE ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
3941 ROCKBOWN AVENUE, PAOLA, NEW JERSEY 08859
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER
LIC. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County
NEW JERSEY

TYPICAL ABUTMENT AND WINGWALL SECTIONS

Scale: AS SHOWN
Sheet No. 23 of 33
Drawing No. B-10
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

REINFORCING BAR SCHEDULE – EAST

MARK	TYPE	SIZE	QUANTITY	LENGTH	A	B	C	D	E	F	G	REMARKS
FOOTING												
EF01	1	25	2x57	14'-8"	14'-8"							T & B - DWG. B-5
EF02	1	25	2x4	4'-2" TO 13'-4"	4'-2" TO 13'-4"							T & B - DWG. B-5
EF03	1	16	2x32	29'-10" TO 32'-2"	29'-10" TO 32'-2"							T & B - DWG. B-5
EF04	2	16	65	6'-3"	5'-3"	1'-0"						DWLS FRONT - DWG. B-5
EF05	3A	13	104	2'-9"	2'-1"	0'-4"	0'-4"					TIES - DWG. B-5
EF06	1	28	28	15'-3"	15'-3"							TOP - DWG. B-5
EF07	1	25	28	15'-3"	15'-3"							BOTT. - DWG. B-5
EF08	1	19	2x16	15'-0"	15'-0"							T & B - DWG. B-5
EF09	1	19	2x16	10'-8"	10'-8"							T & B - DWG. B-5
EF11	2A	25	18	8'-7"	7'-11"	0'-8"						DWLS REAR - DWG. B-5
EF12	2	19	21	6'-11"	5'-11"	1'-0"						DWLS FRONT - DWG. B-5
ABUTMENT												
EA01	2	16	65	8'-10"	6'-7"	2'-3"						(FF) VERT. - DWG. B-7
EA02	2	25	61	10'-6"	9'-6"	1'-0"						(RF) VERT. - DWG. B-7
EA03	3	16	62	5'-10"	1'-4"	2'-0"	2'-6"					(T) BAR - DWG. B-7
EA04	1	16	2x18	29'-5"	29'-5"							(EF) HORIZ. - DWG. B-7
EA05	3	16	8	5'-9"	2'-9"	1'-6"	1'-6"					SIDE BAR - DWG. B-7
EA06	3	16	8	5'-0"	2'-0"	1'-6"	1'-6"					SIDE BAR - DWG. B-7
EA07	1	16	12	29'-5"	29'-5"							(T) GRILLAGE - DWG. B-7
EA08	1	16	8	3'-10"	3'-10"							DIAG. BAR - DWG. B-6
EA09	1	16	2x8	3'-7"	3'-7"							DIAG. BAR - DWG. B-6
WINGWALL												
EW01	1	19	21	18'-8"	10'-8"							(FF) - DWG. B-8 & B-9
EW02	2	25	18	11'-10"	10'-6"	1'-4"						(RF) - DWG. B-8 & B-9
EW04	1	19	12	7'-9"	7'-9"							(EF) HORIZ. - DWG. B-8
EW05	1	19	12	6'-11"	6'-11"							(EF) HORIZ. - DWG. B-9
EW07	3	16	24	4'-4" TO 5'-4"	1'-4" TO 2'-4"	1'-6"	1'-6"					SIDE - DWG. B-8 & B-9

REINFORCING BAR SCHEDULE – NORTH

MARK	TYPE	SIZE	QUANTITY	LENGTH	A	B	C	D	REMARKS
SIDEWALK									
S01	2	13	57	11'-1" TO 12'-0"	10'-8" TO 11'-7"	0'-5"			DWG. B-15
S02	2	13	2x12	29'-0" TO 29'-3"	28'-10"	0'-2" TO 0'-5"			DWG. B-15
PARAPET									
P01	5	16	4x5	7'-7"	0'-11"	2'-10"	2'-10"	0'-6"	PYLON DWG. B-16
P02	3	16	4x2	4'-10"	2'-10"	1'-0"	1'-0"		PYLON DWG. B-16
P03	4A	16	4x7	11'-5"	0'-11"	4'-6"	4'-6"	1'-0"	PYLON DWG. B-16
P04	5	16	2x4	7'-7"	0'-11"	3'-0"	3'-0"	0'-6"	PYLON DWG. B-16
P05	3C	16	2x2	5'-4"	1'-8"	1'-8"	1'-0"	1'-0"	PYLON DWG. B-16
P06	4A	19	4	12'-9"	0'-11"	5'-2"	5'-2"	1'-0"	PYLON DWG. B-16
P07	4A	19	3	12'-3" TO 11'-5"	0'-11"	4'-11" TO 4'-6"	4'-11" TO 4'-6"	1'-0"	PYLON DWG. B-16

REINFORCING BAR SCHEDULE

MARK	TYPE	SIZE	QUANTITY	LENGTH	A	B	C	D	REMARKS
DECK									
D01	2	16	2x75	31'-1"	30'-9"	0'-4"			DWG. B-15 & B-17
D02	2	16	2x58	29'-1" TO 29'-6"	28'-10"	0'-3" TO 0'-8"			DWG. B-15 & B-17
D03	1	16	2x167	8'-8"	8'-8"				DWG. B-15 & B-17
D04	3	16	57	2'-11"	0'-11"	1'-0"	1'-0"		DWG. B-15 & B-17
D05	3	13	57	1'-9"	0'-9"	0'-6"	0'-6"		DWG. B-15 & B-17
D06	4B	16	2x61	7'-8"	0'-8"	2'-11"			DWG. B-17 - TIES
D07	4B	16	2x61	8'-8"	1'-8"	2'-5"			DWG. B-17 - TIES
D08	3B	19	2x58	4'-11"	2'-6"	1'-5"	1'-0"		DWG. B-15 & B-17
D09	1	19	2x12	3'-6"	3'-6"				DWG. B-15 & B-17
D10	3B	13	8	4'-8"	2'-1"	0'-6"	2'-1"		DWG. B-17 - DIAG.
D11	3B	13	8	3'-4"	1'-7"	0'-2"	1'-7"		DWG. B-17 - DIAG.

REINFORCING BAR SCHEDULE – WEST

MARK	TYPE	SIZE	QUANTITY	LENGTH	A	B	C	D	E	F	G	REMARKS
FOOTING												
WF01	1	25	2x57	14'-8"	14'-8"							T & B - DWG. B-5
WF02	1	25	2x4	4'-2" TO 13'-4"	4'-2" TO 13'-4"							T & B - DWG. B-5
WF03	1	16	2x32	29'-10" TO 32'-2"	29'-10" TO 32'-2"							T & B - DWG. B-5
WF04	2	16	65	6'-3"	5'-3"	1'-0"						DWLS FRONT - DWG. B-5
WF05	3A	13	104	2'-9"	2'-1"	0'-4"	0'-4"					TIES - DWG. B-5
WF06	1	28	28	15'-3"	15'-3"							TOP - DWG. B-5
WF07	1	25	28	15'-3"	15'-3"							BOTT. - DWG. B-5
WF09	1	19	2x16	15'-3"	15'-3"							T & B - DWG. B-5
WF10	1	19	2x16	10'-8"	10'-8"							T & B - DWG. B-5
WF11	2A	25	16	8'-7"	7'-11"	0'-8"						DWLS REAR - DWG. B-5
WF12	2	19	21	6'-11"	5'-11"	1'-0"						DWLS FRONT - DWG. B-5
ABUTMENT												
WA01	2	16	65	9'-11"	7'-8"	2'-3"						(FF) VERT. - DWG. B-6
WA02	2	25	61	11'-7"	10'-7"	1'-0"						(RF) VERT. - DWG. B-6
WA03	3	16	62	5'-10"	1'-4"	2'-0"	2'-6"					(T) BAR - DWG. B-6
WA04	1	16	2x20	29'-5"	29'-5"							(EF) HORIZ. - DWG. B-6
WA05	3	16	9	5'-9"	2'-9"	1'-6"	1'-6"					SIDE BAR - DWG. B-6
WA06	3	16	9	5'-0"	2'-0"	1'-6"	1'-6"					SIDE BAR - DWG. B-6
WA07	1	16	12	29'-5"	29'-5"							(T) GRILLAGE - DWG. B-6
WA08	1	16	8	3'-10"	3'-10"							DIAG. BAR - DWG. B-7
WINGWALL												
WW01	1	19	21	11'-9"	11'-9"							(FF) - DWG. B-8 & B-9
WW02	2	25	16	13'-1"	11'-7"	1'-4"						(RF) - DWG. B-8 & B-9
WW03	3	16	6	6'-9"	3'-5"	1'-8"	1'-8"					(T) BAR - DWG. B-8
WW04	1	19	13	7'-9"	7'-9"							(EF) HORIZ. - DWG. B-8
WW06	1	19	13	4'-11"	4'-11"							(EF) HORIZ. - DWG. B-8
WW07	3	16	13	4'-4" TO 5'-4"	1'-4" TO 2'-4"	1'-6"	1'-6"					SIDE BAR - DWG. B-9
WW08	3	16	13	5'-5" TO 6'-5"	2'-5" TO 3'-5"	1'-6"	1'-6"					SIDE BAR - DWG. B-8

REINFORCING BAR SCHEDULE – SOUTH

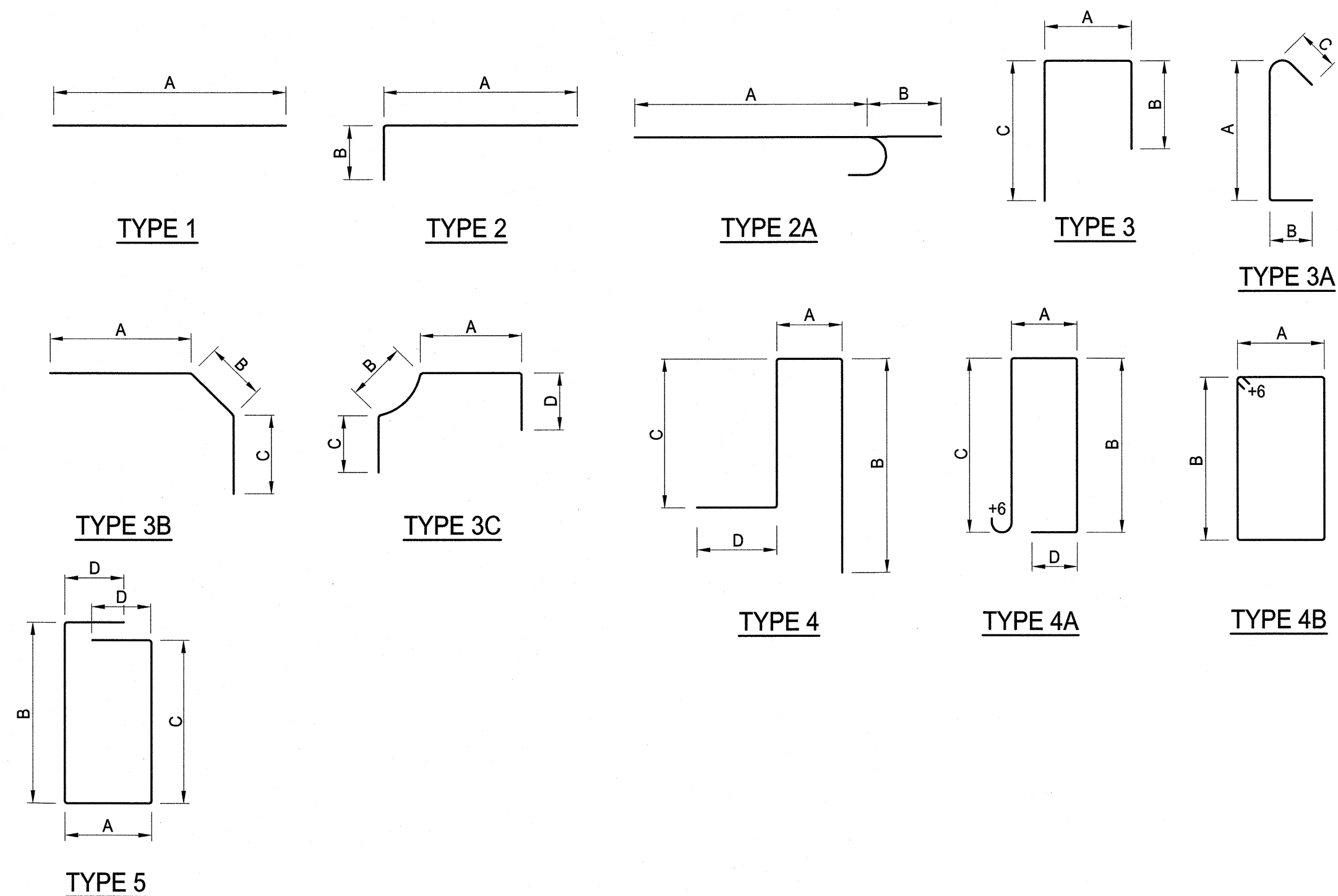
MARK	TYPE	SIZE	QUANTITY	LENGTH	A	B	C	D	REMARKS
SIDEWALK									
S01	2	13	57	9'-6" TO 11'-1"	9'-1" TO 10'-8"	0'-5"			DWG. B-15
S02	2	13	2x11	29'-0" TO 29'-3"	28'-10"	0'-2" TO 0'-5"			DWG. B-15
PARAPET									
P01	5	16	3x5	7'-7"	0'-11"	2'-10"	2'-10"	0'-6"	PYLON DWG. B-16
P02	3	16	3x2	4'-10"	2'-10"	1'-0"	1'-0"		PYLON DWG. B-16
P03	4A	16	3x7	11'-5"	0'-11"	4'-6"	4'-6"	1'-0"	PYLON DWG. B-16
P04	5	16	2x4	7'-7"	0'-11"	3'-0"	3'-0"	0'-6"	PYLON DWG. B-16
P05	3C	16	2x2	5'-4"	1'-8"	1'-8"	1'-0"	1'-0"	PYLON DWG. B-16
P06	4A	19	2x4	12'-9"	0'-11"	5'-2"	5'-2"	1'-0"	PYLON DWG. B-16
P07	4A	19	2x3	12'-3" TO 11'-5"	0'-11"	4'-11" TO 4'-6"	4'-11" TO 4'-6"	1'-0"	PYLON DWG. B-16
P08	4A	19	4	11'-1"	0'-11"	4'-4"	4'-4"	1'-0"	PYLON DWG. B-16
P09	4A	19	3	10'-7" TO 9'-9"	0'-11"	4'-1" TO 3'-8"	4'-1" TO 3'-8"	1'-0"	PYLON DWG. B-16

NOTES:

- FOR FOOTING PLANS, SEE DRAWING NO. B-5.
- FOR ABUTMENT PLANS AND ELEVATIONS, SEE DRAWING NOS. B-6 AND B-7.
- FOR WINGWALL ELEVATIONS, SEE DRAWING NOS. B-8 AND B-9.
- FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE DRAWING NO. B-10.
- REINFORCEMENT STEEL:**
 - ASTM A615 (GRADE 60)
 - ALL REINFORCEMENT STEEL TO BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A767. ELECTRO PLATED GALVANIZING IS NOT ACCEPTABLE AND WILL BE REJECTED.
- FOR DIAGRAMS OF BAR TYPES LISTED IN SCHEDULE, SEE THIS DRAWING.

LEGEND:

- QUANTITY
 - SIZE
 - WEST
 - ABUTMENT
 - MARK NUMBER
 - AT
 - SPACING
 - EACH FACE
- 10-#16 WA04 @ 12" (EF)
- A - ABUTMENT
 - BB - BRIDGE BEAM
 - D - DECK SLAB
 - F - FOOTING
 - R - RETAINING WALL
 - P - PARAPET
 - S - SIDEWALK
 - W - WINGWALL
 - E - EAST
 - W - WEST
 - (T) - TOP
 - (B) - BOTTOM
 - (FF) - FRONT FACE
 - (RF) - REAR FACE
 - (EF) - EACH FACE



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PROFESSIONAL ENGINEER LIC. 32448

Designed By: JN
Checked By: NH
Drawn By: JN
Approved By: JN

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

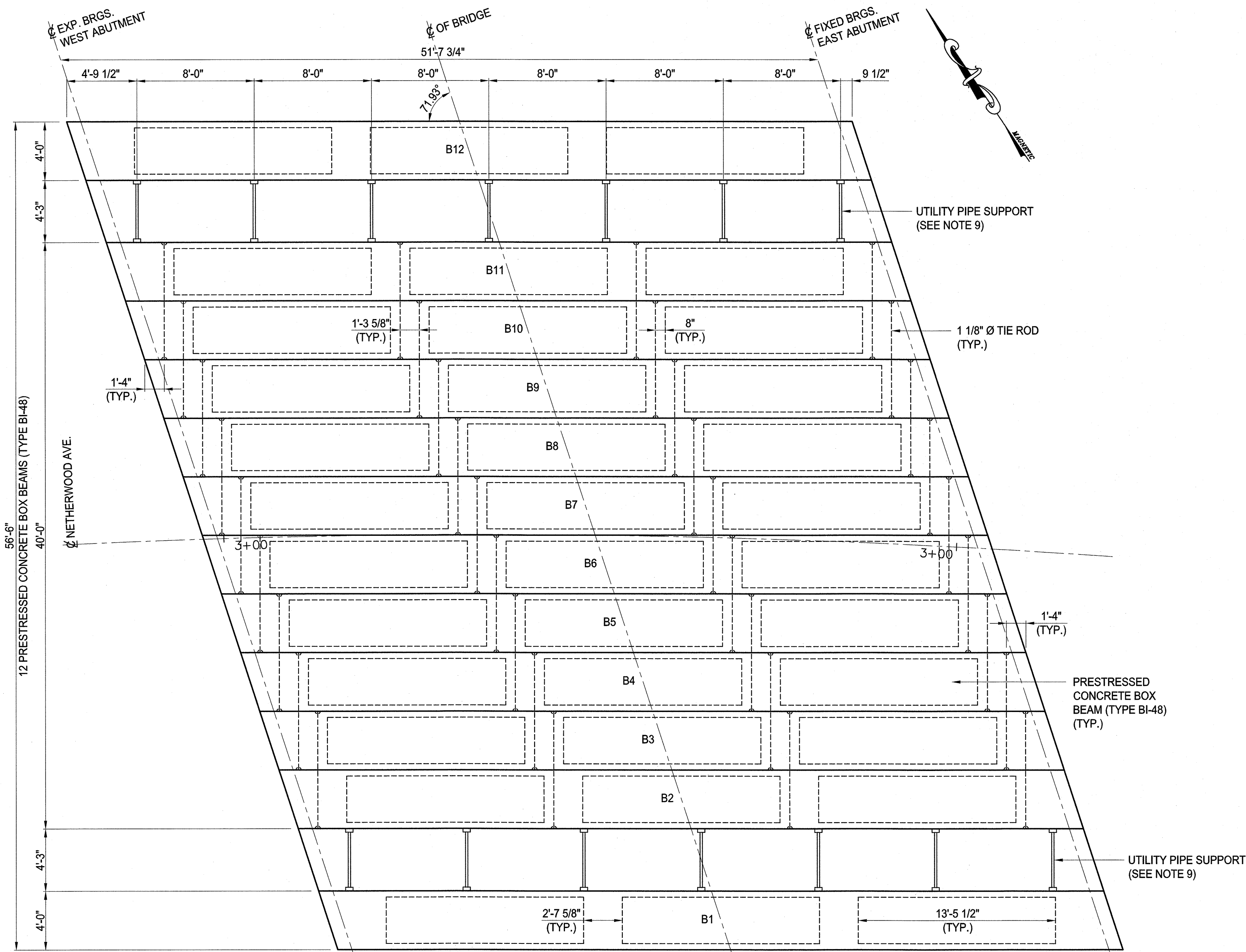
NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

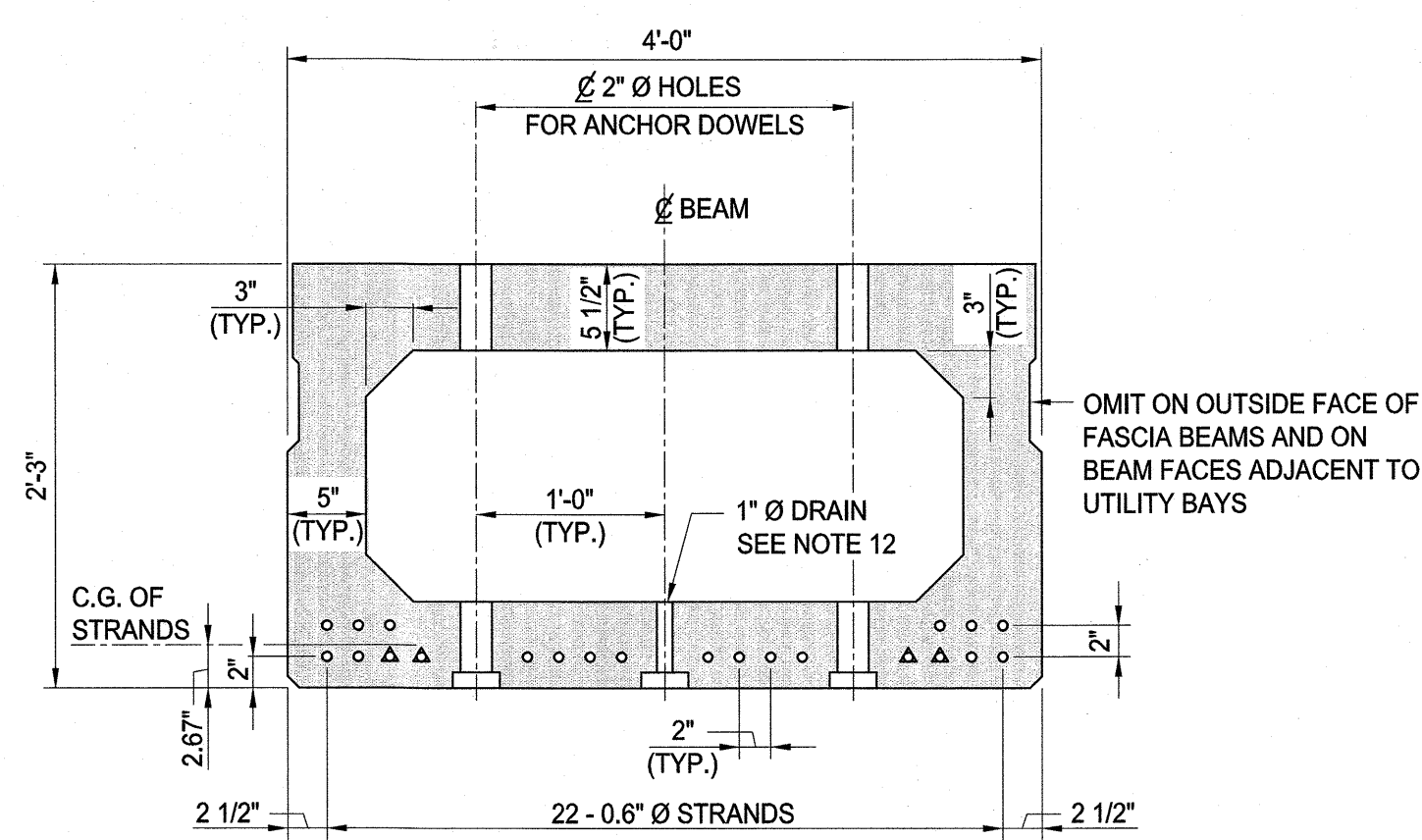
REINFORCING BAR SCHEDULES

Scale: AS SHOWN
Sheet No. 24 of 33
Drawing No. B-11
Date: June 2016

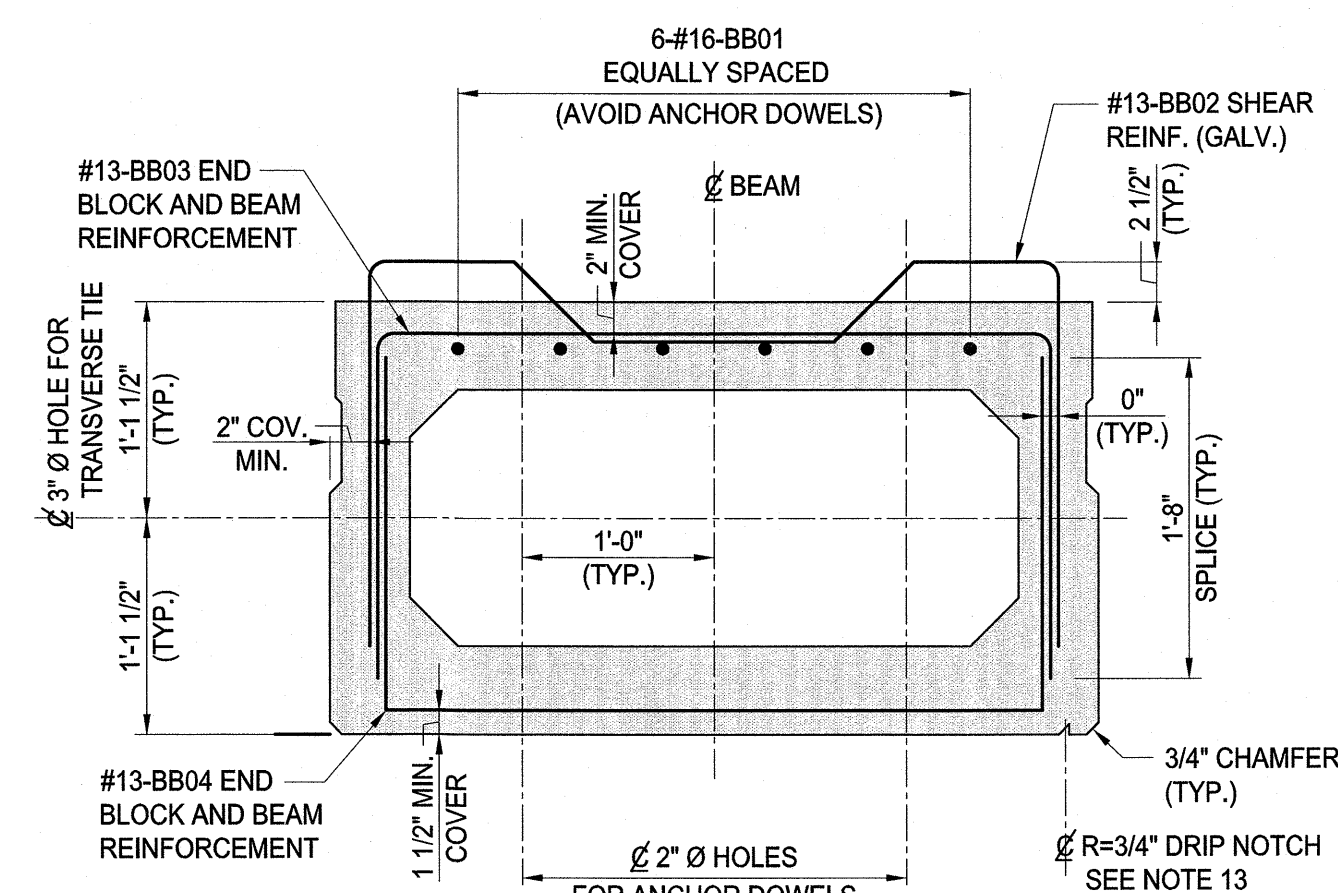
Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646



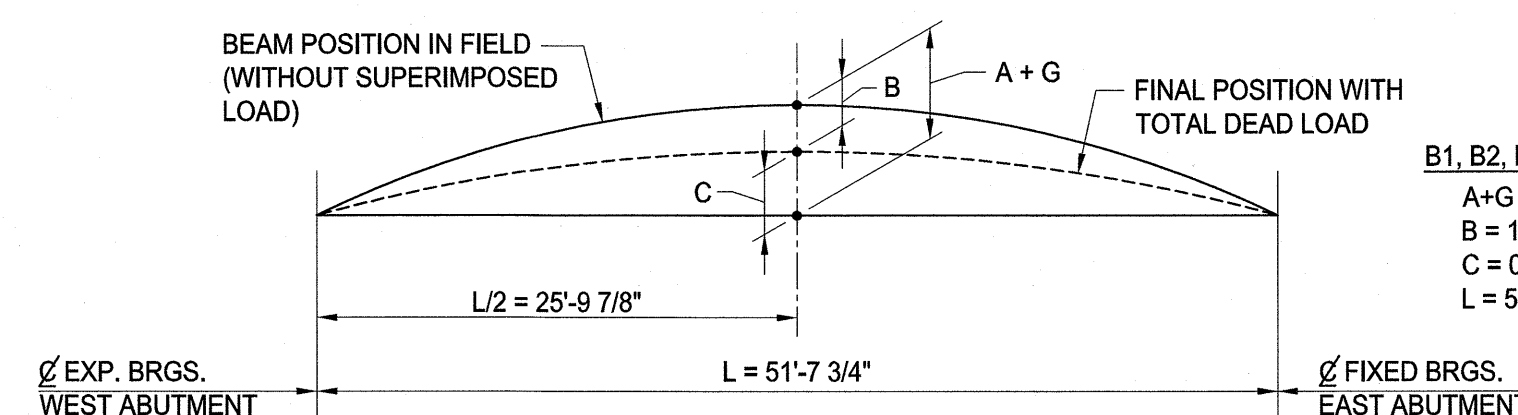
FRAMING PLAN
SCALE: 3/16"=1'-0"



BOX BEAM SECTION BI-48
(SHOWING 0.6" Ø PRESTRESSED STRANDS)
SCALE: 1"=1'-0"



BOX BEAM SECTION BI-48
(SHOWING REINFORCEMENT)
SCALE: 1"=1'-0"



B1, B2, B11, B12
A+G = 2.323"
B = 1.730"
C = 0.593"
L = 51.65'

B3 THRU B10
A+G = 2.323"
B = 0.992"
C = 1.331"
L = 51.65'

A = ESTIMATED PRESTRESSED CAMBER AT RELEASE MINUS DEFLECTION DUE TO DEAD LOAD OF BEAM. (SHALL BE COMPARED WITH ACTUAL MEASURED IN FIELD AT TIME OF ERECTION AND SHALL BE REPORTED TO THE ENGINEER.)

B = DEFLECTION DUE TO DEAD LOAD OF SLAB PLUS ALL SECONDARY DEAD LOADS (PARAPET, SIDEWALK, UTILITIES, ETC.).

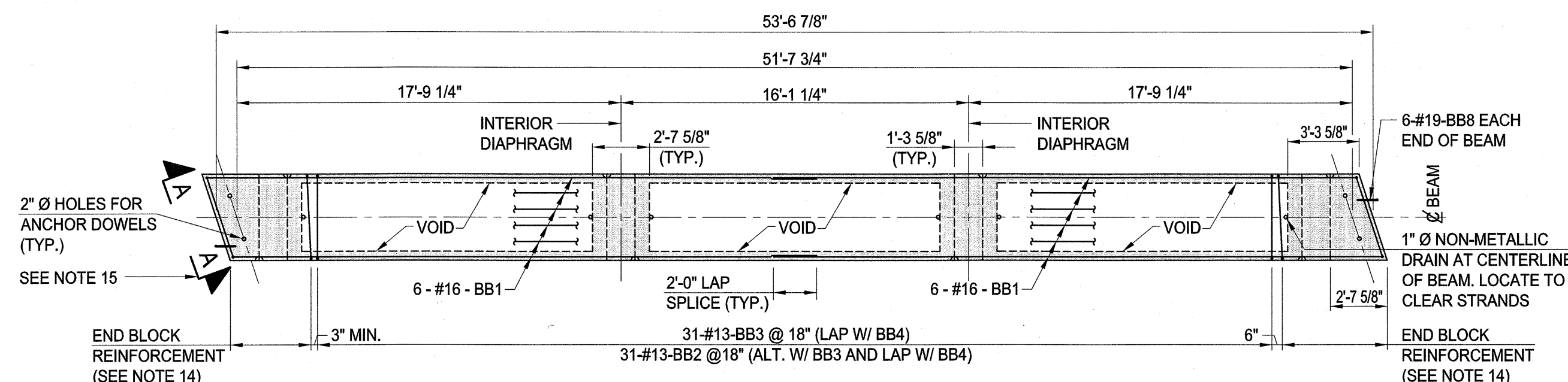
C = NET FINAL CAMBER = (A + G) - B

G = ANTICIPATED CAMBER GROWTH, IF APPLICABLE, FOR STAGED CONSTRUCTION, FOR STAGE II AND III BEAMS, UP TO 50% ADDITIONAL CAMBER GROWTH IS ANTICIPATED. THIS VALUE IS ASSUMED TO BE 50% OF THE CAMBER AT TRANSFER. WHEN NO STAGED CONSTRUCTION IS ANTICIPATED, G = 0.000" FOR ALL BEAMS.

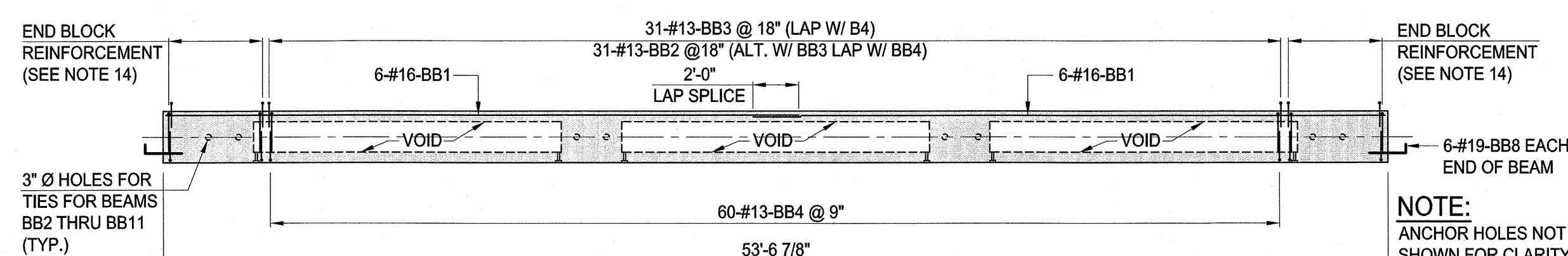
CAMBER NOTES:

- ALL CAMBERS SHOWN ABOVE ARE IN INCHES.
- THE BEAM CAMBER SHALL BE CHECKED BY THE CONTRACTOR IN THE FIELD TO ESTABLISH PROPER CONCRETE HAUNCH AND DECK ELEVATIONS.
- SHOP DRAWINGS SHALL INCLUDE CALCULATIONS OF PRESTRESS LOSSES FOR THE ENGINEER'S REVIEW AND APPROVAL.

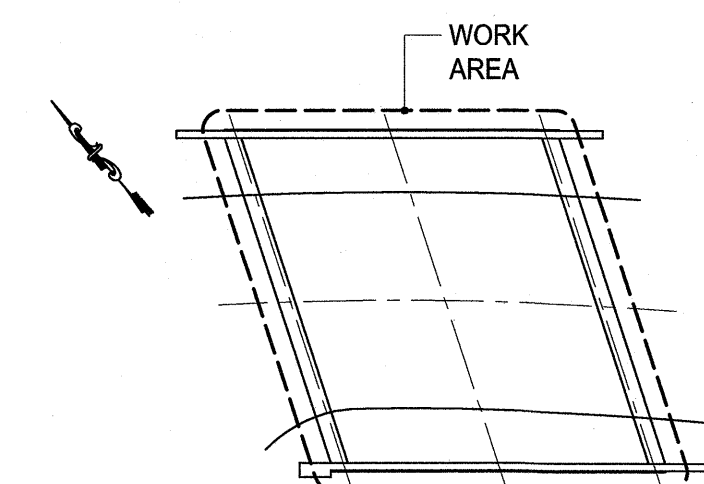
CAMBER DIAGRAM
N.T.S.



PLAN BOX BEAM
SCALE: 3/16"=1'-0"



ELEVATION (ALONG Ø BEAM)
SCALE: 3/16"=1'-0"



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

CONSULTING AND MUNICIPAL ENGINEERS
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PROFESSIONAL ENGINEER
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Michael J. McClelland

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No.	Date	By
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County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

FRAMING PLAN, ELEVATION, SECTIONS AND DETAILS

Scale: AS SHOWN
Sheet No. 25 of 33
Drawing No. B-12
Date: June 2016

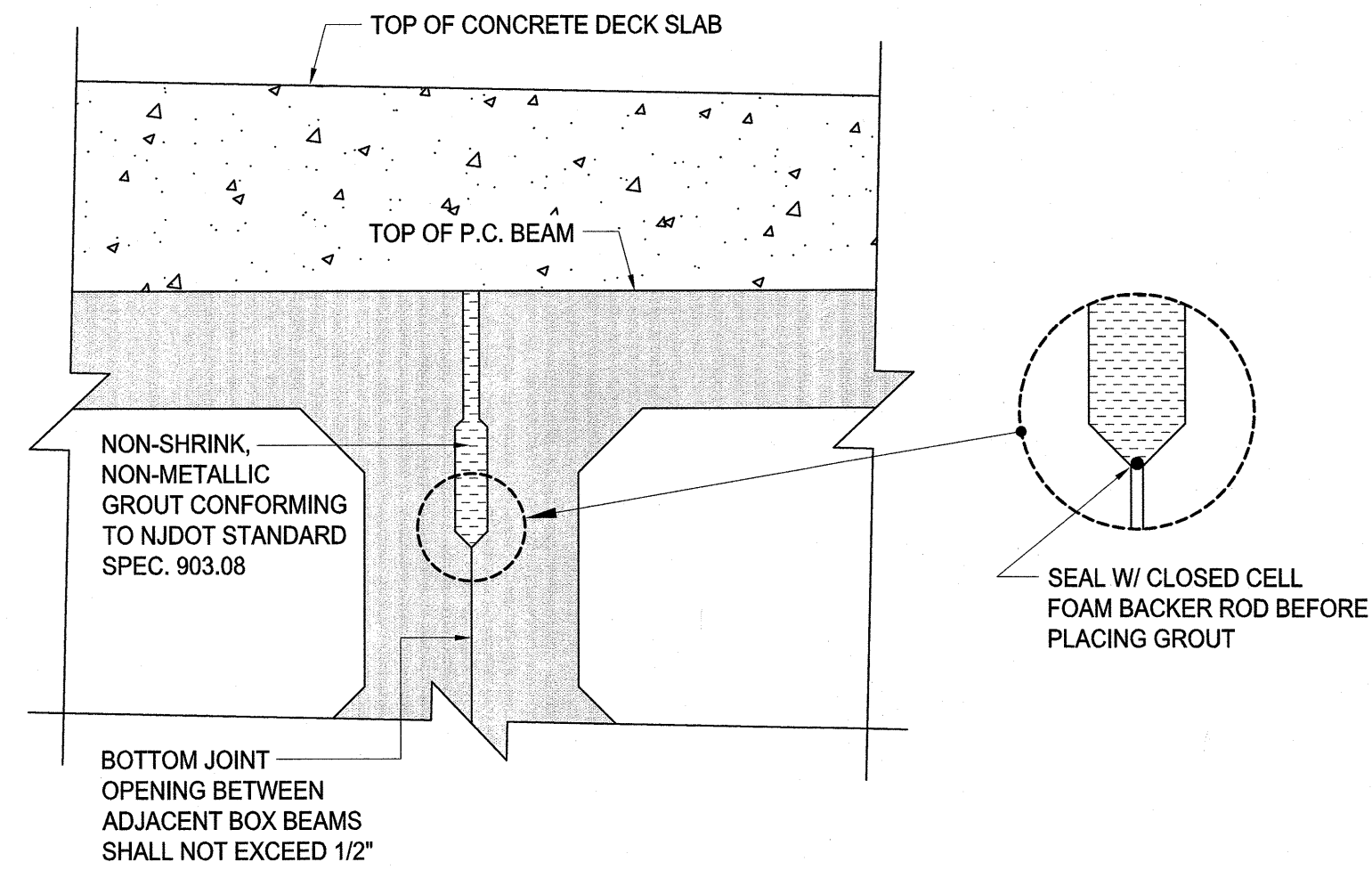
Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

NOTES:

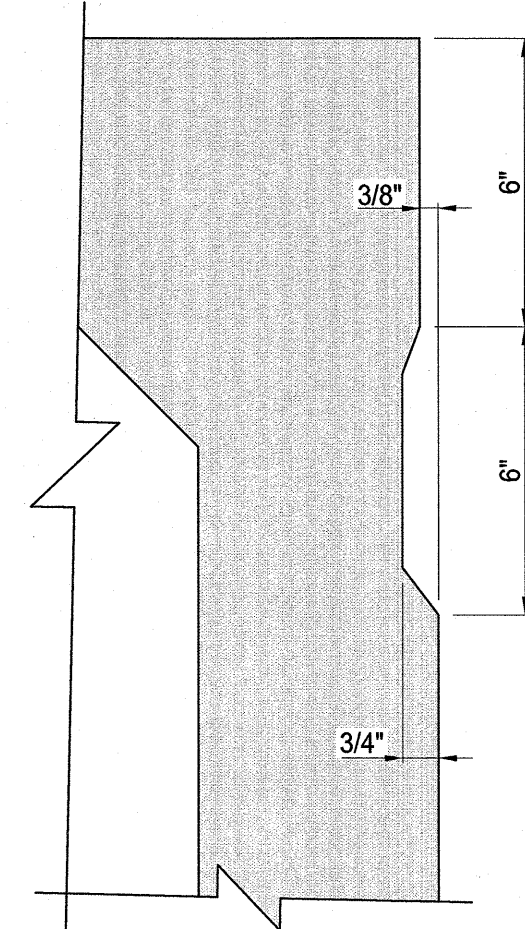
- PRESTRESSING STRANDS SHALL BE 0.6" DIAMETER (0.217 SQ. INCH), ASTM GRADE 270, 7 WIRE UNCOATED LOW RELAXATION STRANDS CONFORMING TO ASTM A416. FORCE AT PRESTRESSING = 43.94 KIPS / STRAND.
- PRECAST CONCRETE BOX BEAM SHALL HAVE A 28 DAY DESIGN STRENGTH OF NOT LESS THAN 6,000 PSI AND STRESS AT TRANSFER SHALL NOT BE LESS THAN 5,000 PSI.
- MILD STEEL REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL REINFORCEMENT STEEL TO BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A767. ELECTRO PLATED GALVANIZING IS NOT ACCEPTABLE AND WILL BE REJECTED. REINFORCEMENT BARS SHALL BE INCLUDED IN THE ITEM "PRESTRESSED CONCRETE BOX BEAM, (TYPE BI-48), 48"x27".
- GROUTING KEYWAYS BETWEEN PRECAST SECTIONS SHALL BE DONE WHEN THE TEMPERATURE IS ABOVE 40° F. NO TRAFFIC IS PERMITTED ON THE BRIDGE UNTIL THE GROUT HAS CURED FOR 72 HOURS.
- THE TRANSVERSE TIES SHALL BE INSTALLED AND TIGHTENED BEFORE THE LONGITUDINAL KEYWAYS ARE GROUTED.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCH.
- TOP SURFACE OF BOX BEAMS SHALL BE SCORED WITH A STIFF WIRE BRUSH PERPENDICULAR TO THE LENGTH OF THE BEAMS. AT THE APPROPRIATE TIME OF INITIAL SET, ALL LANTANCE SHALL BE REMOVED WITH A STIFF BRUSH.
- STRUCTURAL STEEL USED FOR THE 1 1/8" DIAMETER TRANSVERSE TIE RODS SHALL CONFORM TO ASTM A722 AND TYPE 1. THREADS ON THE RODS SHALL BE CUT TO THE COURSE THREAD SERIES CLASS 2A.
- PROVIDE STAINLESS STEEL INSERTS FOR 3/4" BOLTS. SEE DRAWING NO. B-17 FOR UTILITY SUPPORT DETAILS.
- FABRICATOR TO PROVIDE BEAM LIFTING DETAILS FOR APPROVAL.
- TRANSVERSE TIE RECESS NOT SHOWN FOR CLARITY. SEE RECESSED POCKET AND TRANSVERSE TIE DETAIL ON DRAWING NO. B-13.
- LOCATE 1" DIAMETER NON-METALLIC DRAIN AT THE CENTERLINE IN EACH VOID AND CLEAR STRANDS.
- A R=3/4" DRIP NOTCH IS TO BE LOCATED ON FASCIA BEAMS AND ON BEAM FACES ADJACENT TO UTILITY BAYS. FOR DRIP NOTCH DETAILS, SEE DRAWING NO. B-13.
- FOR END BLOCK REINFORCEMENT DETAILS, SEE DRAWING NO. B-13.
- FOR VIEW A-A, SEE DRAWING NO. B-13.

LEGEND:

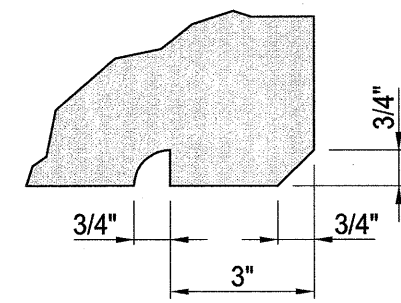
- - DENOTES MILD REINFORCEMENT
- - DENOTES BONDED STRANDS
- △ - DENOTES 10' DEBONDED STRANDS



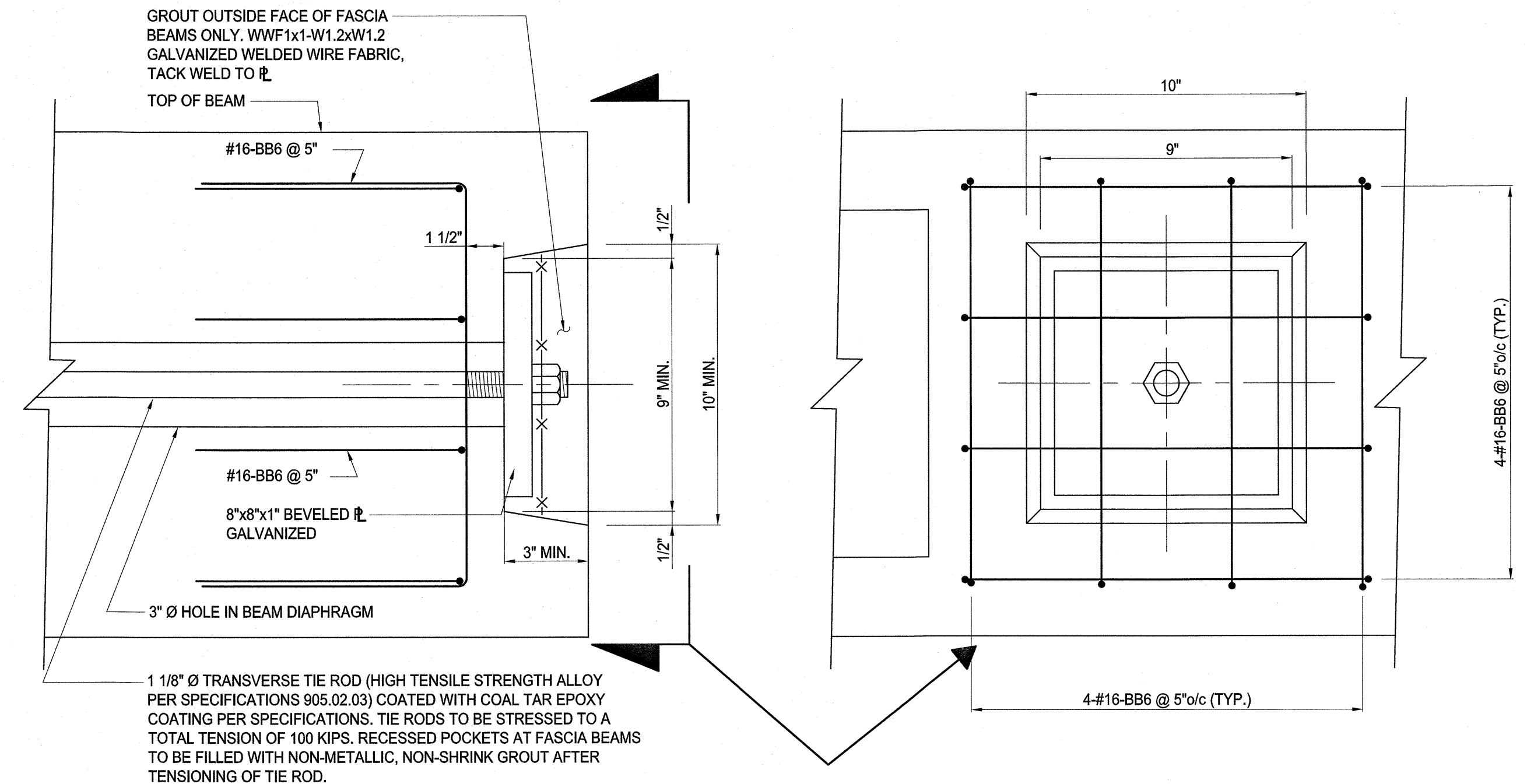
GRAUDED KEY WAY DETAIL
SCALE: 1 1/2"=1'-0"



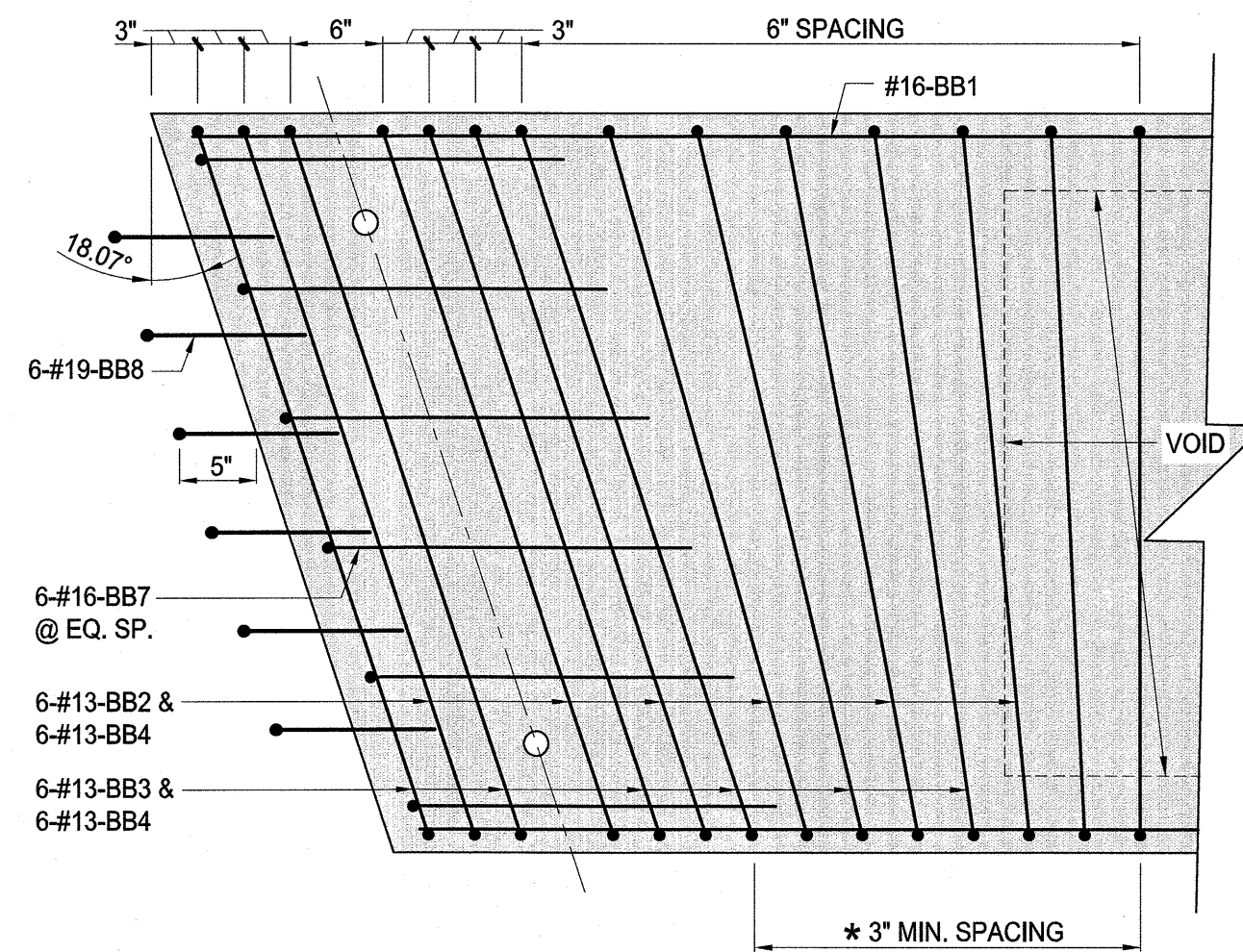
TYPICAL KEYWAY DETAIL
SCALE: 3"=1'-0"



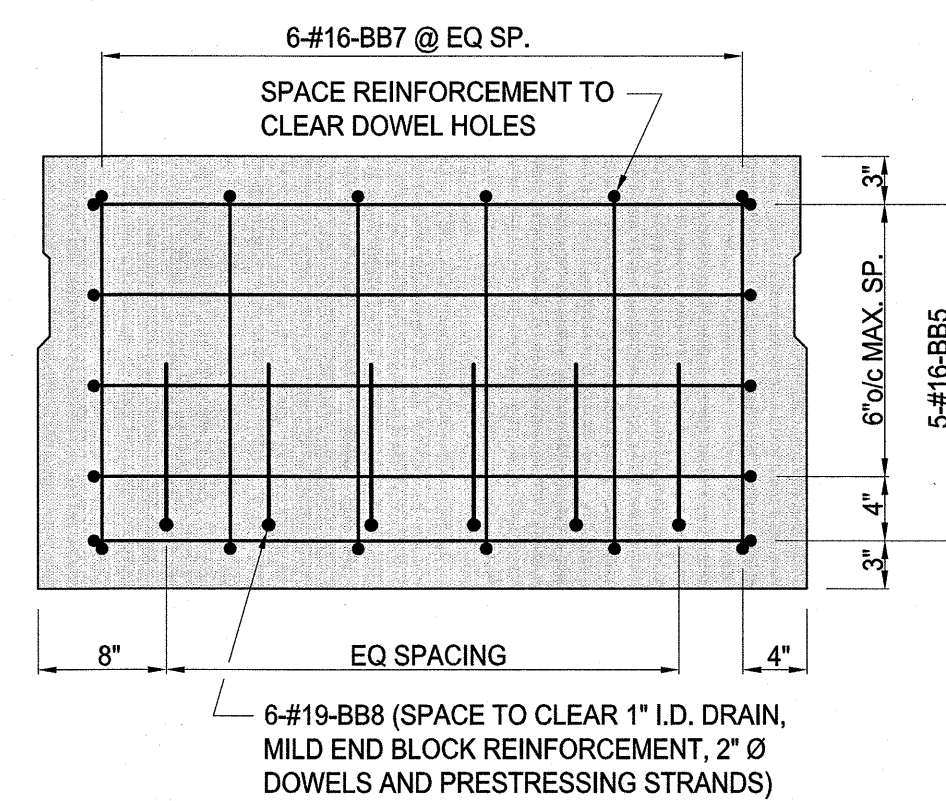
DRIP NOTCH DETAIL
SCALE: 3"=1'-0"



RECESSED POCKET AND TRANSVERSE TIE DETAIL
SCALE: 3"=1'-0"



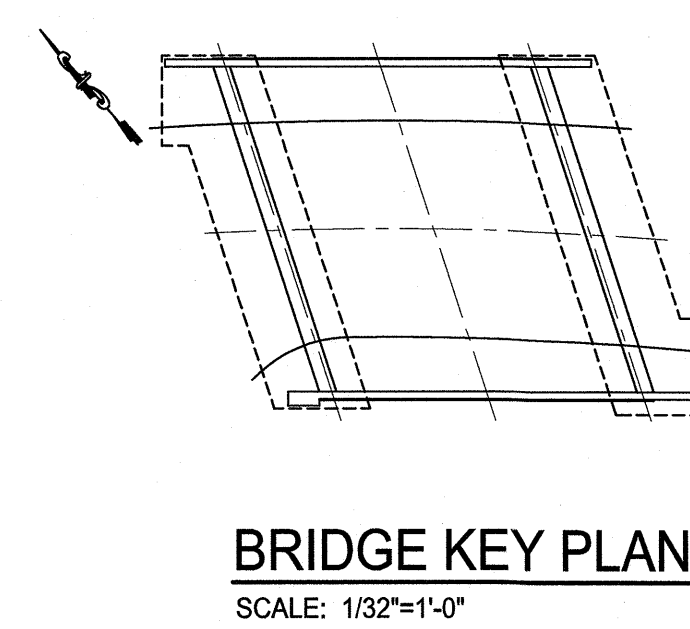
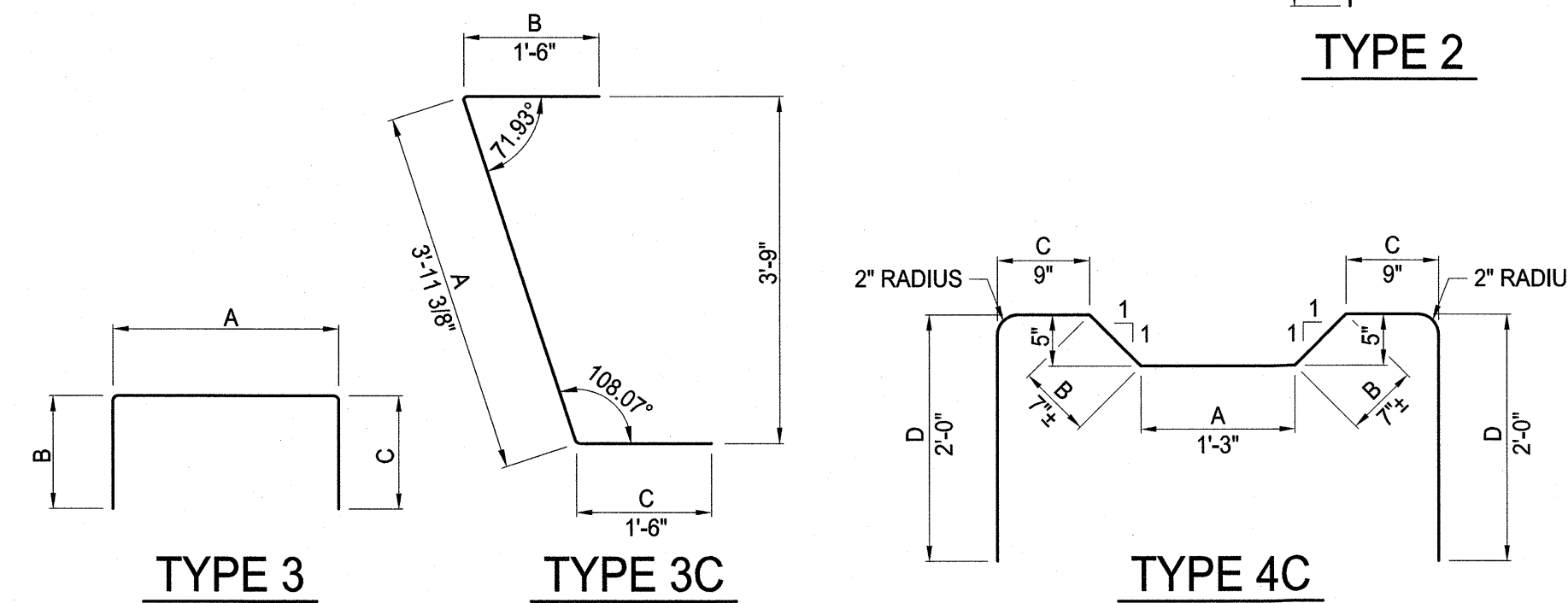
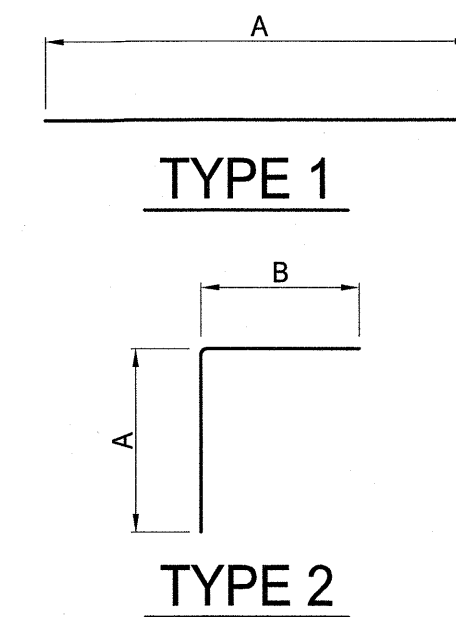
BOX BEAM BI-48 - PLAN VIEW
END BLOCK REINFORCEMENT
SCALE: 1"=1'-0" * DENOTES MIN. SPACING BETWEEN B2 & B3



BOX BEAM BI-48 - END ELEVATION
VIEW A-A (SEE NOTE 3 THIS DWG.)
SCALE: 1"=1'-0"

REINFORCEMENT BAR SCHEDULE - P/S BEAMS										
MARK	TYPE	SIZE	NUMBER	LENGTH	A	B	C	D	E	REMARKS
BB1	1	16	12x12 BEAMS	27'-6"	27'-6"					6 PER BEAM-TOP
BB2	4C	13	43x12 BEAMS	7'-11"	1'-3"	0'-7"	0'-9"	2'-0"		43 PER BEAM-SHEAR
BB3	3	13	43x12 BEAMS	7'-4"	3'-8"	1'-10"	1'-10"			43 PER BEAM-TOP
BB4	3	13	86x12 BEAMS	7'-4"	3'-8"	1'-10"	1'-10"			84 PER BEAM-BOTTOM
BB5	3C	16	10x12 BEAMS	8'-5"	3'-5"	1'-6"	1'-6"			5 EACH END OF BEAM
BB6	3	16	8x72 POCKETS	4'-0"	1'-0"	1'-6"	1'-6"			8 PER EACH END OF TIE ROD
BB7	3	16	12x12 BEAMS	5'-6"	1'-10"	1'-10"	1'-10"			6 EACH END OF BEAM
BB8	2	19	12x12 BEAMS	1'-8"	0'-10"	0'-10"				6 EACH END OF BEAM

- NOTES:**
- REINFORCEMENT STEEL:
A. ASTM A615 (GRADE 60)
B. ALL REINFORCEMENT STEEL TO BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A767. ELECTRO PLATED GALVANIZING IS NOT ACCEPTABLE AND WILL BE REJECTED.
 - ALL END ANCHORAGE HARDWARE SHALL BE GALVANIZED.
 - FOR LOCATION OF VIEW A-A, SEE DRAWING NO. B-12.



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Revisions		
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1	05/2017	NH

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2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

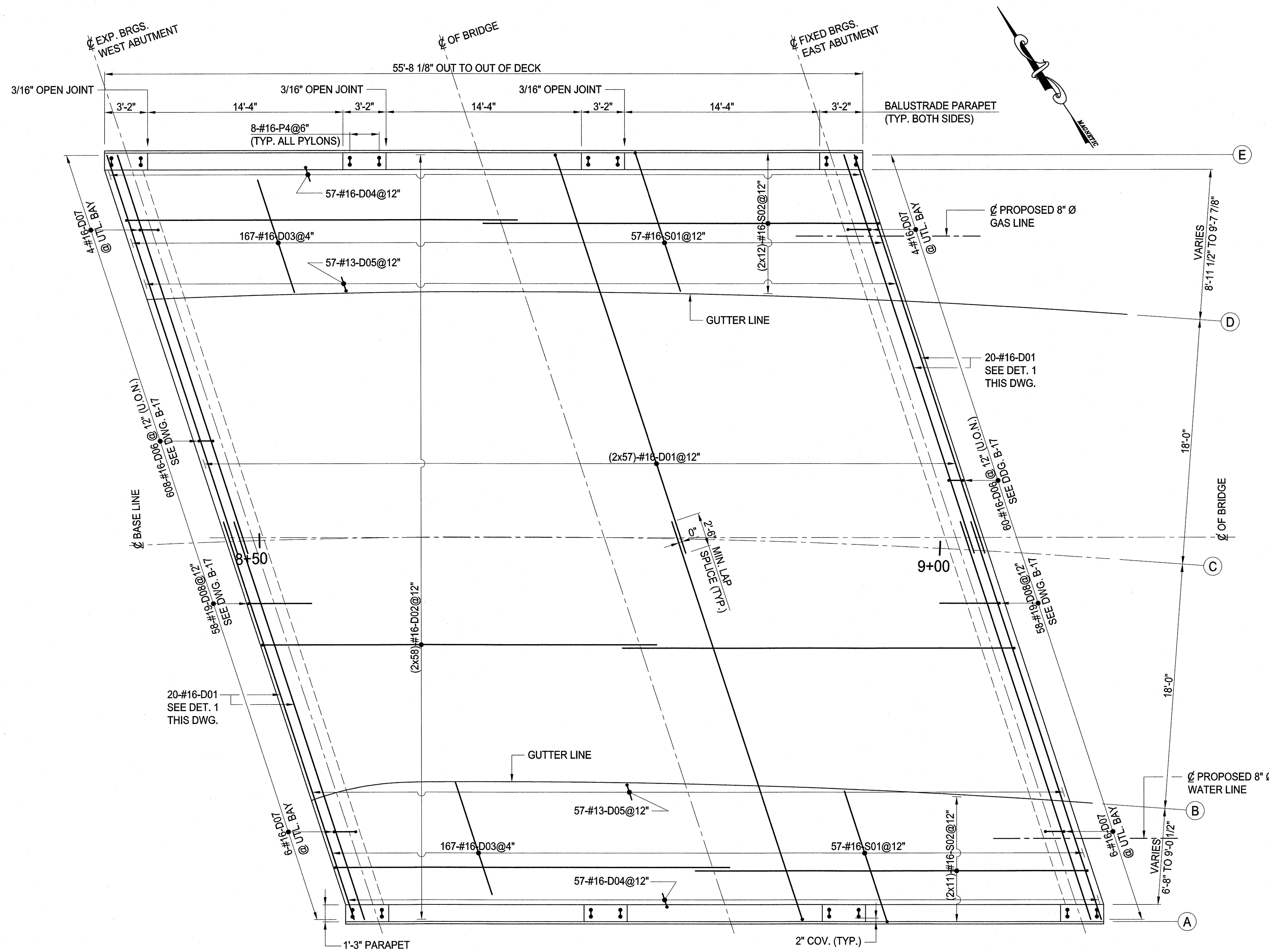
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

BEAM DETAILS SHEET 1 OF 2

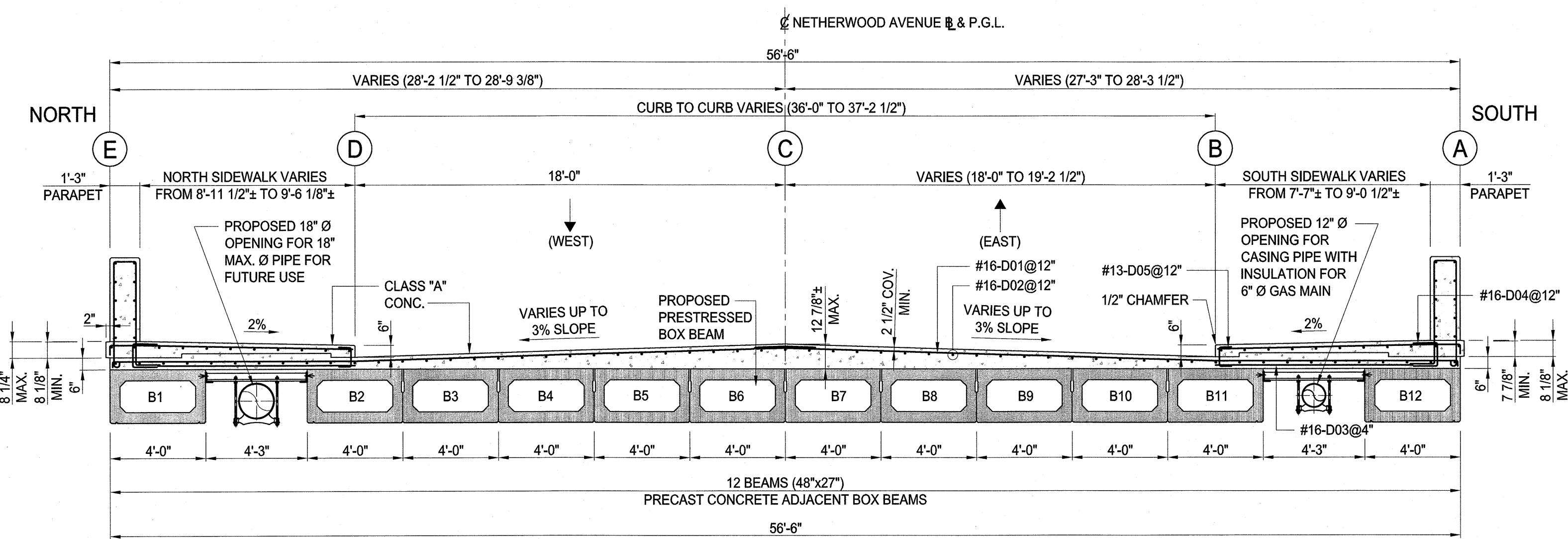
Designed By: Drawn By: Scale: AS SHOWN
Checked By: Approved By: Sheet No. 26 of 33
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



DECK REINFORCEMENT PLAN
SCALE: 3/16"=1'-0"



TYPICAL BRIDGE DECK REINFORCING SECTION
SCALE: 1/4"=1'-0"

ELEVATIONS AT TOP OF FINISHED DECK AND SIDEWALK

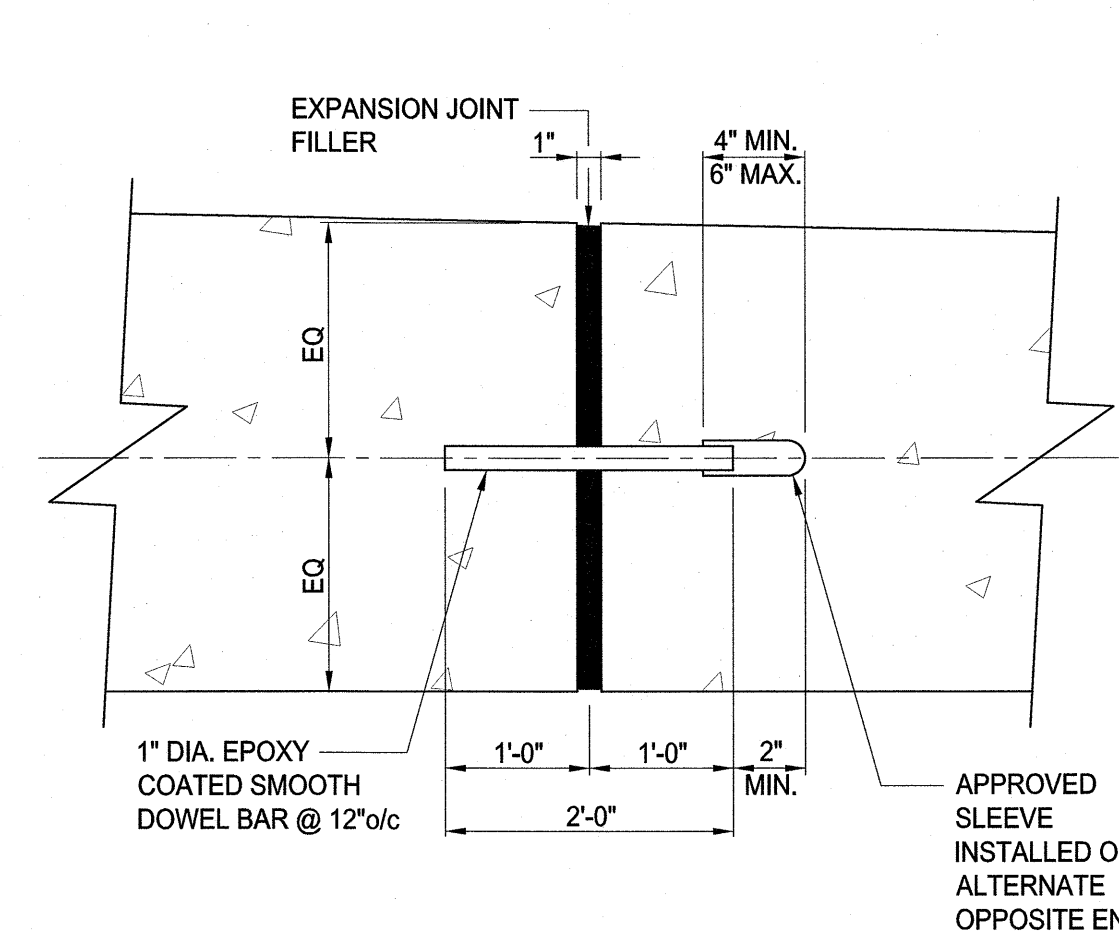
STATION ON BASELINE	POINT A: BACK OF SOUTH SIDEWALK	POINT B: SOUTH BOTTOM CURBLINE	POINT C: ROADWAY BASELINE	POINT D: NORTH BOTTOM CURBLINE	POINT E: BACK OF NORTH SIDEWALK
8+35.00	-	-	119.71	119.17	119.31
8+39.97	-	118.99	119.75	119.21	119.46
8+40.00	-	118.99	119.75	119.21	119.44
8+41.51	-	119.02	119.76	119.22	119.52
8+42.50	-	119.04	119.77	119.23	119.57
8+44.44	-	119.08	119.78	119.24	119.67
8+45.00	-	119.09	119.79	119.25	119.70
8+47.57	-	119.14	119.80	119.26	119.83
8+49.57	-	119.26	119.81	119.27	119.93
8+50.00	-	119.26	119.82	119.28	119.96
8+53.33	-	119.28	119.83	119.30	119.98
8+55.00	-	119.28	119.84	119.31	119.99
8+55.23	-	119.29	119.84	119.31	119.99
8+55.74	-	119.29	119.84	119.31	119.99
8+58.28	-	119.30	119.85	119.32	120.00
8+60.00	119.87	119.31	119.86	119.33	120.01
8+65.00	120.02	119.35	119.87	119.36	120.04
8+66.18	120.03	119.36	119.87	119.36	120.04
8+69.39	120.05	119.38	119.87	119.38	120.06
8+70.00	120.05	119.38	119.87	119.38	120.06
8+75.00	120.02	119.35	119.86	119.35	120.03
8+75.32	120.02	119.35	119.86	119.35	120.03
8+80.00	119.99	119.32	119.85	119.32	120.00
8+81.64	119.98	119.31	119.85	119.31	119.99
8+85.00	119.96	119.29	119.84	119.29	119.97
8+85.35	119.96	119.29	119.84	119.29	119.97
8+90.00	119.93	119.26	119.81	119.26	119.94
8+90.85	119.93	119.26	119.81	119.26	119.94
8+93.16	119.92	119.25	119.79	119.25	119.93
8+94.67	119.91	119.24	119.79	119.24	119.92
8+95.00	119.91	119.24	119.78	119.24	119.92
8+96.66	119.90	119.23	119.77	119.23	119.91
9+00.00	119.88	119.21	119.75	119.21	-
9+01.45	119.86	119.19	119.73	119.19	-
9+03.51	119.85	119.18	119.72	119.18	-
9+05.00	119.83	119.16	119.70	119.16	-
9+08.67	119.80	119.13	119.67	119.13	-
9+10.00	119.78	119.11	119.65	119.11	-
9+10.80	119.77	119.10	119.64	119.10	-
9+12.35	119.75	119.08	119.62	119.08	-
9+14.03	119.74	119.07	119.61	119.07	-
9+15.00	119.72	119.05	119.59	119.05	-

NOTES:

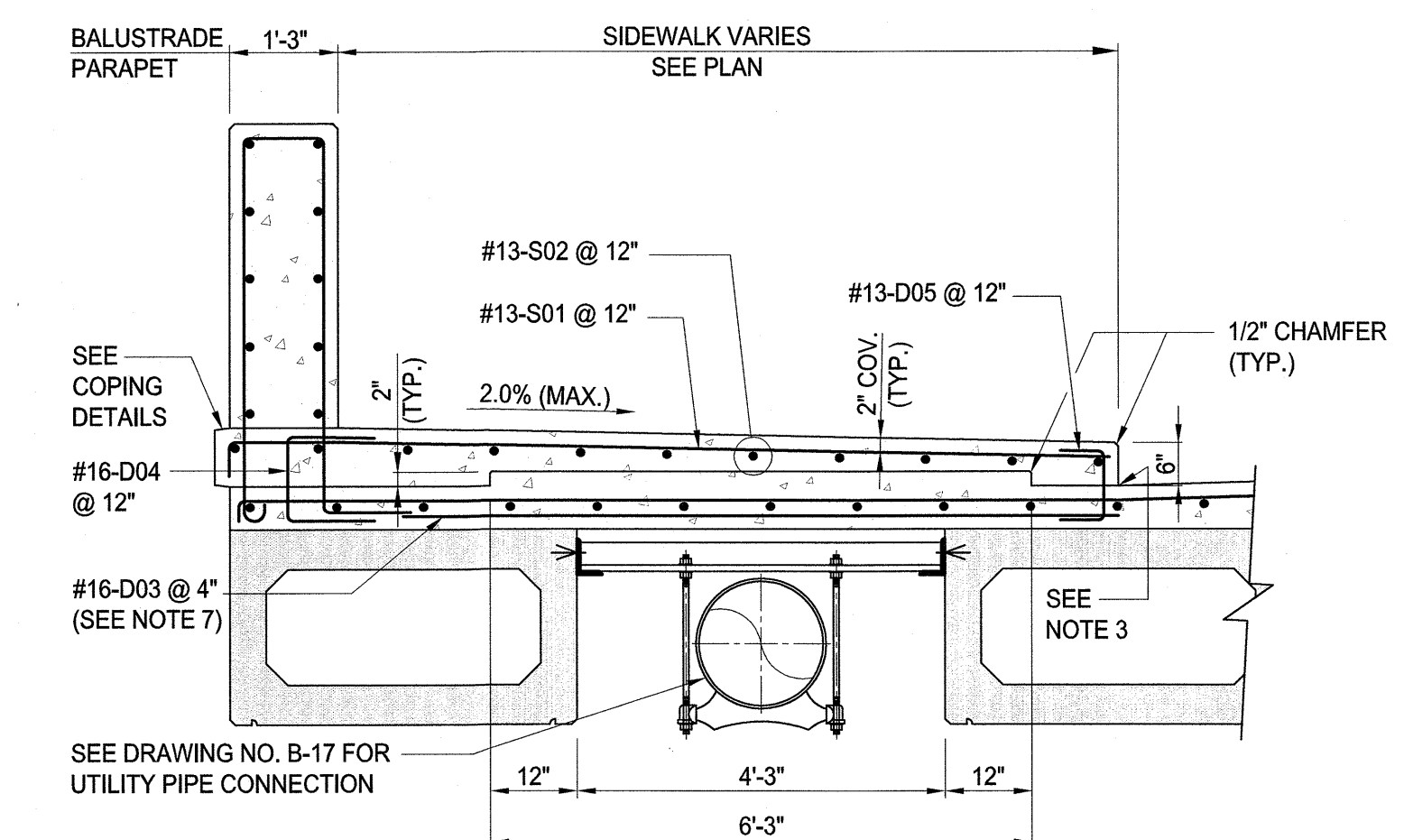
- REINFORCEMENT STEEL:
 - ASTM A615 (GRADE 60)
 - ALL REINFORCEMENT STEEL TO BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A767. ELECTRO PLATED GALVANIZING IS NOT ACCEPTABLE AND WILL BE REJECTED.
- THE DECK SLAB BETWEEN THE CURB LINES AND THE FASCIAS IS TO BE SLOURED LEVEL WITH NO CROSS SLOPE AND A MINIMUM THICKNESS OF 6".
- FOR PARAPET REINFORCEMENT, SEE DRAWING NO. B-16.
- FOR DIAPHRAGM DECK REINFORCEMENT, SEE DRAWING NO. B-17.
- PLACE REINFORCEMENT TO AVOID CONFLICT WITH PRECAST REINFORCEMENT.
- FOR REINFORCING BAR SCHEDULES, SEE DRAWING NO. B-11.
- ADDITIONAL #16-D03 REINFORCING BARS TO BE CENTERED OVER THE UTILITY BAY OPENINGS. THESE ADDITIONAL BARS ARE TO BE PLACED NORMAL TO THE FACE OF THE ADJACENT BOX BEAMS BETWEEN THE D01 REINFORCING BARS.

LEGEND:

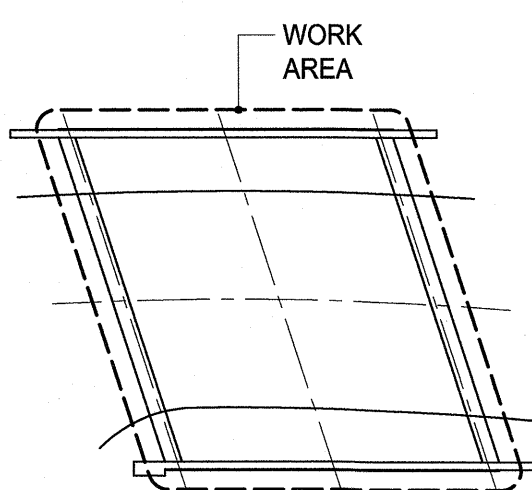
- QUANTITY -
 SIZE -
 DECK SLAB -
 MARK NUMBER -
 -AT -
 -SPACING -
- 114#13-D16 @ 12"**
- A - ABUTMENT
 BB - BRIDGE BEAM
 D - DECK SLAB
 F - FOOTING
 R - RETAINING WALL
 P - PARAPET
 S - SIDEWALK
 W - WINGWALL
 E - EAST
 W - WEST
 (T) - TOP
 (B) - BOTTOM
 (FF) - FRONT FACE
 (RF) - REAR FACE



EXPANSION JOINT DETAIL 3
N.T.S.



SIDEWALK SECTION
SCALE: 1/2"=1'-0"



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

CONSULTING AND MUNICIPAL ENGINEERS

MICHAEL J. MCGLELLAND P.E.
PROFESSIONAL ENGINEER U.C. 32468

2841 ROBERTSON AVENUE, PARK NEW JERSEY 08027
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

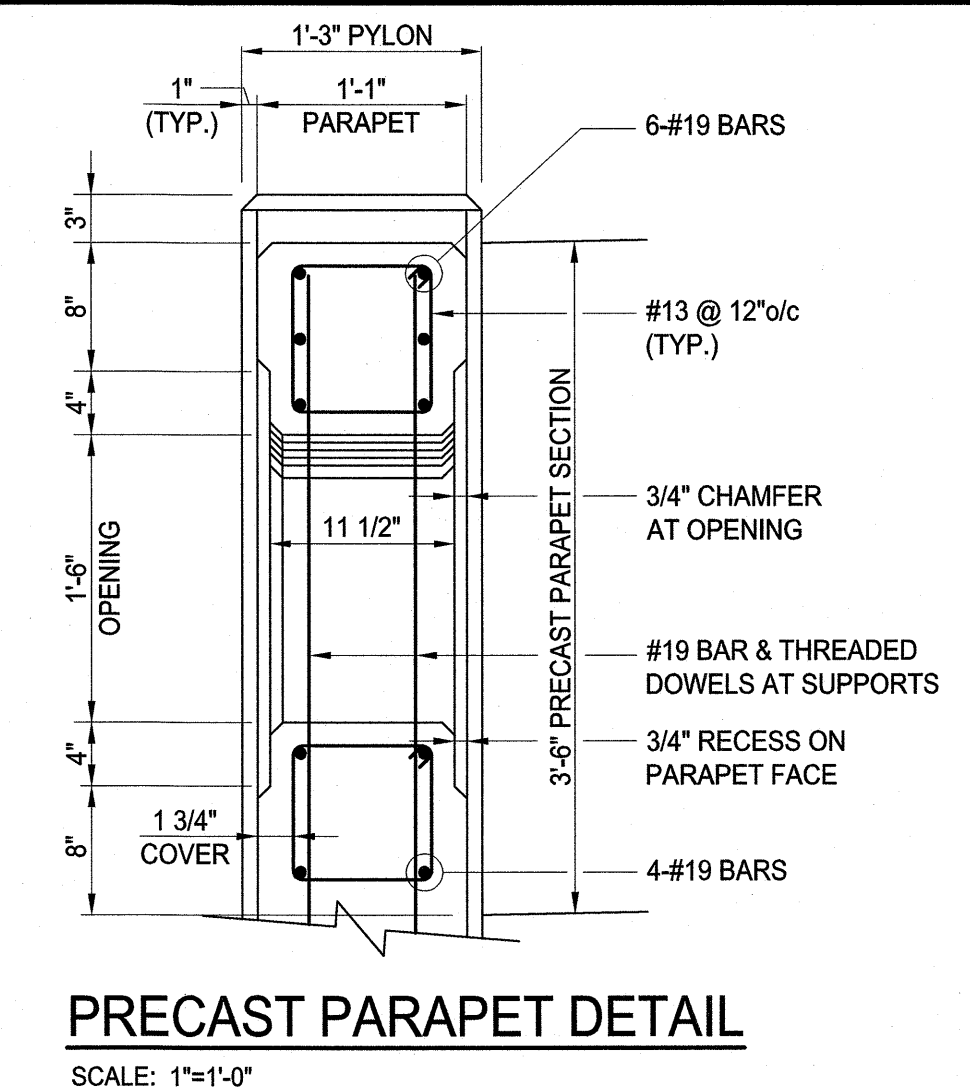
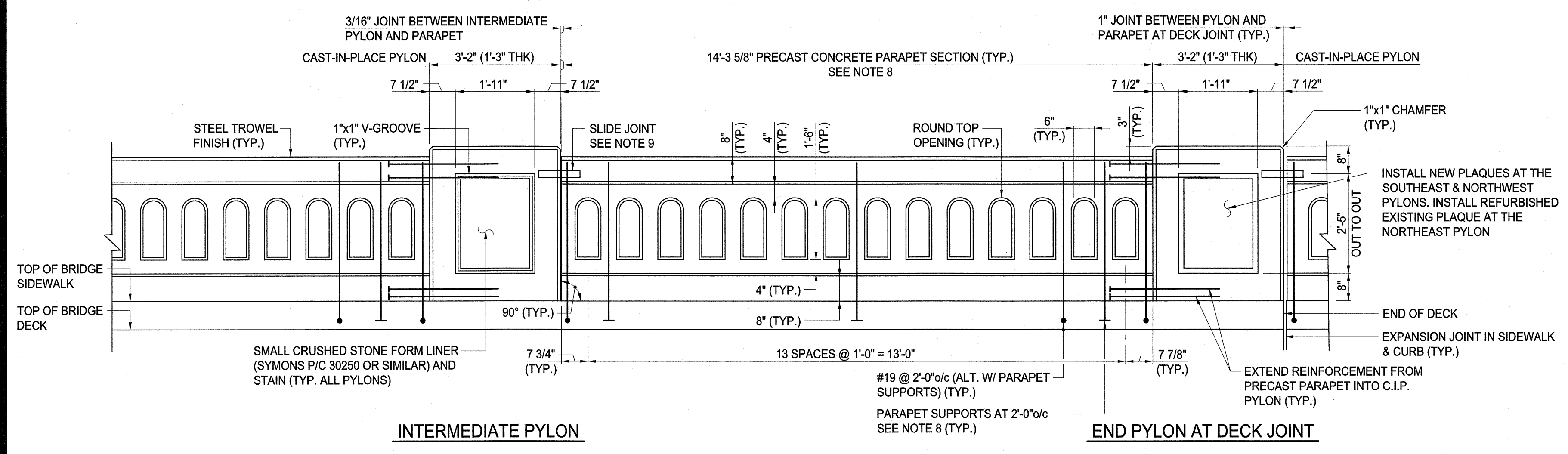
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

DECK REINFORCEMENT PLAN, SECTION AND DETAILS

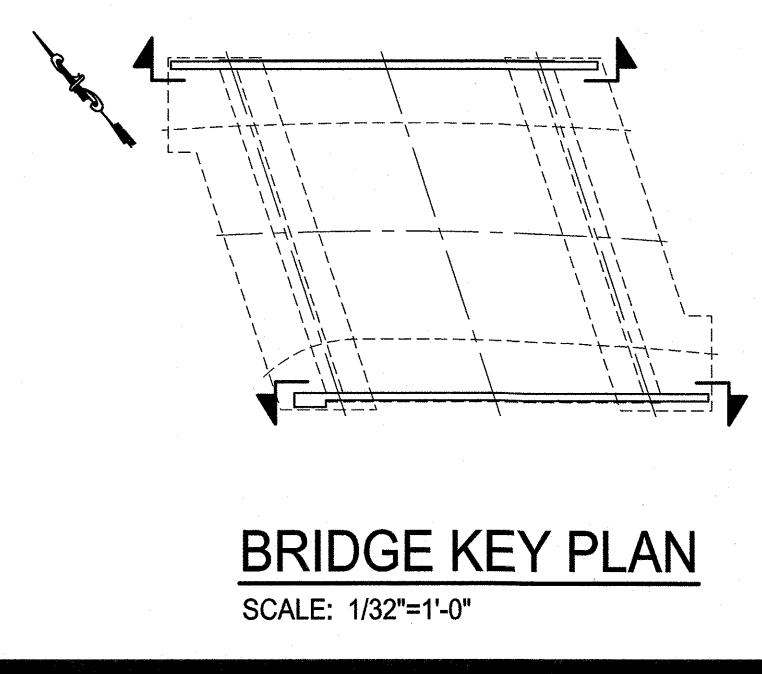
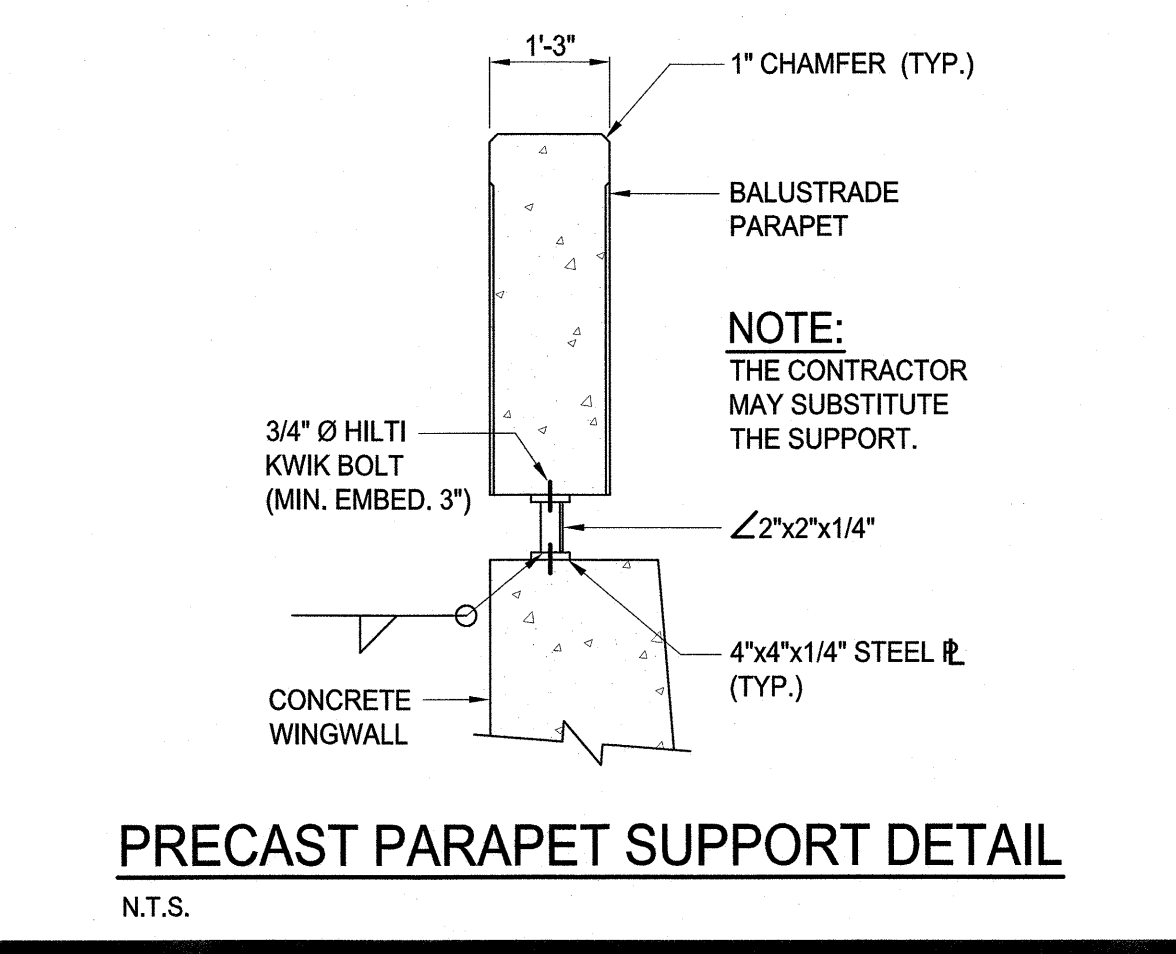
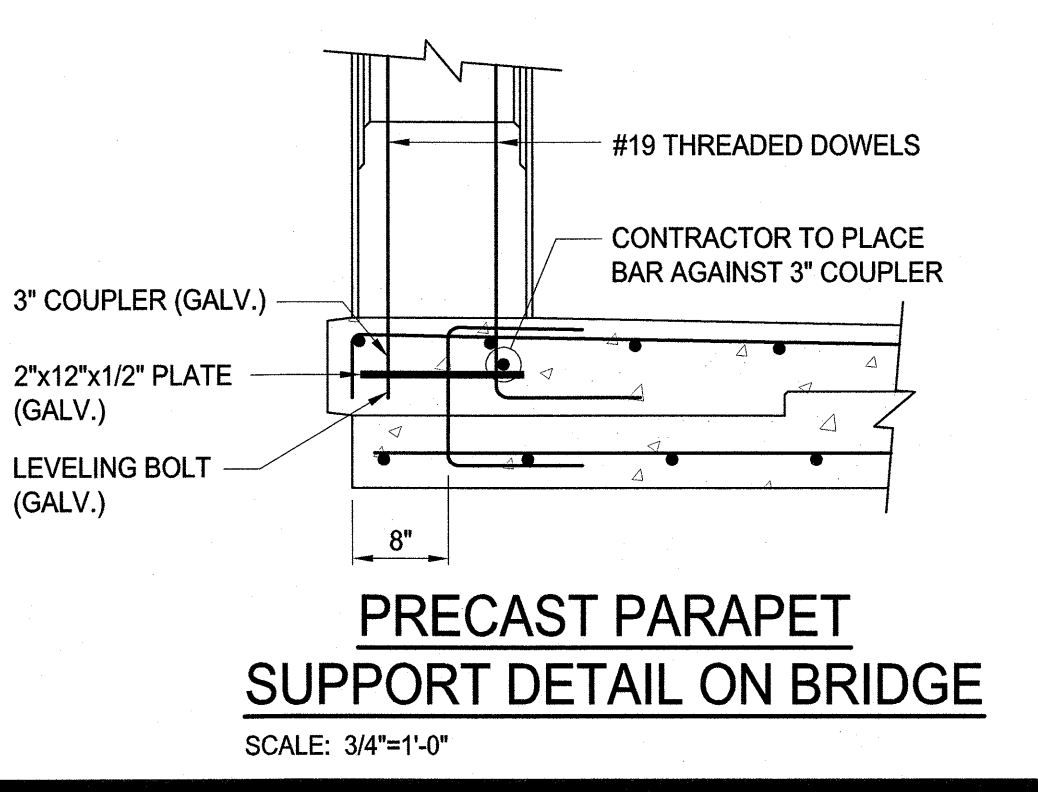
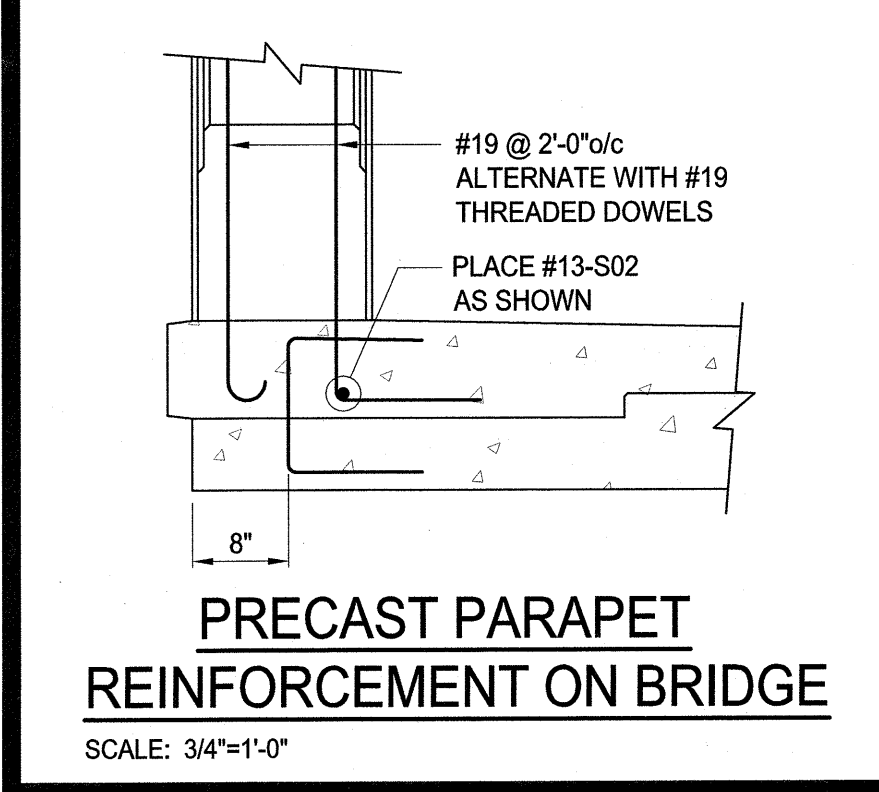
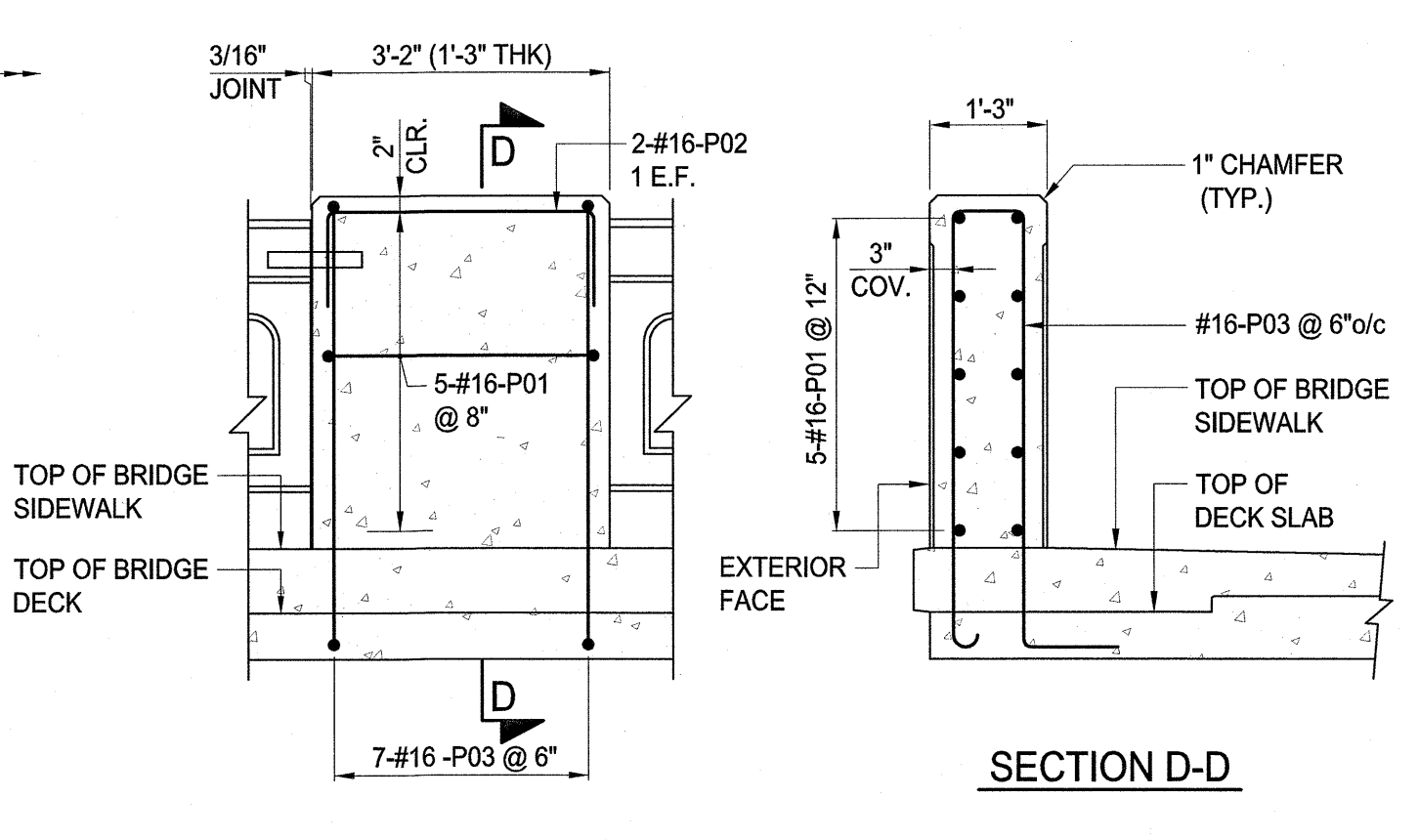
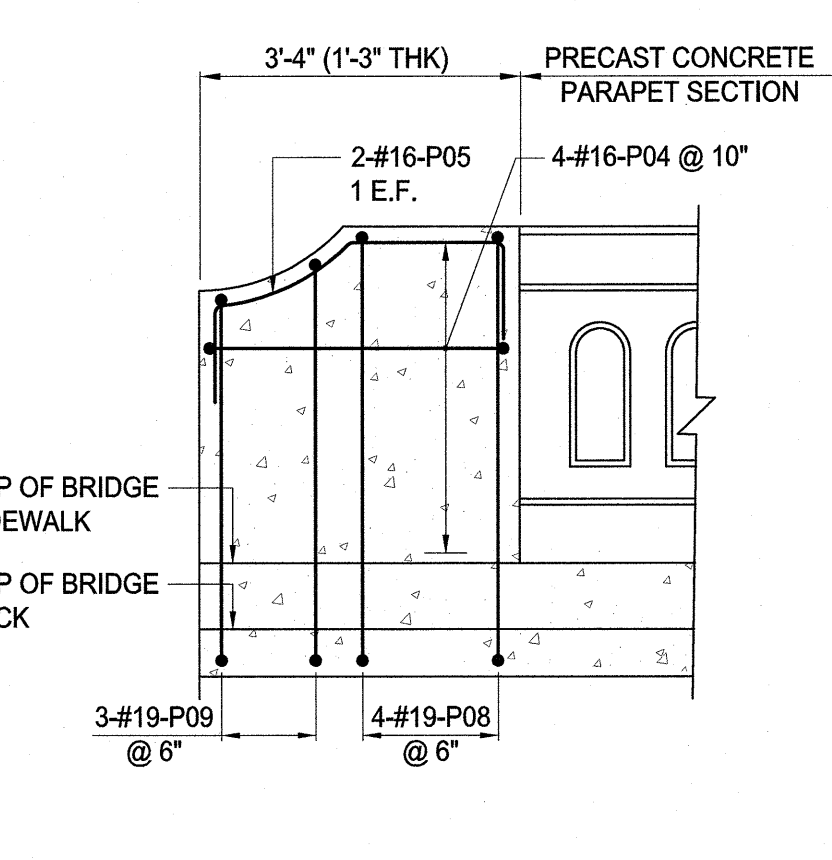
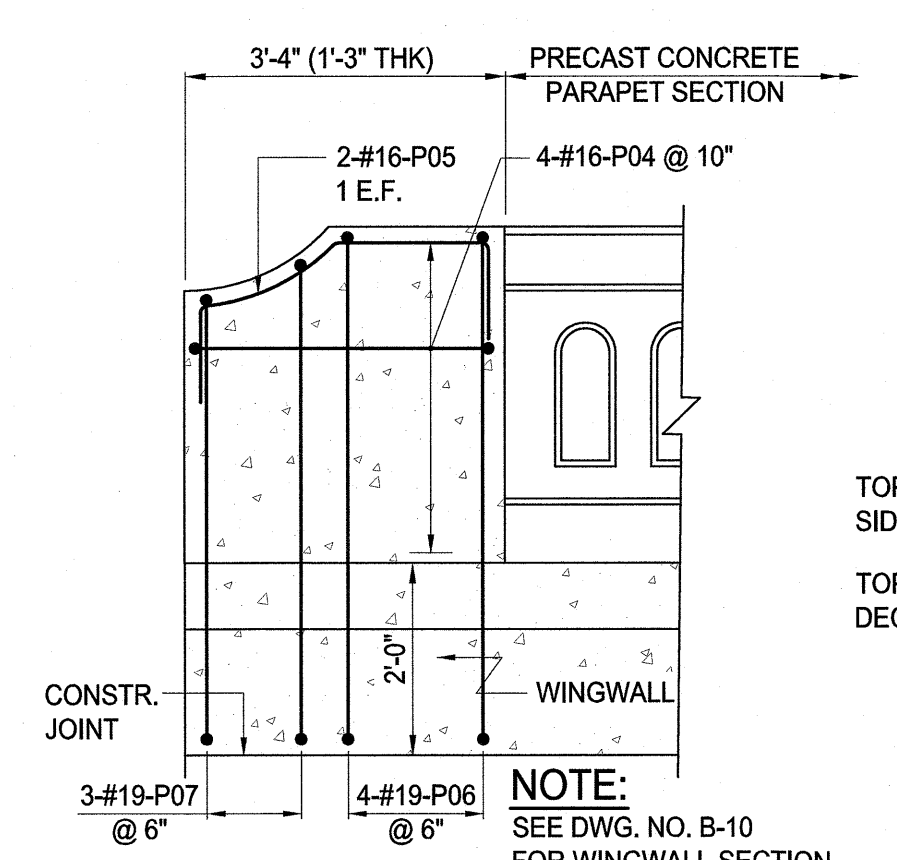
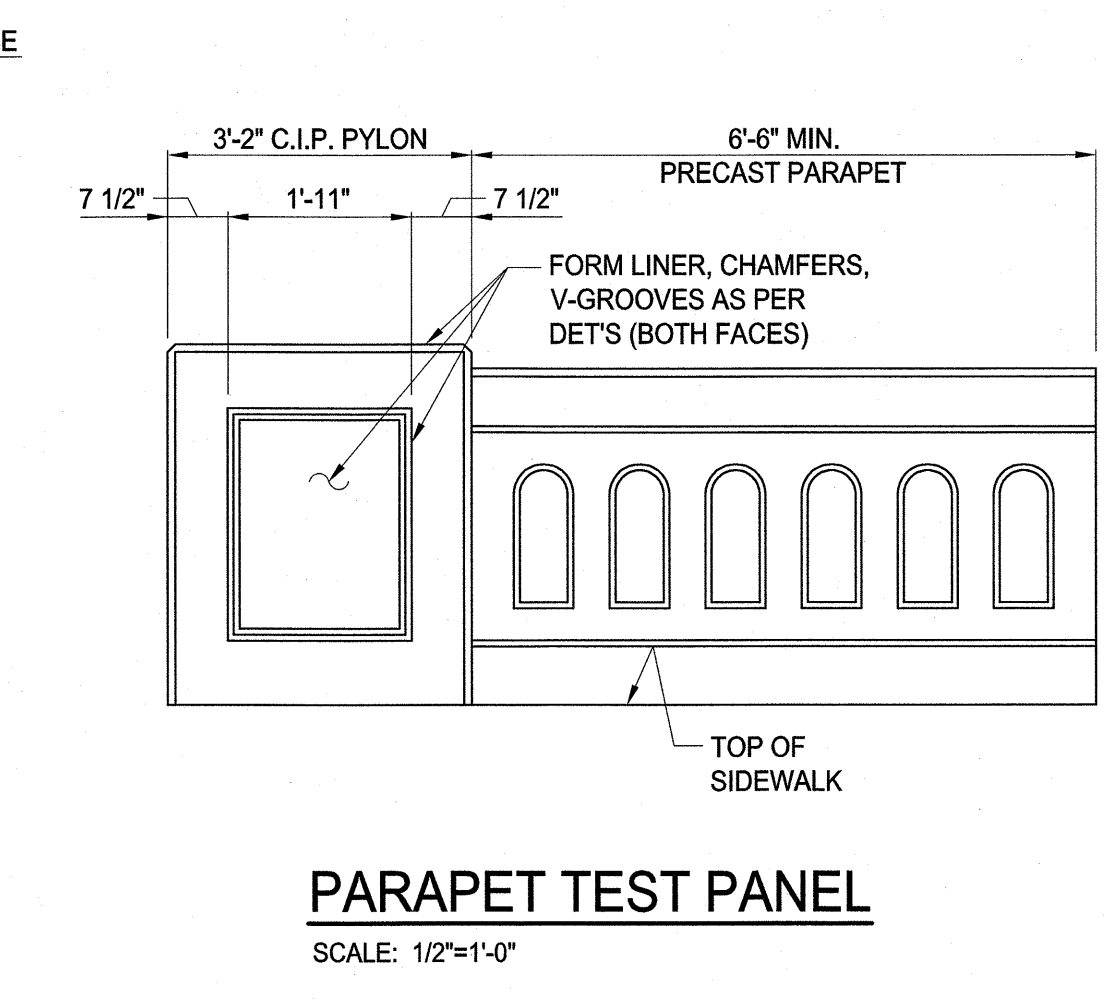
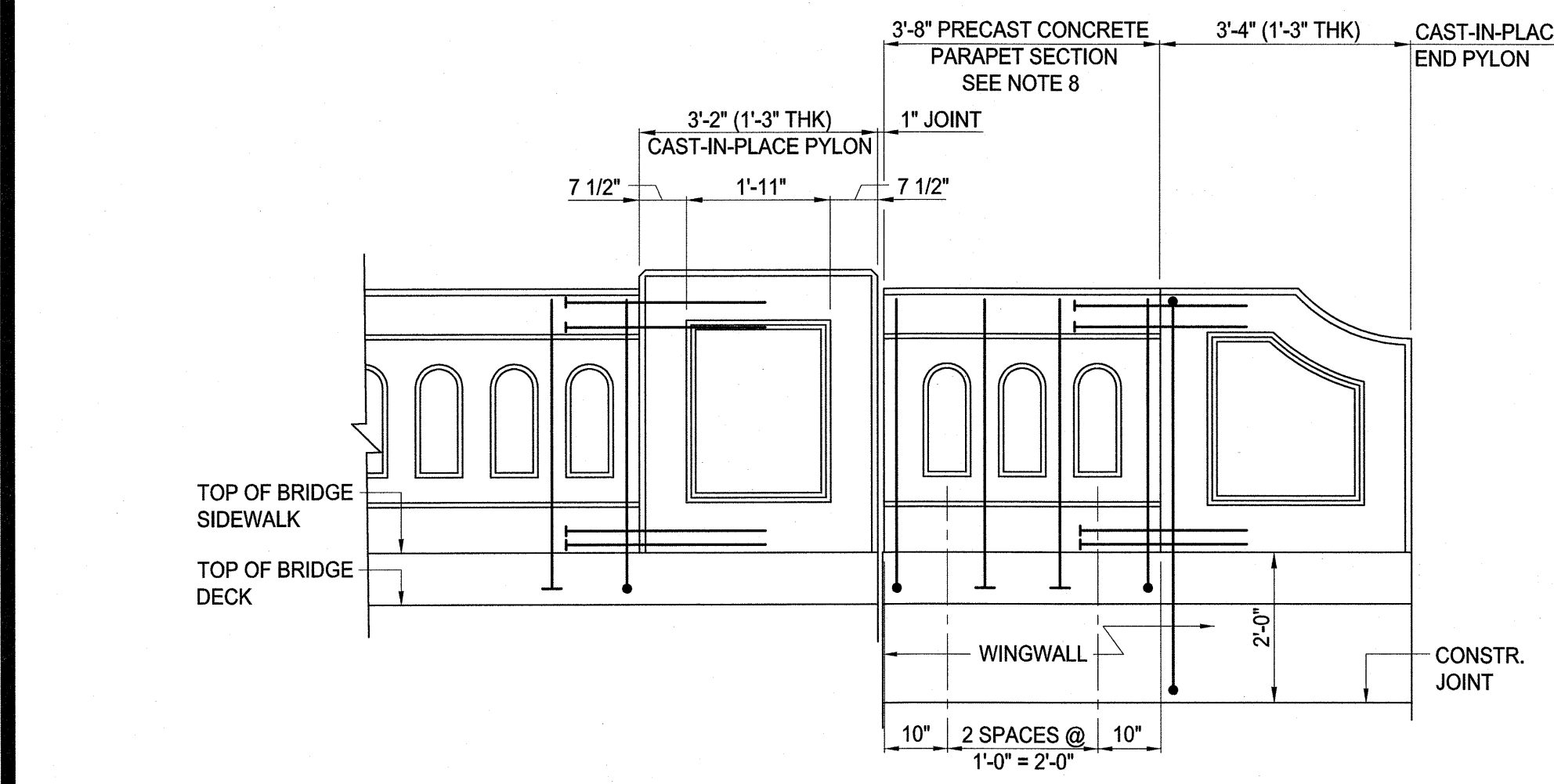
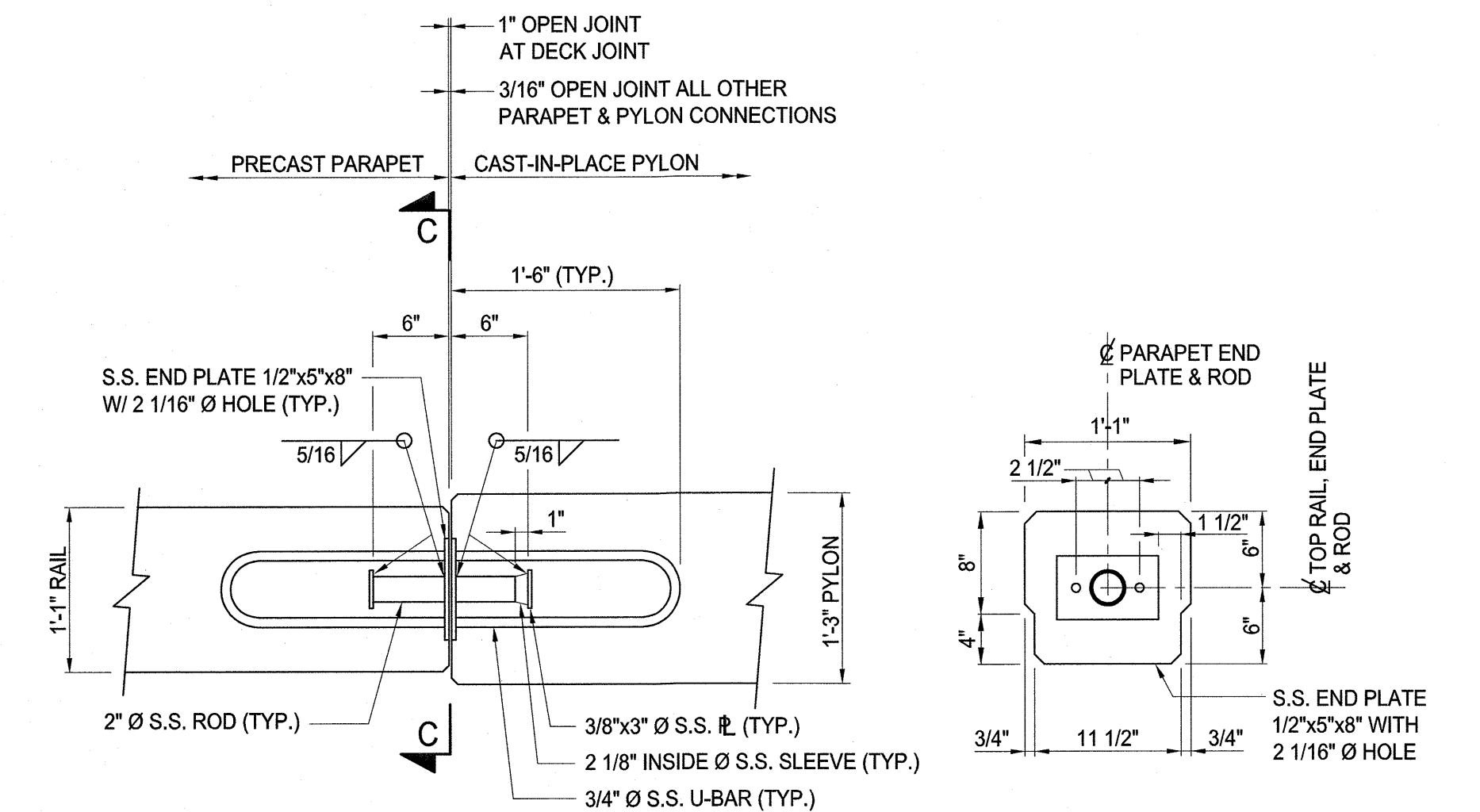
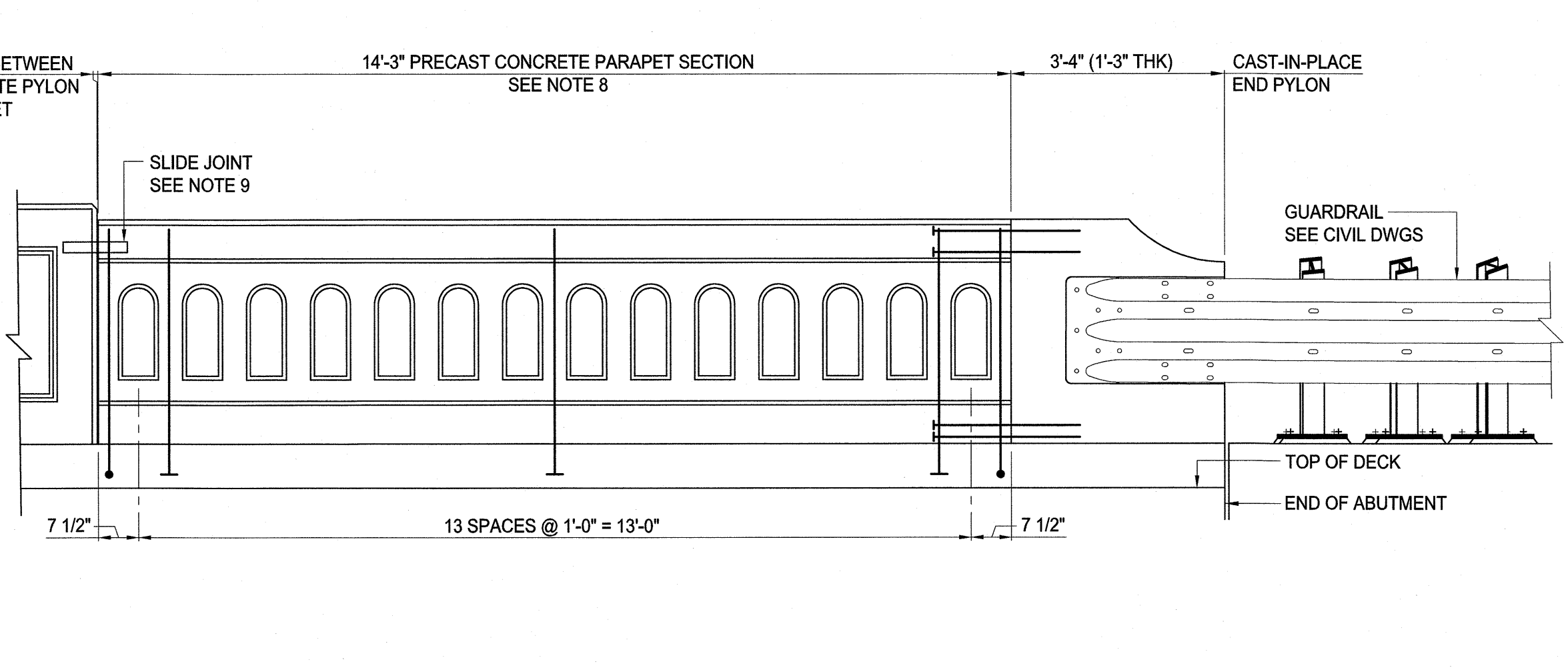
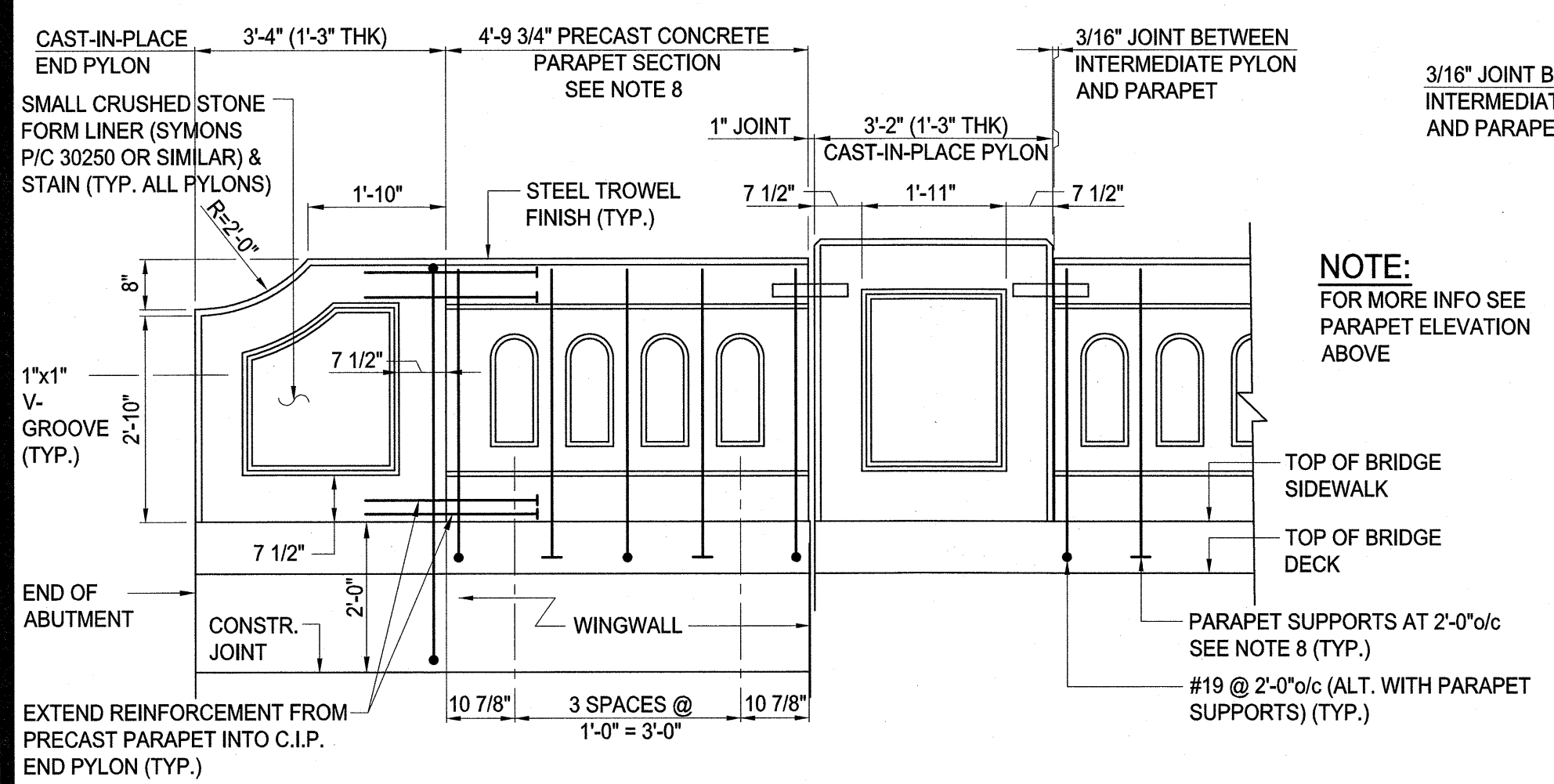
Scale: AS SHOWN
Sheet No. 28 of 33
Drawing No. B-15
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



- NOTES:**
- NO SEPARATE PAYMENT SHALL BE MADE FOR C.I.P. PYLONS (INTERMEDIATE AND END), BOND BREAKER, SLIDE JOINT, FORM LINER AND SUPPORT HARDWARE. ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM "BALUSTRADE PARAPET".
 - ALL REINFORCEMENT STEEL IN THE PARAPET (BOTH THE C.I.P. AND PRECAST SECTIONS) SHALL BE GALVANIZED. NO SEPARATE PAYMENT SHALL BE MADE FOR REINFORCEMENT REQUIRED TO FABRICATE THE PRECAST PARAPET SECTIONS. ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM "BALUSTRADE PARAPET".
 - PRIOR TO FABRICATING THE PRECAST PARAPET SECTIONS, A TEST PANEL SHALL BE MADE FOR APPROVAL BY THE ENGINEER USING THE DESIRED MATERIALS AND CONSTRUCTION TECHNIQUES. THE ACTUAL CONCRETE MIX, FORM MATERIAL, SNAP TIES, INSERTS, RELEASE AGENT, CONCRETE TINTING WATERPROOF COATING, ETC. TO BE USED ON THE PROJECT SHALL BE USED FOR THE TEST PANEL PREPARATION. THE TEST PANEL SHALL INCLUDE SNAP TIE HOLES AND AREAS TO BE PATCHED SO THAT THE PATCHING MATERIAL AND TECHNIQUE MAY BE DEVELOPED AND APPROVED BY THE ENGINEER.
 - ALL COST ASSOCIATED WITH THE TEST PANEL SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM "BALUSTRADE PARAPET".
 - PRECAST BALUSTRADE PARAPET SHALL BE CLASS P CONCRETE. REFER TO DRAWING NO. B-1 FOR THE REQUIRED CONCRETE STRENGTH.
 - SHOP DRAWINGS SHOWING REINFORCEMENT DETAILS, CONNECTION HARDWARE, ELEVATIONS, PLANS, DETAILING, ETC. SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OF C.I.P. PYLONS AND PRECAST PARAPET. ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM "BALUSTRADE PARAPET".
 - BALUSTRADE PARAPET OPENINGS SHALL BE CONSTRUCTED PLUMB.
 - C.I.P. END AND INTERMEDIATE PYLONS SHALL BE FORMED PERPENDICULAR TO GRADE, AS REQUIRED. THE CONTRACTOR SHALL VERIFY ALL GRADES AND ELEVATIONS OF THE C.I.P. PYLONS AND ENSURE THAT THE PRECAST BALUSTRADE PARAPETS WILL FIT BETWEEN THEM, AS DETAILED ON THESE PLANS. ANY PRECAST SECTIONS THAT ARE DAMAGED OR DO NOT FIT PROPERLY WILL BE REJECTED BY THE ENGINEER AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.



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PROFESSIONAL ENGINEER
LIC. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

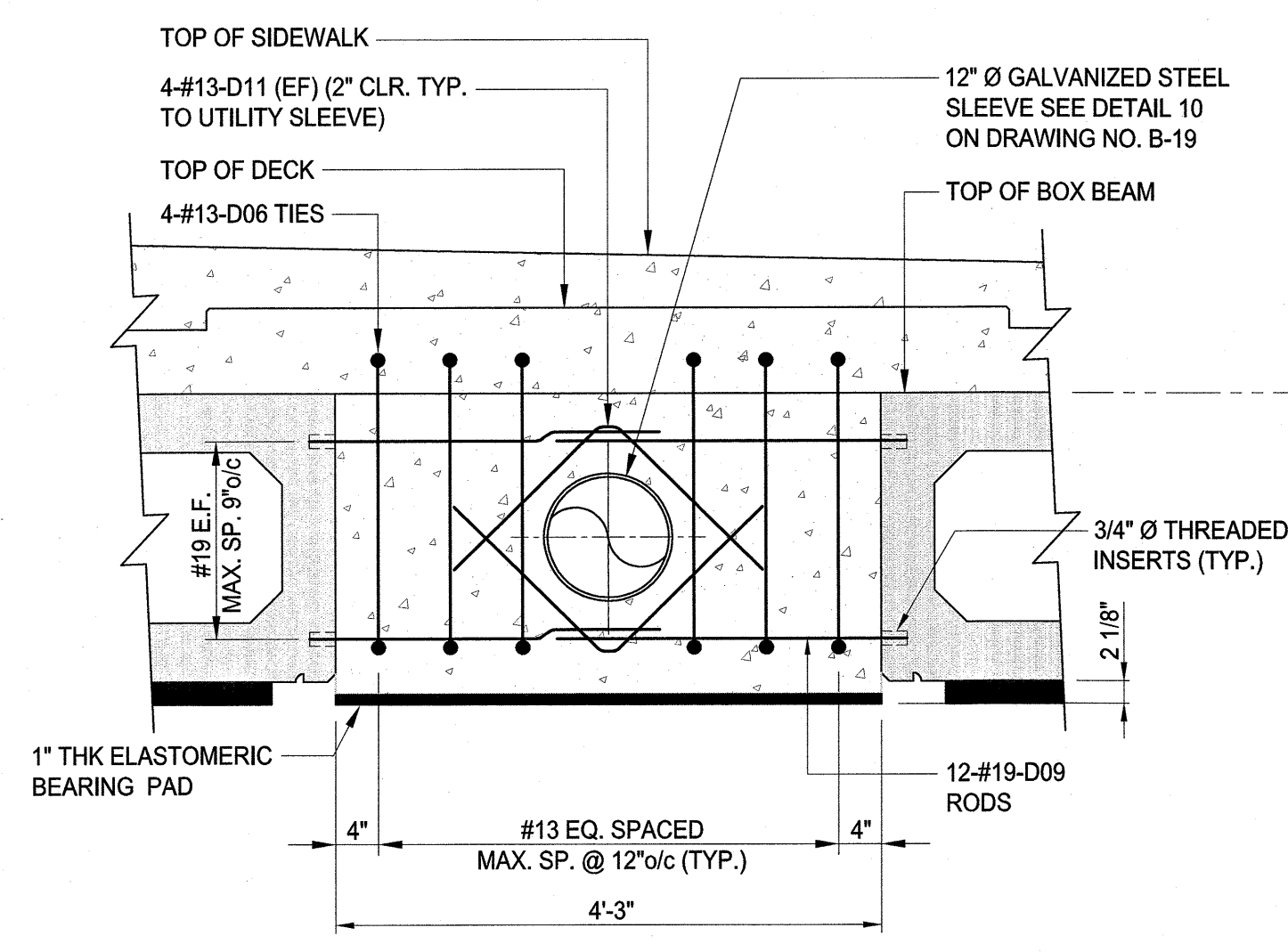
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

PARAPET ELEVATIONS AND REINFORCEMENT DETAILS

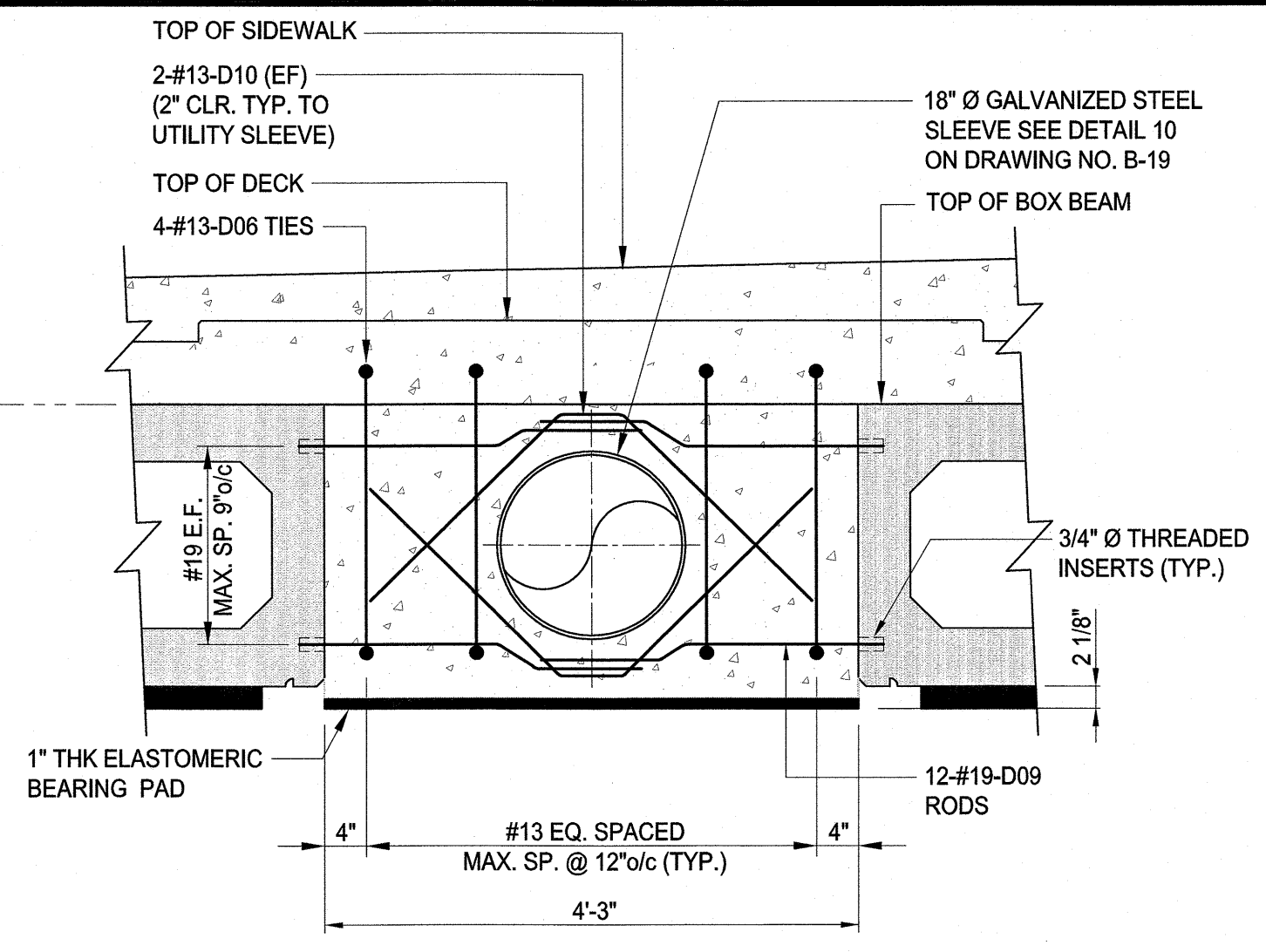
Scale: AS SHOWN
Sheet No. 29 of 33
Drawing No. B-16
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



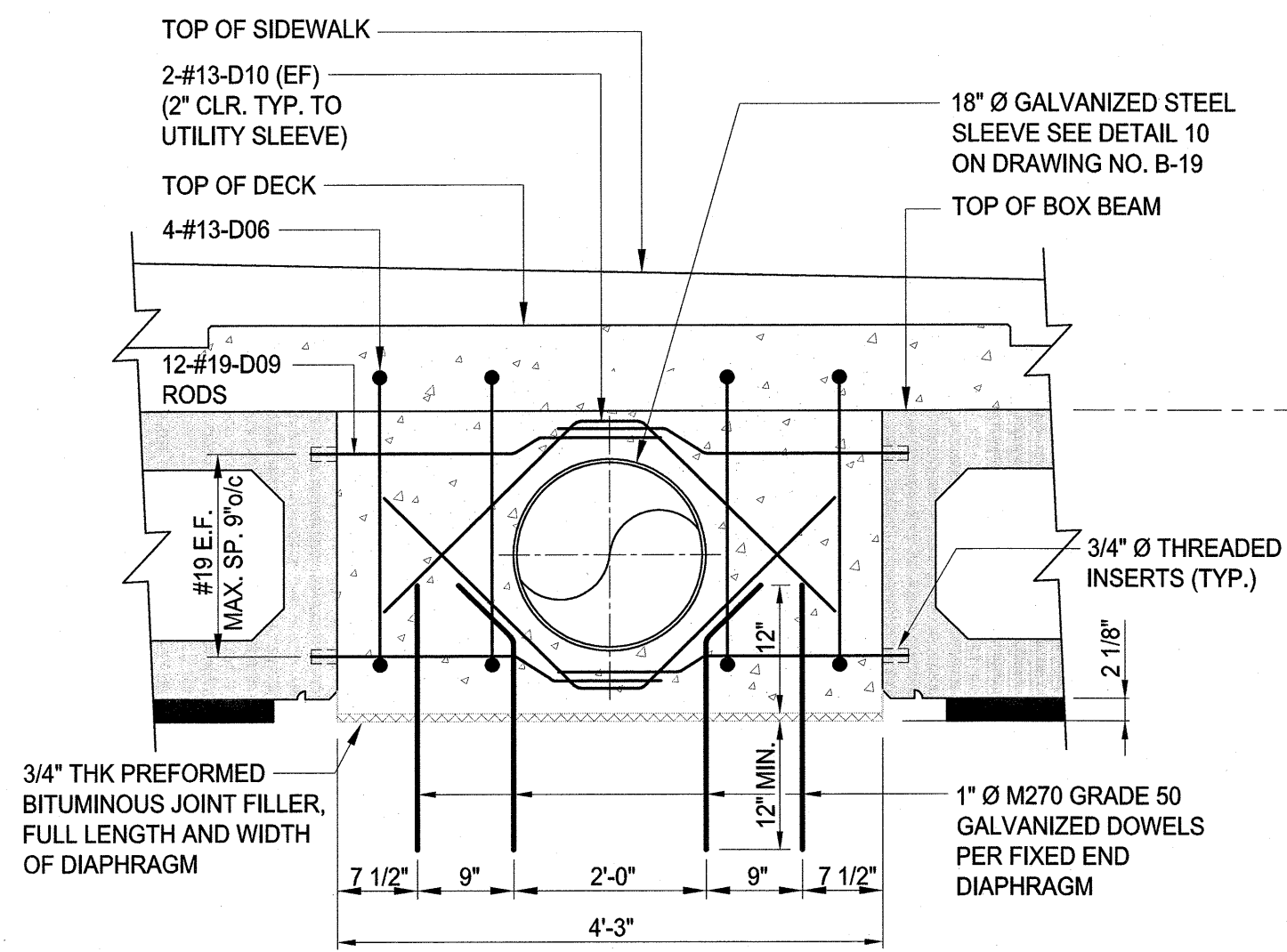
SOUTHWEST



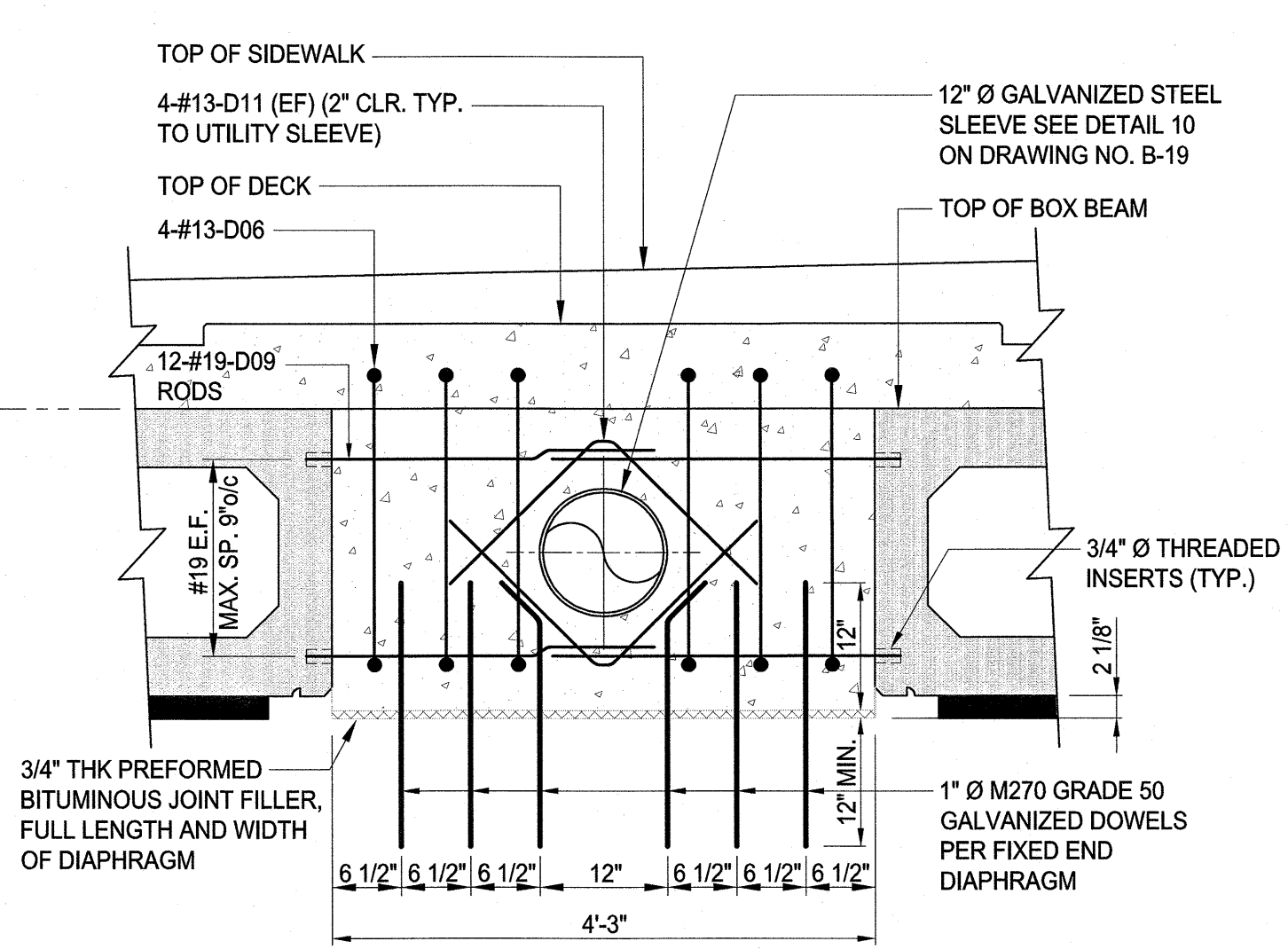
NORTHWEST

UTILITY BAY EXPANSION END DIAPHRAGM REINFORCING DETAIL

SCALE: 3/4"=1'-0"



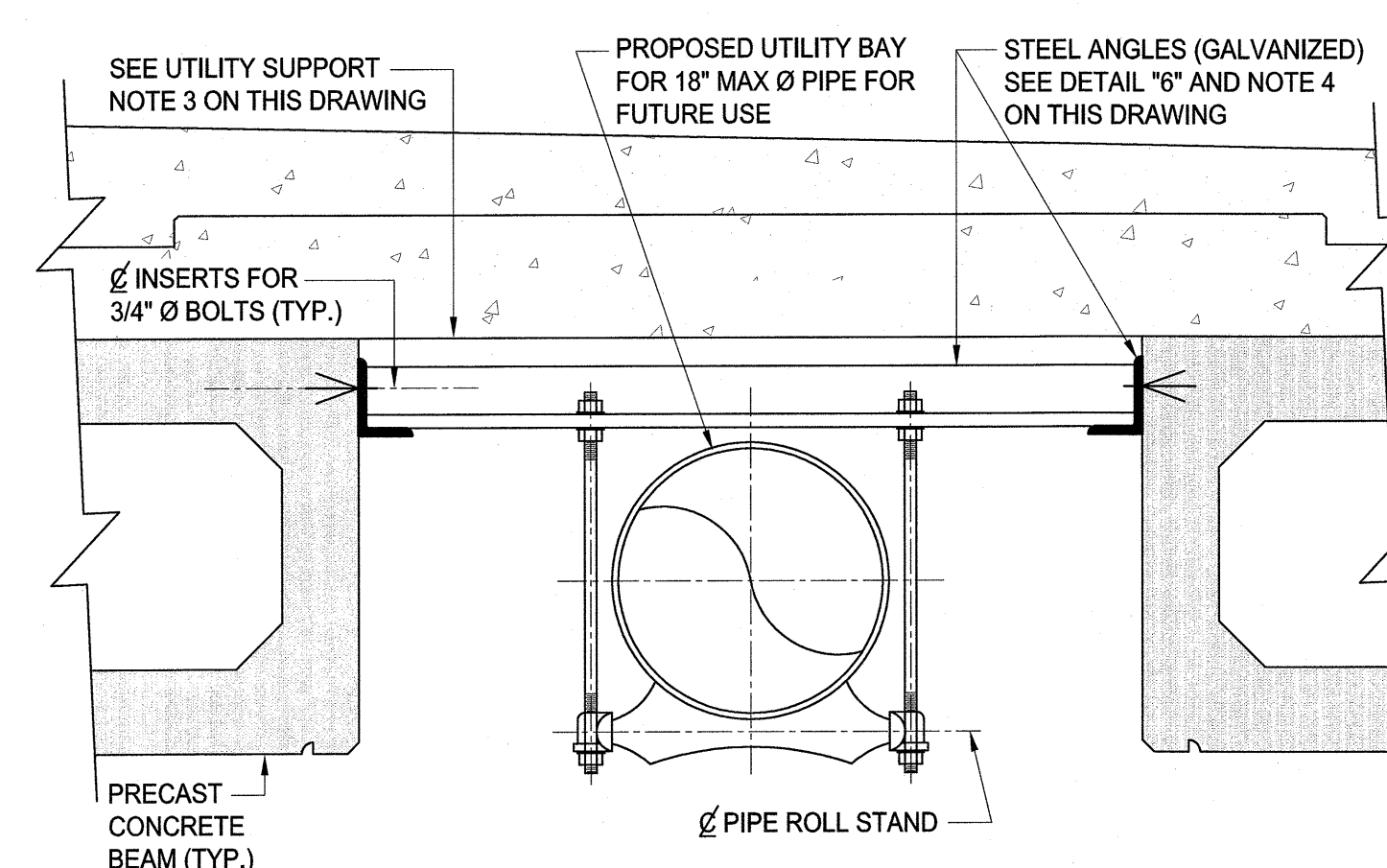
NORTHEAST



SOUTHEAST

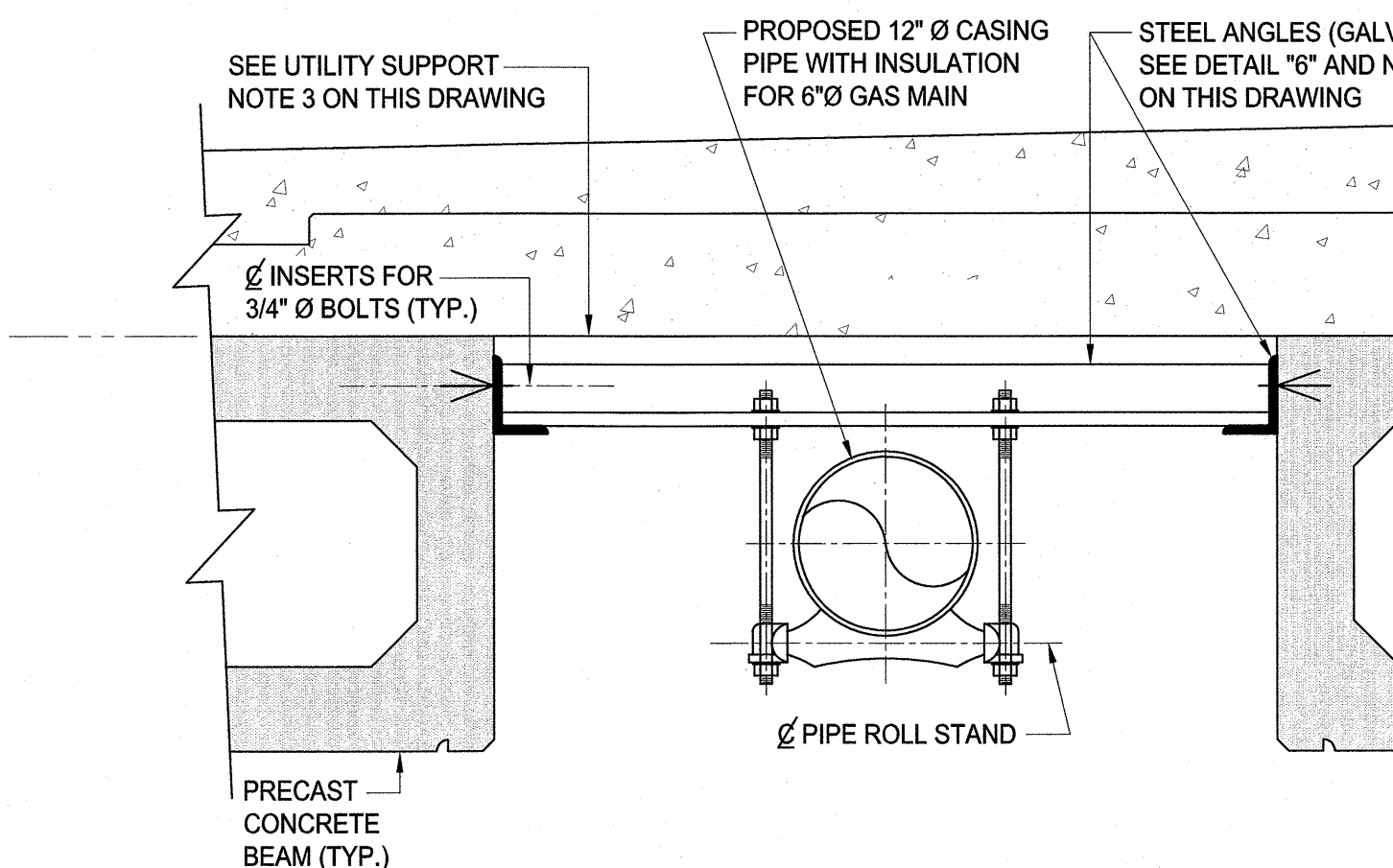
UTILITY BAY FIXED END DIAPHRAGM REINFORCING DETAIL

SCALE: 3/4"=1'-0"



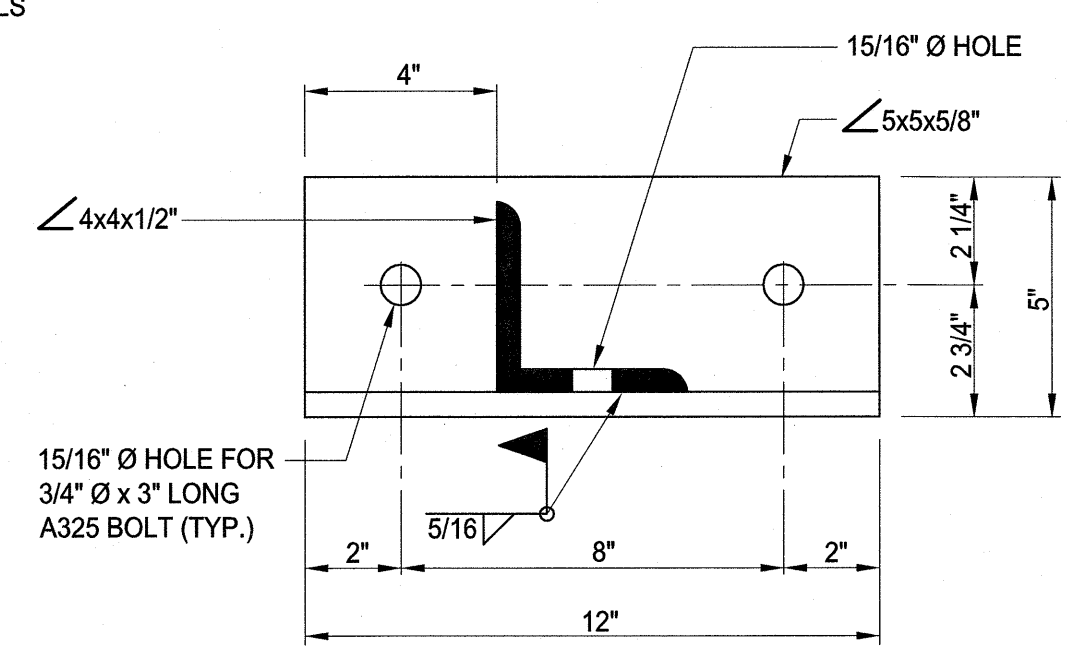
UTILITY PIPE CONNECTION

DETAIL 4
SCALE: 1"=1'-0"

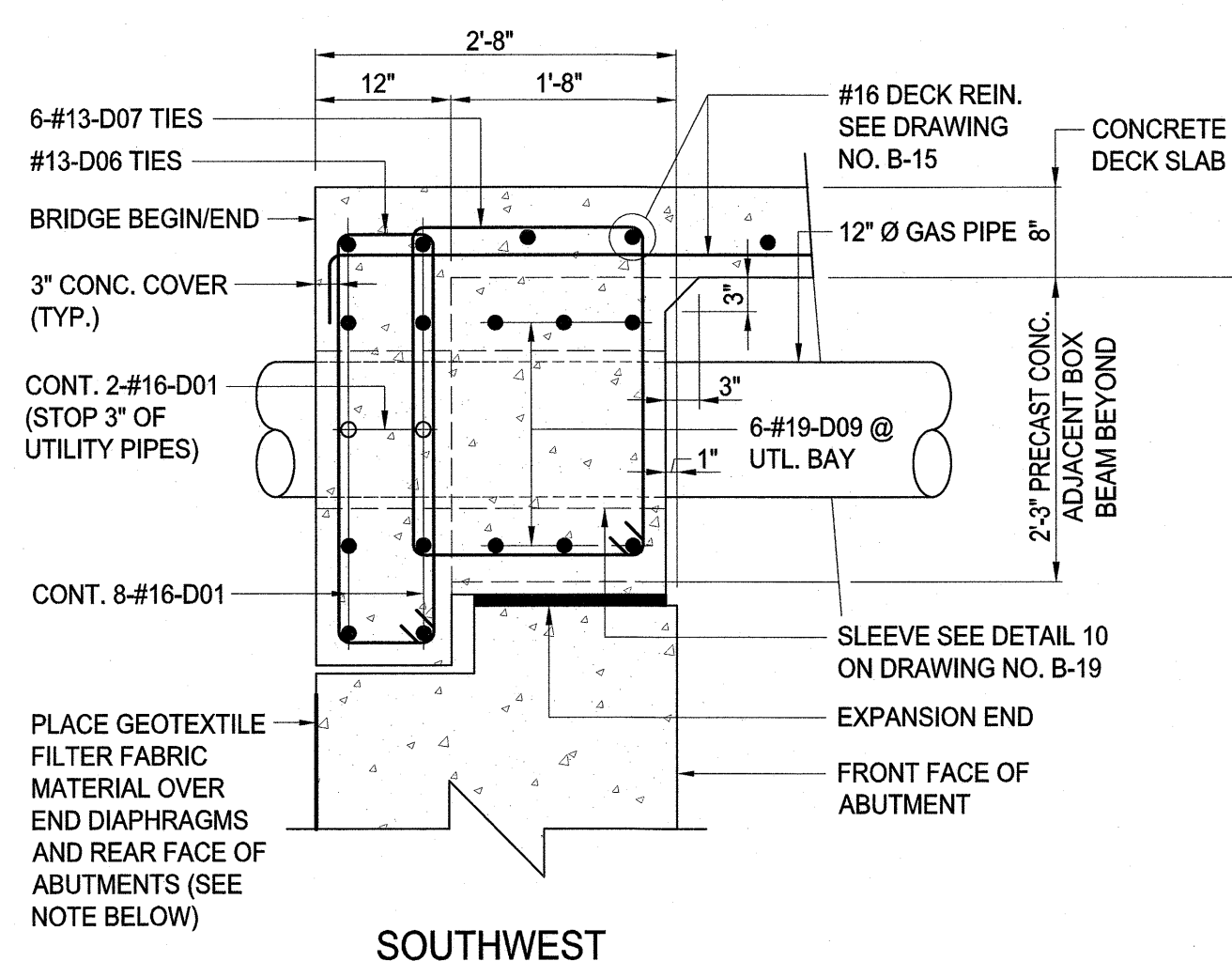


UTILITY PIPE CONNECTION

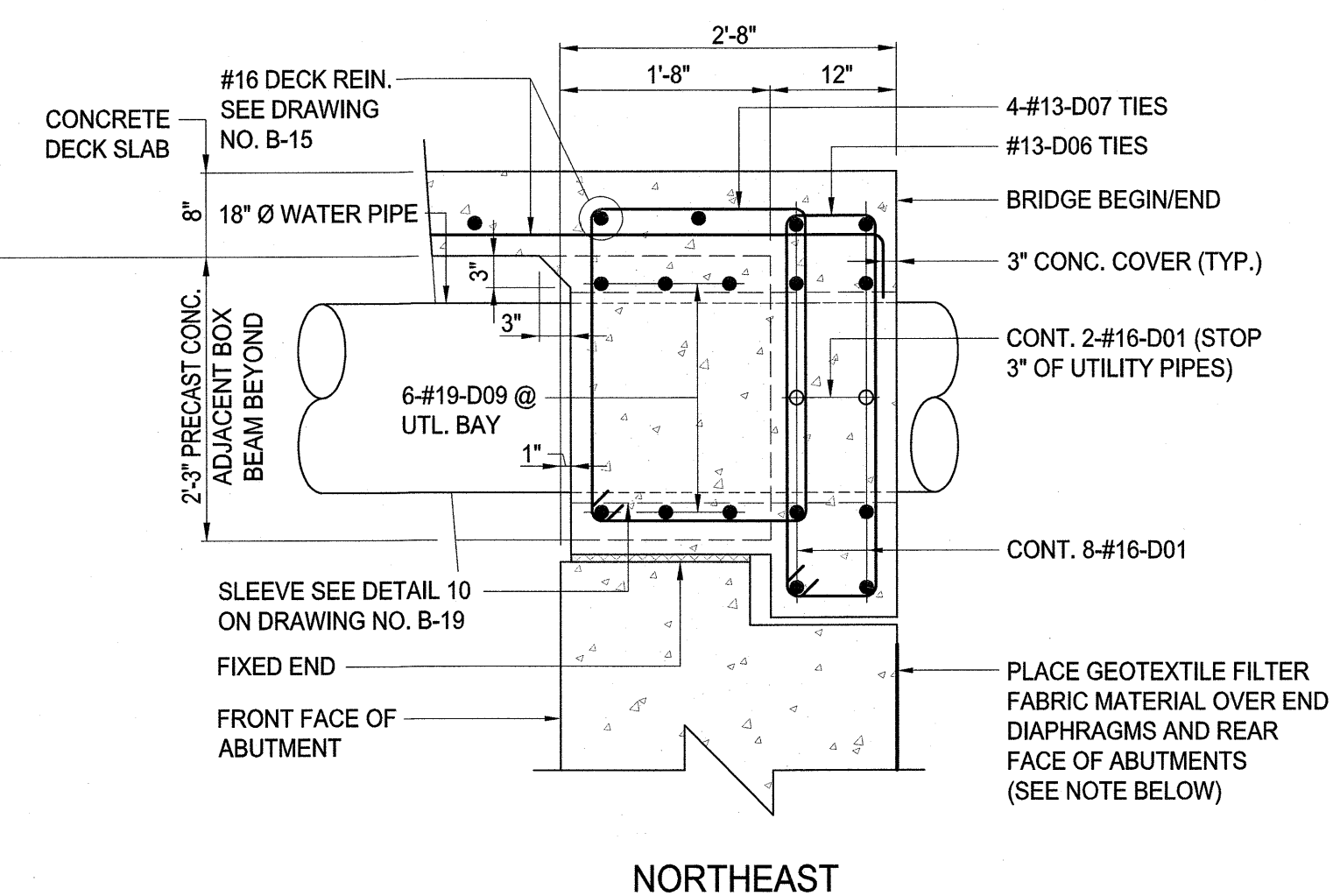
DETAIL 5
SCALE: 1"=1'-0"



DETAIL 6
SCALE: 3"=1'-0"



SOUTHWEST



NORTHEAST

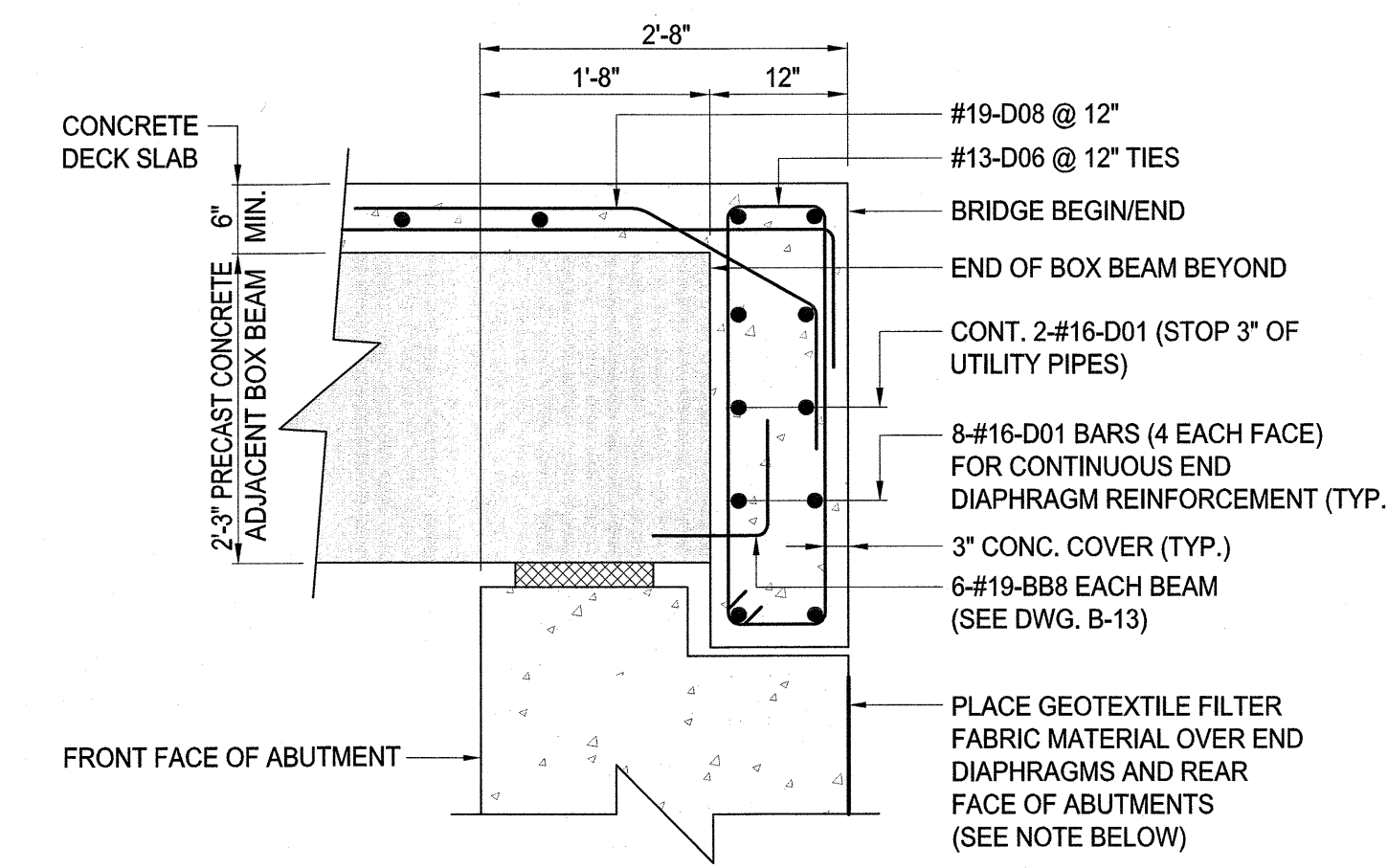
END DIAPHRAGM REINFORCEMENT SECTIONS AT UTILITY BAY

SCALE: 3/4"=1'-0"

- NOTES:**
- DIAGONAL BARS TYPICAL FOR OPENING NOT SHOWN FOR CLARITY. SEE END DIAPHRAGM REINFORCING DETAILS ON THIS DRAWING.
 - 1" Ø M270 GALV. DOWELS FOR FIXED BEARING ONLY (EAST SIDE) NOT SHOWN FOR CLARITY. SEE END DIAPHRAGM REINFORCING DETAILS ON THIS DRAWING.
 - NO SEPARATE PAYMENT SHALL BE MADE FOR GEOTEXTILE. THE COST SHALL BE INCLUDED IN THE PAY ITEM CONCRETE BRIDGE DECK.
 - REINFORCEMENT STEEL:
 - ASTM A615 (GRADE 60)
 - ALL REINFORCEMENT STEEL TO BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A767. ELECTRO PLATED GALVANIZING IS NOT ACCEPTABLE AND WILL BE REJECTED.

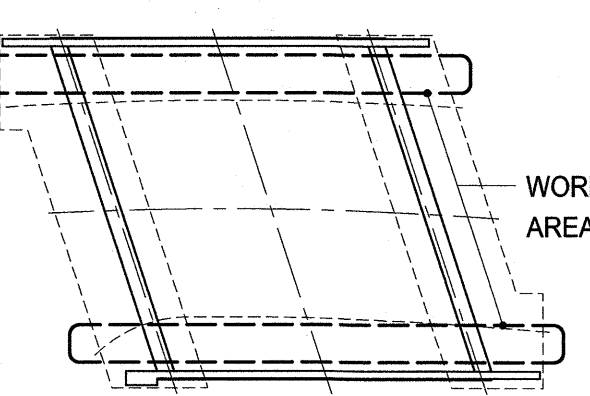
UTILITY SUPPORT NOTES:

- BRACKETS, PLATES, AND ANGLES SHALL BE GRADE 36 AND GALVANIZED PER ASTM SPECIFICATIONS A123. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED PER ASTM SPECIFICATIONS A153. SHIM AS NECESSARY TO PROVIDE TIGHT FIT BETWEEN BEAM AND SUPPORT.
- PROPOSED BRACKET, PLATE, HARDWARE, PIPE ROLL STAND AND PIPE TO BE SUPPLIED BY AND INSTALLED BY CONTRACTOR AS APPROVED BY THE UTILITY OWNER. THE COST SHALL BE INCLUDED IN THE ITEM "PRESTRESSED CONCRETE BOX BEAM, (TYPE BI-48), 48"x27"."
- STAY-IN-PLACE FORMWORK SHALL NOT BE USED. ALL FORMWORK TO BE REMOVED AFTER CONCRETE HAS CURED.
- THE CONTRACTOR SHALL NOT INSTALL THE SUPPORT ANGLES FOR THE UTILITY PIPE CONNECTION UNTIL AFTER THE CONCRETE DECK HAS BEEN POURED AND CURED TO ALLOW THE BOX BEAMS AMPLE TIME TO DEFLECT UNDER DEAD AND SUPERIMPOSED DEAD LOADS.



END DIAPHRAGM REINFORCEMENT SECTIONS BEYOND UTILITY BAY

SCALE: 3/4"=1'-0"



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

OVE ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
3941 BORDENTOWN AVENUE, PARKER, NEW JERSEY 07057
1660 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER LIC. 32468

Revisions		
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County of Union
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2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

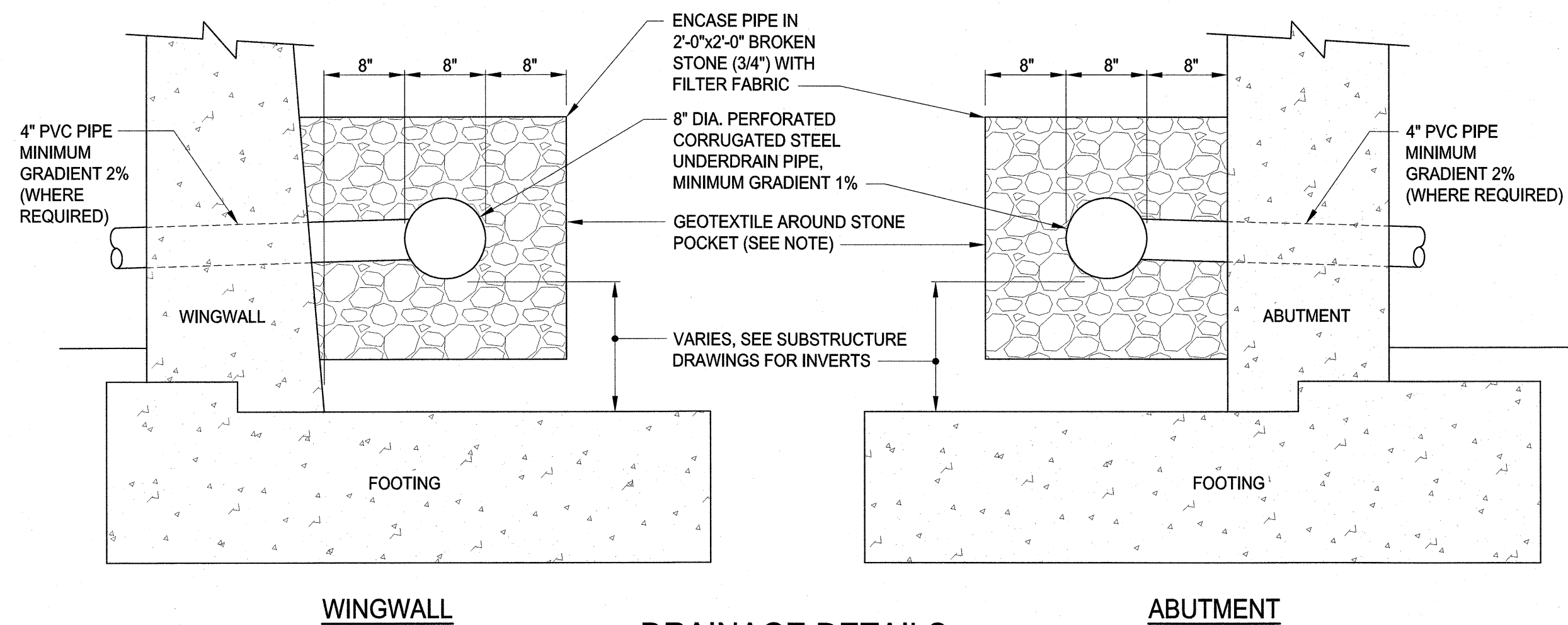
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

END DIAPHRAGM DECK REINFORCEMENT SECTIONS AND DETAILS

Scale: AS SHOWN
Sheet No. 30 of 33
Drawing No. B-17
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01



WINGWALL

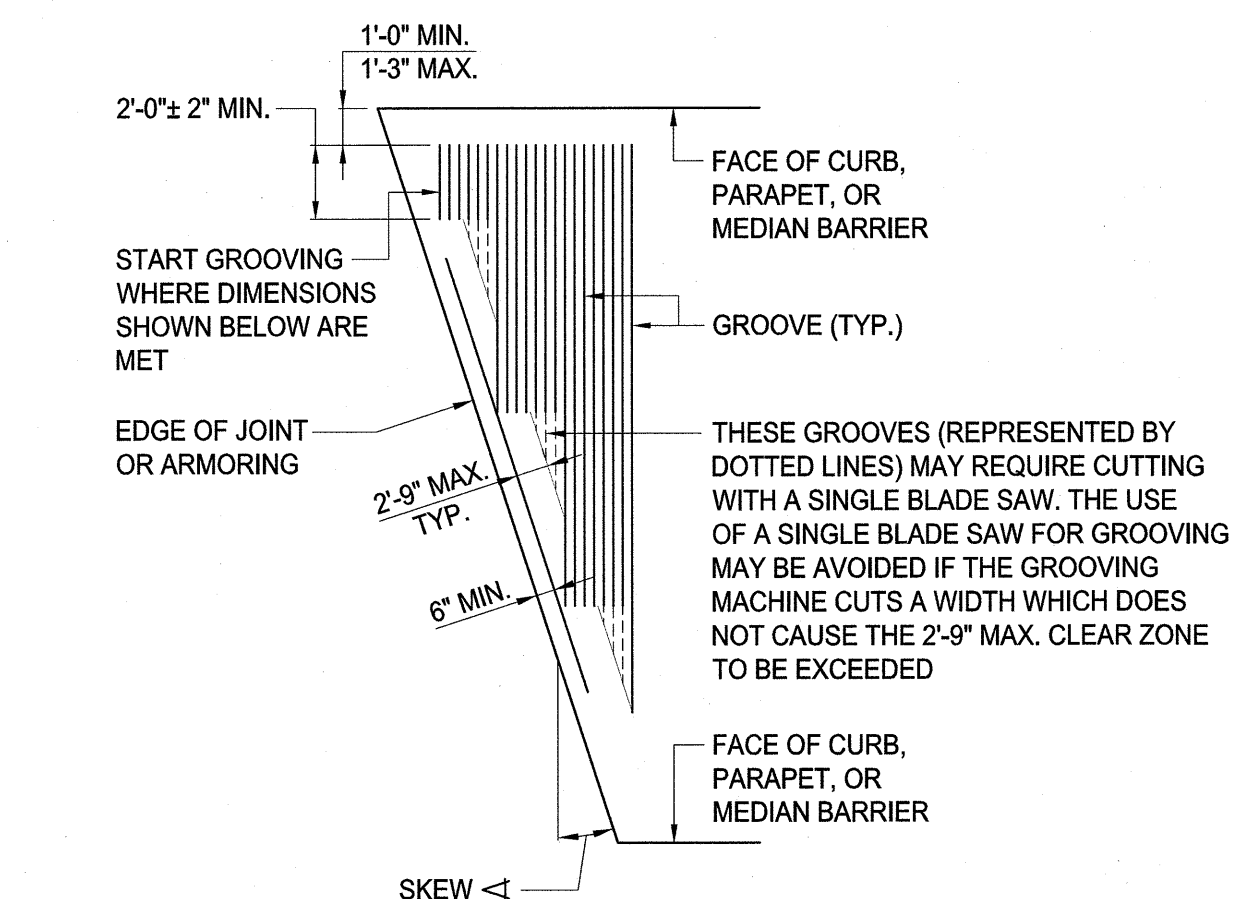
ABUTMENT

DRAINAGE DETAILS

N.T.S.

NOTE:

THE COST OF GEOTEXTILE STONE POCKET, AND 4" PVC PIPE, SHALL BE INCLUDED IN THE PAYMENT FOR 8" CORRUGATED STEEL UNDERDRAIN PIPE.

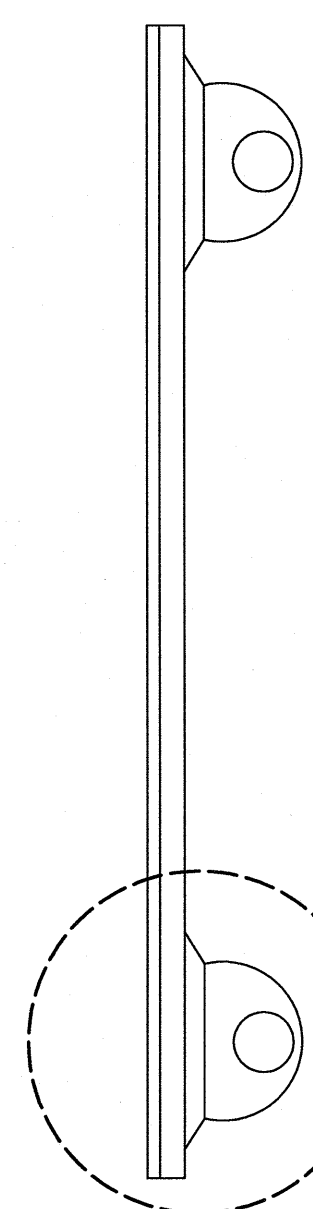


NOTES:

1. SAWCUT GROOVES SHALL BE RECTANGULAR IN CROSS SECTION.
2. NO SEPARATE PAYMENT SHALL BE MADE FOR SAWCUT GROOVING THE DECK. THE COST SHALL BE INCLUDED IN THE PAY ITEM CONCRETE BRIDGE DECK.

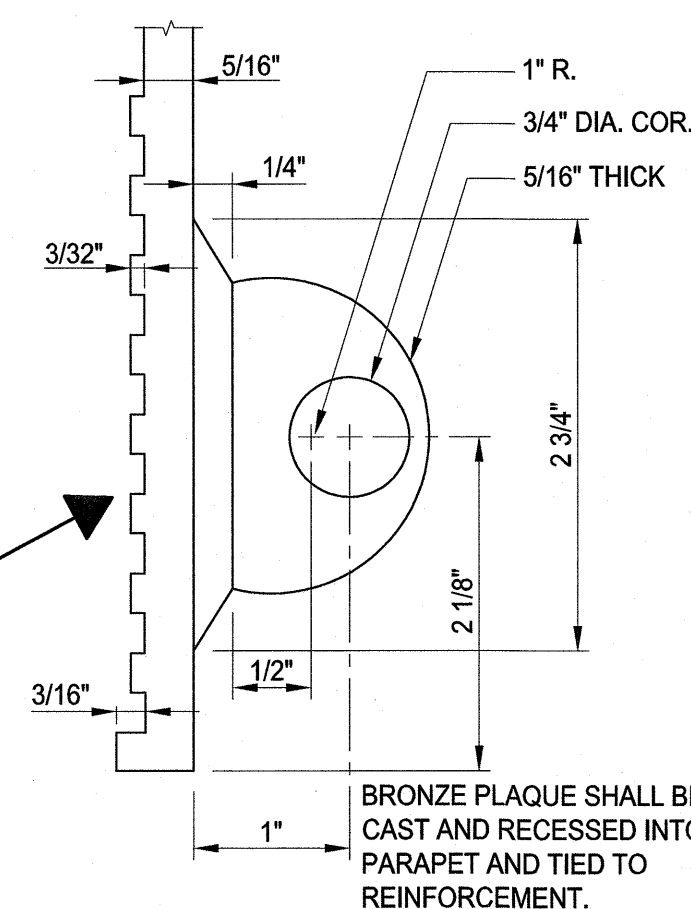
SAWCUT GROOVING FOR SKEWED BRIDGE DECKS

N.T.S.



SIDE VIEW

TEXT	SIZE
"UNION COUNTY" AND "2012"	5/8"
UNION COUNTY SEAL	2 3/4"
"BOARD OF CHOSEN FREEHOLDERS"	1/2"
CHOSEN FREEHOLDER NAMES	3/8"
COUNTY EMPLOYEE NAMES	1/4"



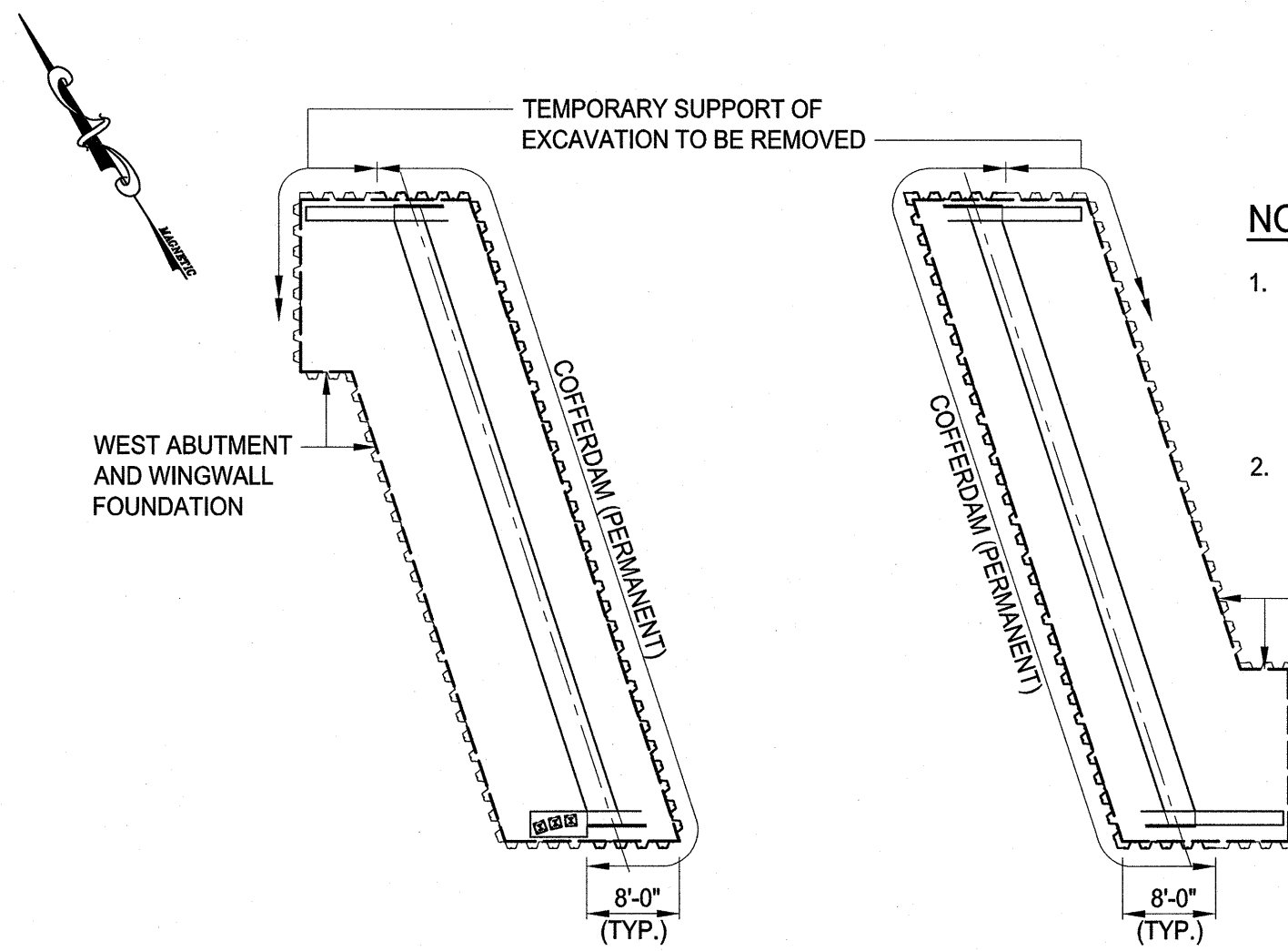
DETAIL

DETAILS OF BRONZE BRIDGE PLAQUE

N.T.S.

NOTES:

1. TWO (2) PLAQUES TO BE SET FLUSH IN PARAPET AT THE SOUTHEAST AND NORTHWEST BRIDGE PYLONS.
2. THE CONTRACTOR MAY SUBMIT AN ALTERNATE ANCHORAGE SYSTEM TO THE COUNTY FOR APPROVAL.
3. EXISTING BRONZE PLAQUE SHALL BE CLEANED AND INSTALLED IN THE NORTHEAST PYLON.
4. SUBMIT PROPOSED PLAQUE TEXT (I.E. NAMES, DATES, TILES, ETC.) TO THE COUNTY FOR APPROVAL PRIOR TO FABRICATION.

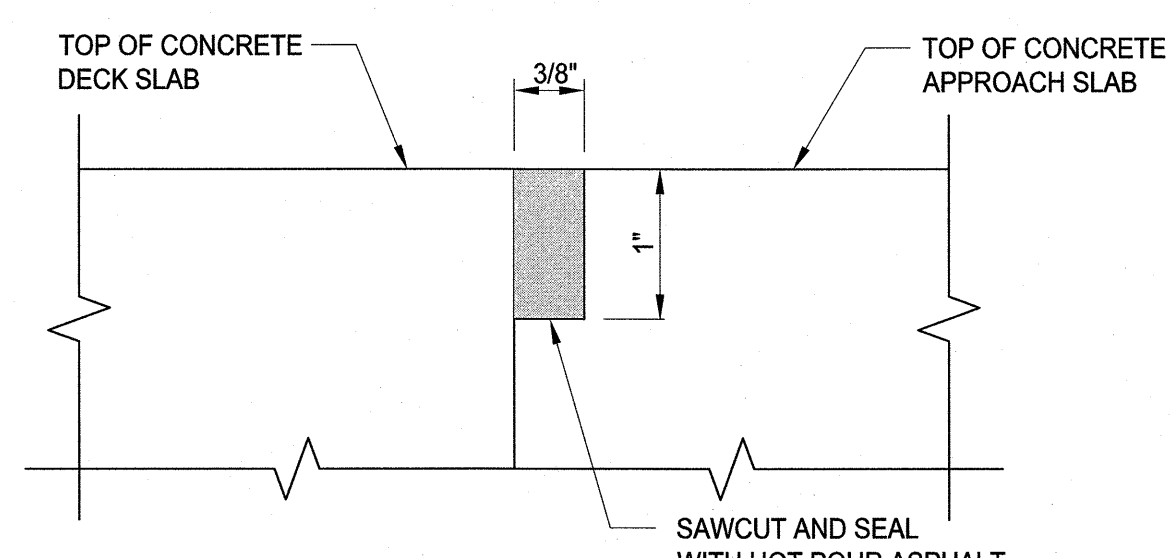


NOTES:

1. THE PORTION OF THE COFFERDAM THAT WILL REMAIN IS SHOWN. THE REMAINING PORTION OF THE COFFERDAM SHALL BE CONSIDERED TEMPORARY.
2. SEE DRAWING NO. B-3 FOR THE LOCATION OF THE COFFERDAM (PERMANENT AND TEMPORARY).

MAINTENANCE OF STREAM FLOW LIMITS

N.T.S.



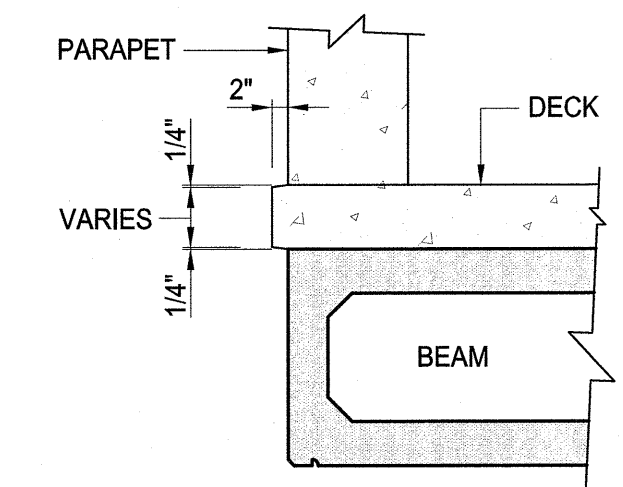
DECK JOINT SEAL

DETAIL 7

N.T.S.

NOTES:

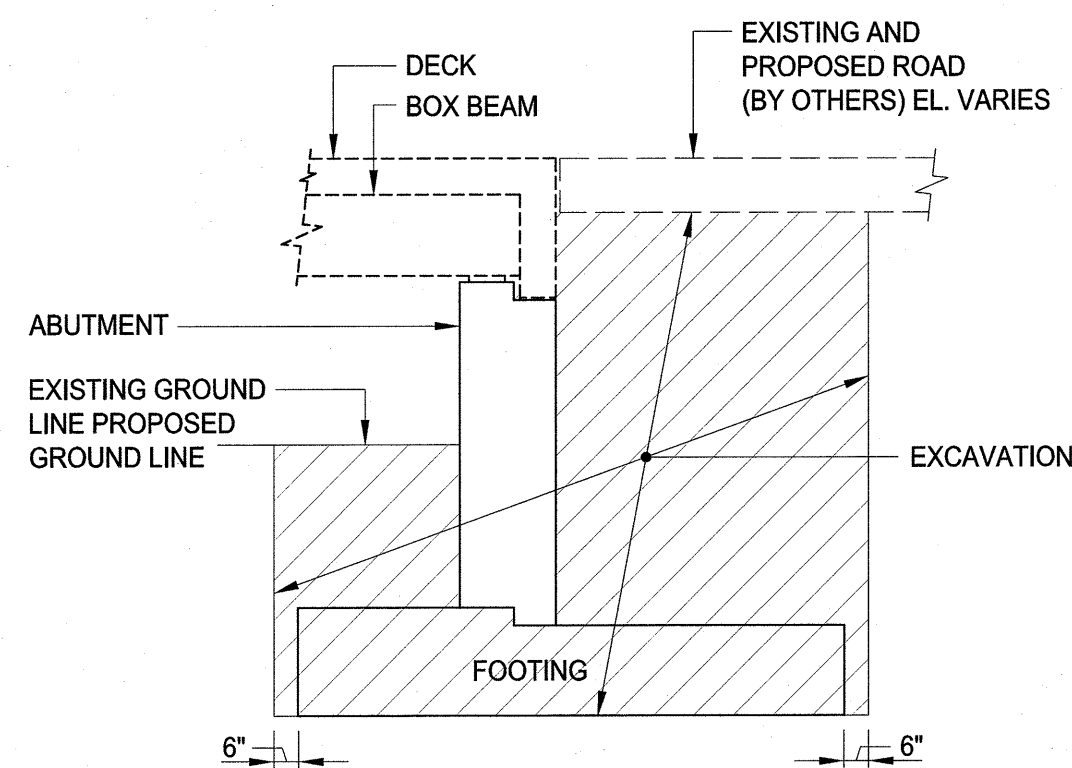
1. USE SILICONE SEALANT AT THE SIDEWALK AND PARAPET JOINTS.
2. THE COLOR OF THE SILICONE SEALANT SHALL MATE THE COLOR OF THE CONCRETE.
3. THE COST FOR SAW CUTTING AND SILICONE SEALANT SHALL BE INCLUDED IN THE ITEM "CONCRETE BRIDGE DECK".



TYPICAL COPING DETAIL

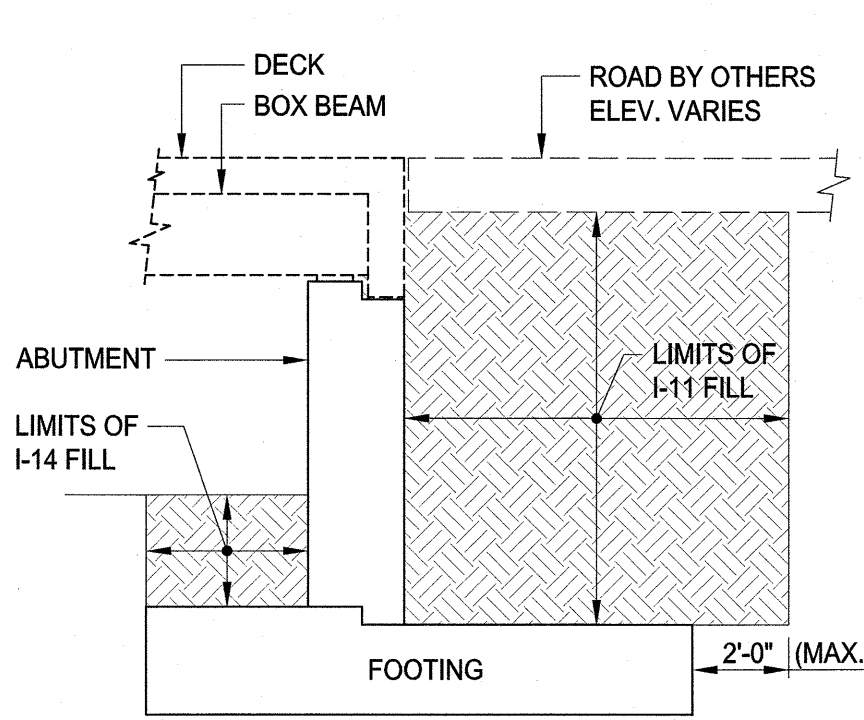
DETAIL 8

N.T.S.



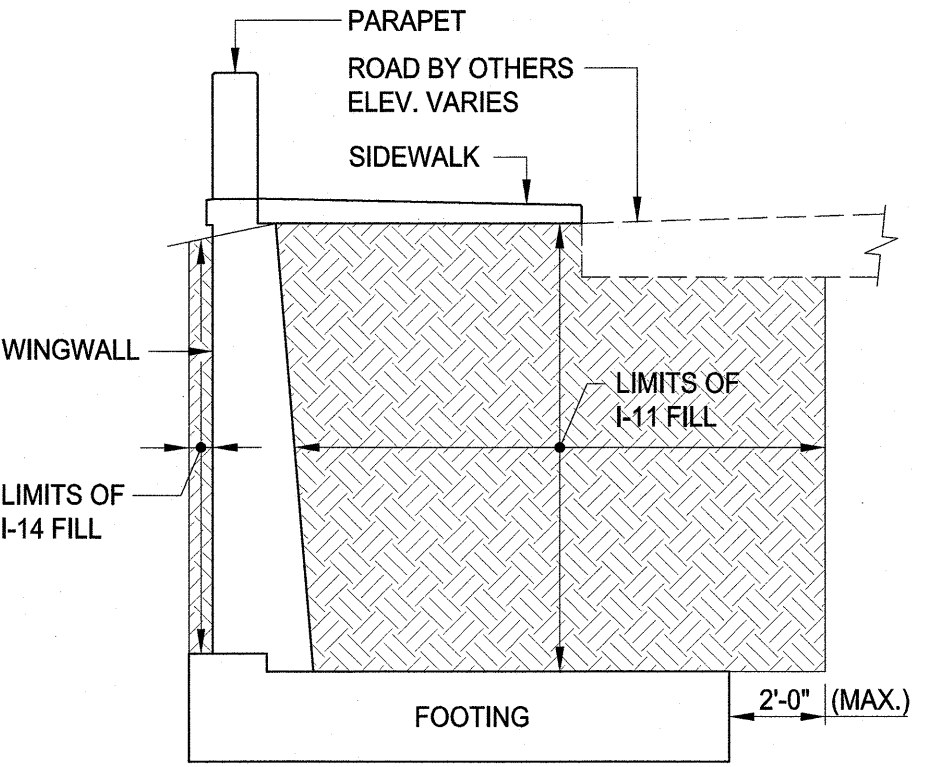
PAY LIMITS OF EXCAVATION

N.T.S.



PAY LIMITS OF BACKFILL

N.T.S.

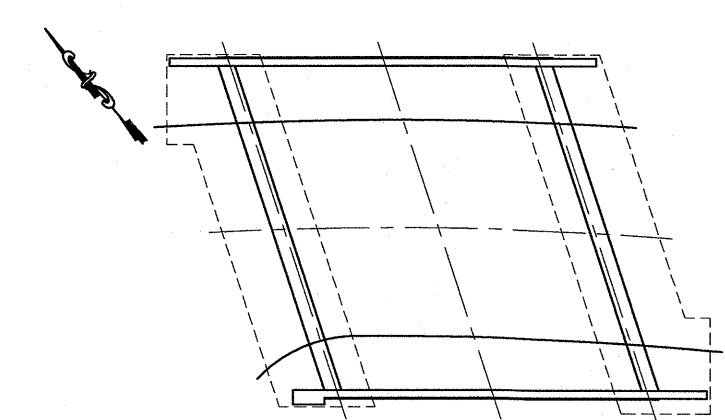


PAY LIMITS OF BACKFILL

N.T.S.

PAY LIMIT NOTES:

1. EXCAVATION LIMITS AT ABUTMENT SHOWN. WINGWALLS ARE SIMILAR.
2. PAY LIMITS SHOWN ARE ALSO APPLICABLE FOR THE BASE OF THE 12" THICK CONCRETE SEALWORKING MAT.
3. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF PROPERLY AND NOT REUSED FOR BACKFILL. ANY EXCAVATION (INCLUDING EXCAVATION OUTSIDE OF THE PAY LIMITS) SHALL BE BACKFILLED WITH SOIL AGGREGATE CONFORMING TO STANDARD GRADATION I-11 OR I-14 AS INDICATED ABOVE.
4. DEMOLITION AND REMOVAL OF EXISTING ABUTMENTS AND FOUNDATIONS SHALL BE MADE UNDER COFFERDAM ITEM.
5. THE EXISTING BRIDGE SUBSTRUCTURE VOLUME SHALL NOT BE INCLUDED IN THE VOLUME OF EXCAVATION. THE REMOVAL OF THE EXISTING BRIDGE SUBSTRUCTURE IS TO BE PAID UNDER "CLEARING SITE".



BRIDGE KEY PLAN

SCALE: 1/32"=1'-0"

OXE ASSOCIATES
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2441 ROCKERTOWN AVENUE, FAIRLAK, NEW JERSEY 08027
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731

MICHAEL J. McCLELLAND P.E.
PROFESSIONAL ENGINEER LIC. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

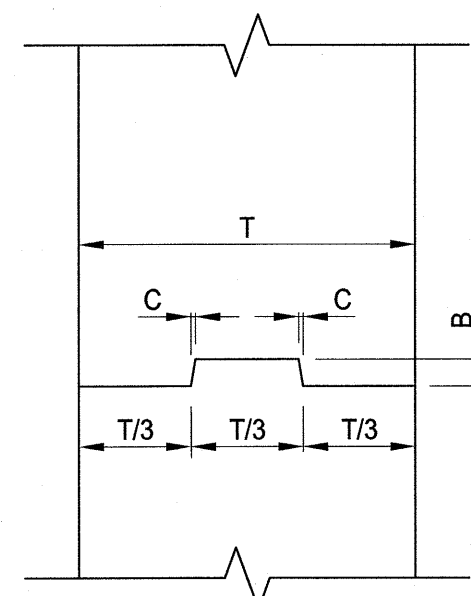
City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

MISCELLANEOUS DETAILS SHEET 1 OF 2

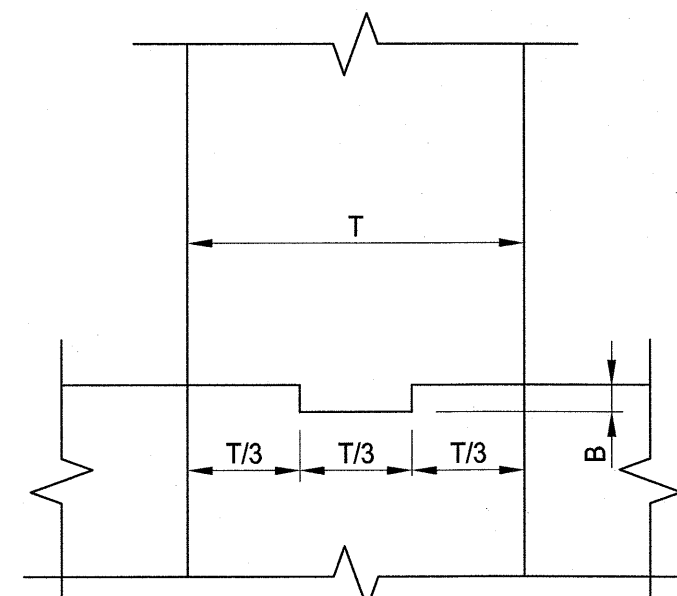
Scale: AS SHOWN
Sheet No. 31 of 33
Drawing No. B-18
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

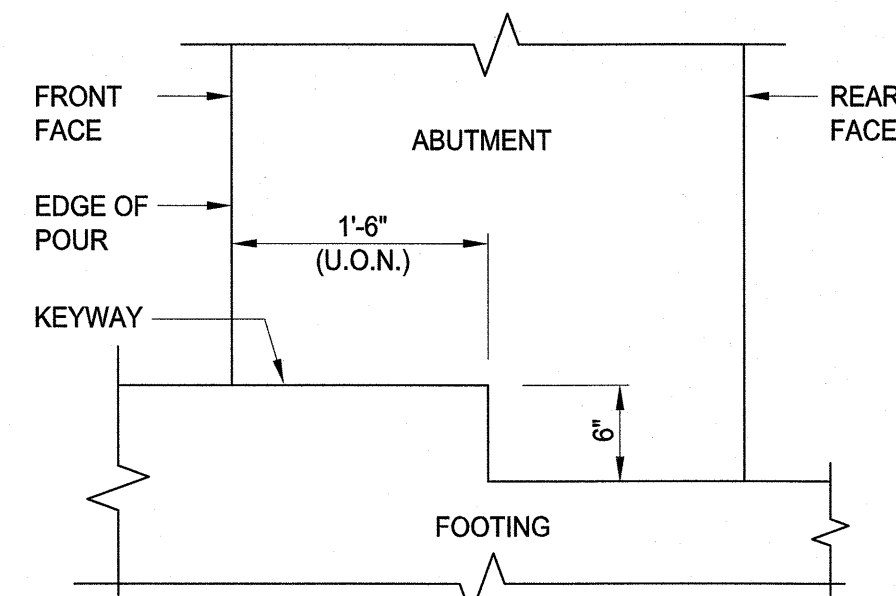
PUN00612.01



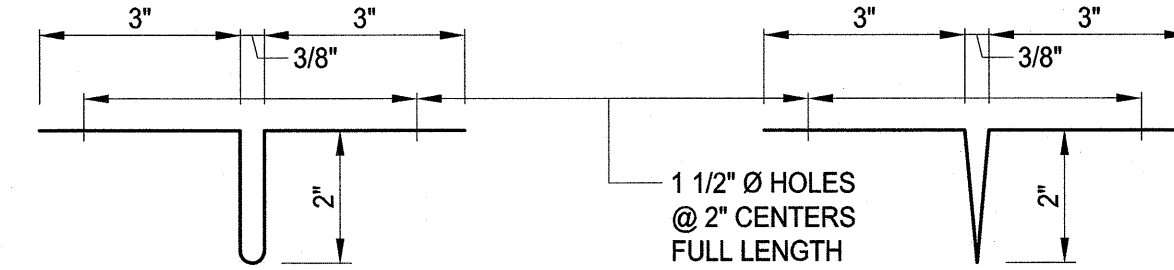
VERTICAL



HORIZONTAL



FOOTING



EXPANSION

CONTRACTION

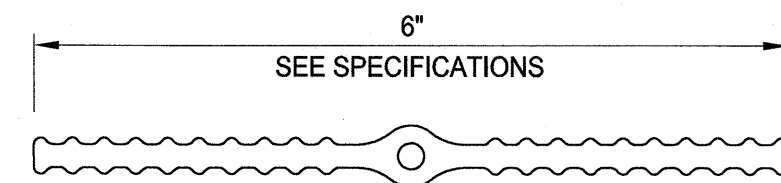
NOTES:

1. WATERSTOP NOT SHOWN FOR CLARITY.
2. ALL KEYWAYS SHOULD BEGIN AND END 1'-0" FROM THE EDGE OF POUR AS INDICATED ABOVE.

KEYWAY DETAILS

N.T.S.

CONSTRUCTION JOINTS		
C	B	T/3
1/4"	1 1/2"	6"
5/8"	3 1/2"	6" TO 10"
1"	6"	OVER 10"

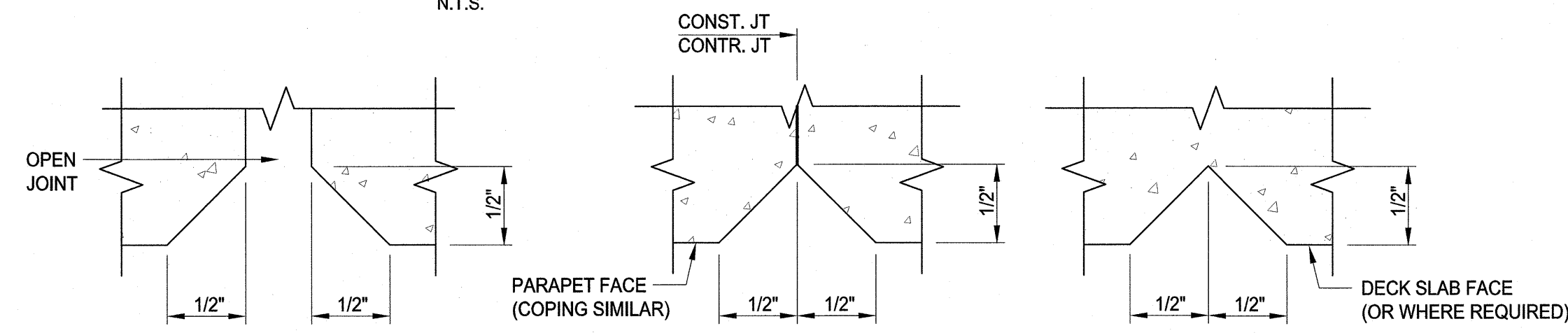


6" PLASTIC WATERSTOP

DETAIL 9
N.T.S.

16 OZ COPPER WATERSTOP 10" WIDE DETAILS

N.T.S.



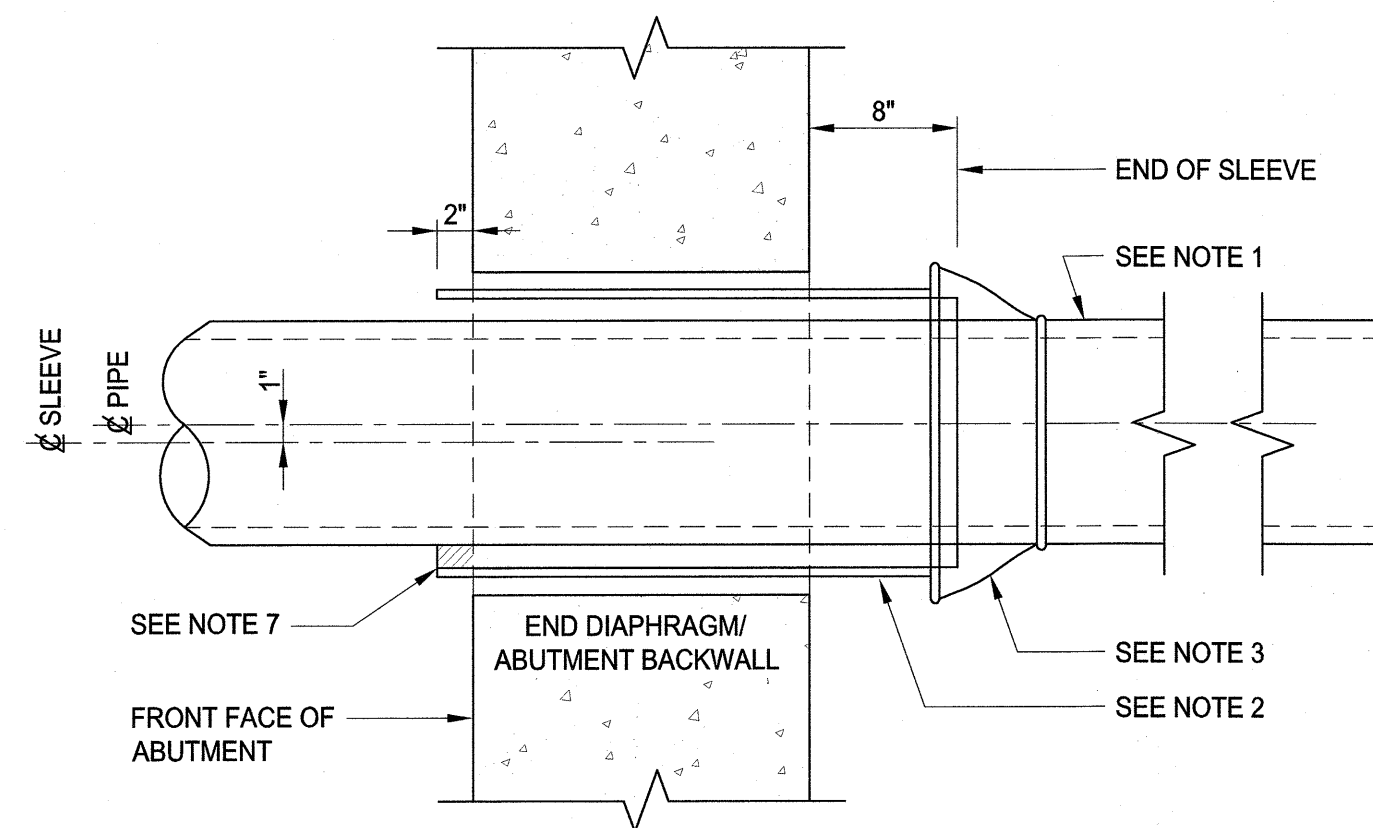
OPEN JOINT

CONTROL OR CONSTRUCTION JOINT
(CONTRACTION JOINT PARAFIN COATED)

DUMMY JOINT

DETAILS OF PARAPET SCORING

N.T.S.

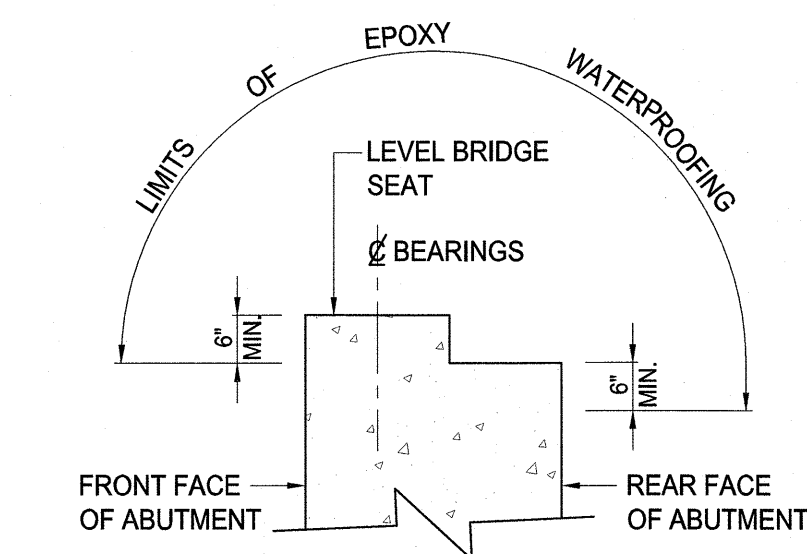


SLEEVE FOR UTILITY PIPES

DETAIL 10
N.T.S.

NOTES:

1. UTILITY PIPES FURNISHED AND INSTALLED BY UTILITY COMPANIES.
2. GALVANIZED SLEEVE FURNISHED AND INSTALLED BY CONTRACTOR.
3. CASING SEAL FURNISHED AND INSTALLED BY UTILITY COMPANIES.
4. ENDS OF SLEEVE SHALL BE CUT SQUARE AND FREE FROM BURRS.
5. GRADE (SLOPE) OF SLEEVE SHALL BE SAME AS GRADE OF UTILITY.
6. CENTERLINE OF UTILITY PIPE SHALL BE INSTALLED 1" HIGHER THAN CENTERLINE OF SLEEVE.
7. BLOCK INSTALLED TO INITIALLY POSITION THE PIPE AND SHALL BE REMOVED AFTER UTILITY PIPE APPROACH ROAD HAS BEEN CONNECTED AND BACKFILLED AND COMPACTED FOR BOTTOM HALF OF THE PIPE.
8. PIPE AND SLEEVE SHALL BE TEMPORARILY PLUGGED.
9. THE OPENING BETWEEN THE PIPE AND THE SLEEVE SHALL BE PACKED WITH HEMP, JUTE, OR SIMILAR MATERIAL TO PREVENT LEAKAGE THROUGH THE END DIAPHRAGM/ABUTMENT BACKWALL.
10. NO SEPARATE PAYMENT SHALL BE MADE FOR THE STEEL SLEEVE. THE COST SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS BID IN THE PROJECT.



EPOXY WATERPROOFING (AT ABUTMENT)

DETAIL 12
SCALE: 1/4"=1'-0"

TYPICAL ABUTMENT AND WINGWALL JOINT

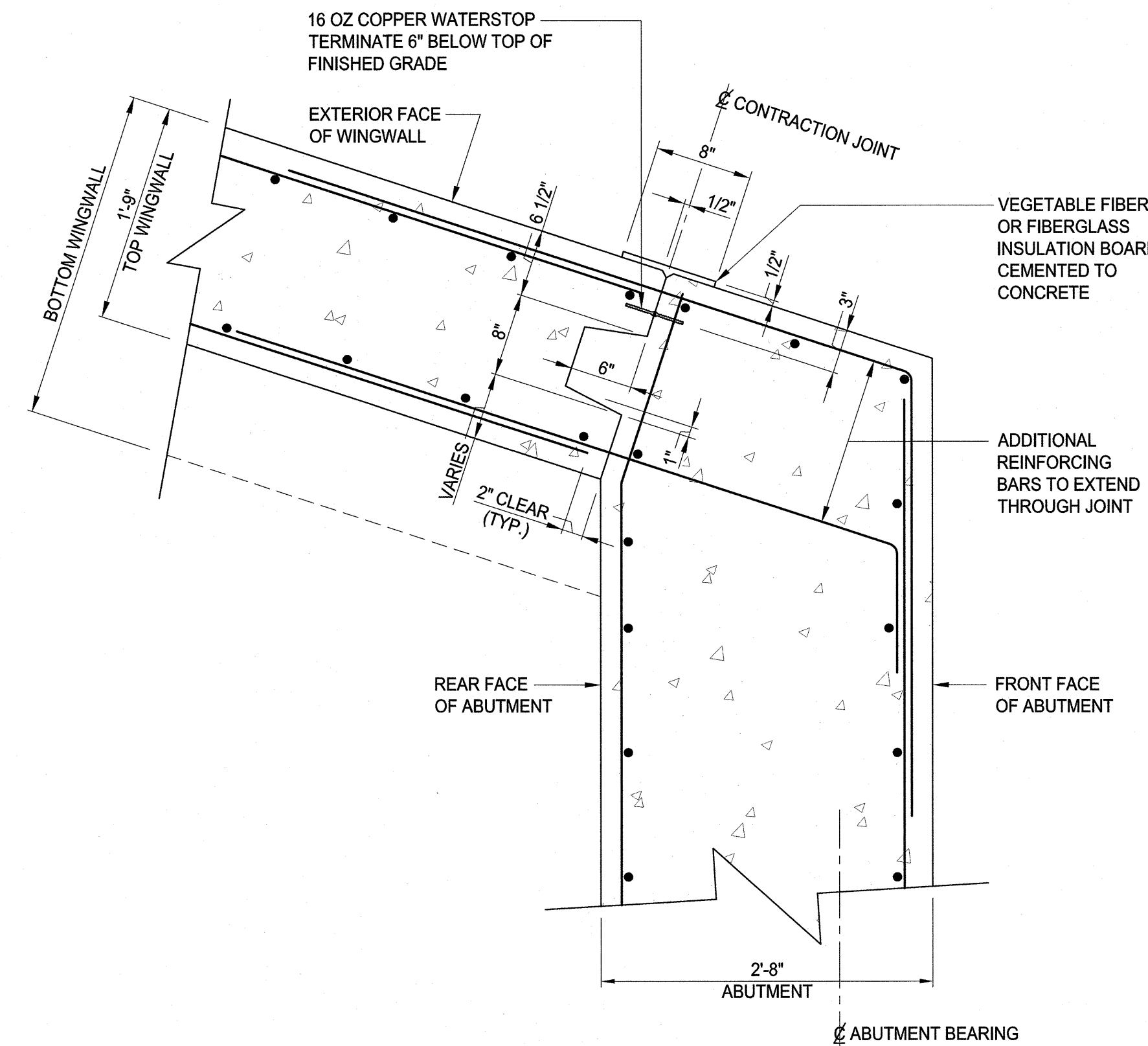
DETAIL 11
SCALE: 1"=1'-0"

1"x1" V-GROOVE

DETAIL 13
SCALE: 3"=1'-0"

BRIDGE KEY PLAN

SCALE: 1/32"=1'-0"



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Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

MISCELLANEOUS DETAILS SHEET 2 OF 2

Scale: AS SHOWN
Sheet No. 32 of 33
Drawing No. B-19
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01

Project: Netherwood Bridge Plainfield Union County, New Jersey		Sheet 1 of 1 Boring No.: B-1				
Sampler: 2" split spoon Hammer/Fall: 140lbs/30" Rig Type/Drilling Method: Truck Rig-CME75/ Mud Rotary		Location Plan: Drilling Company: Environmental Technical Drilling, Inc. Driller: Vinnie Helper, Charlie				
Project#: PUN00612.01	Ground Elevation: +4.119.0	Date/Time: 8/19/2015	Drilling Inspector: A. Iqbal			
Start Date: 8/19/2015	Depth To Water: 8/19/2015	Soils Engineer: Paul Echaniz, P.E.				
End Date: 8/19/2015	Ground Water Elev.: 8:51AM-04:15PM	Dr. South, 2ft West offset				
Depth Below Surface (ft)	Casing per ft	Blows Sampler per 6 Inches	Sample ID	Depth (ft)	Identification of Soils/Remarks	Stratigraphy
1					Drilled through the asphalt with conical roller bit to 1' depth	
2	21	13	S-1	1-3	S-1 Gr-Red- Brown c'mf GRAVEL, trace mf Sand	Fill
3		7		5	little silt Rec=8"	
4	4	4	S-2	3-5	S-2 Gr- Red- Brown mf+ GRAVEL, trace- mf Sand, little Silt	5.0'
5		4		4	Rec=8"	
6	6	13	S-3	5-7	S-3 Greenish Reddish Brown c' mf GRAVEL, some c' mf Sand, trace Silt w Greenish Gray seam of Sand, trace	
7		13		7	Rec=12"	
8	36	46	S-4	7-9	S-4 Reddish Brown c' mf GRAVEL, some c' mf Sand, trace Silt	
9		54		100/4"	Rec=14"	
10					drilled to 10' because of refusal	
11	35	80	S-5	10-12	S-5 Purplish Reddish Brown c' mf GRAVEL, trace mf Sand, trace Silt	GP
12		60		57	Rec=14"	
13						
14						
15						
16	15	33	S-6	15-17	S-6 Same as S-5	Rec=14"
17		37		36		
18						18.0'
19						
20						
21	20	16	S-7	20-22	S-7 Top Reddish Brown SILT, trace mf Sand	Rec=10"
22		24		33	Bot. Reddish Brown mf SAND, trace Silt	Rec=4"
23						
24						
25						
26	25	19	S-8	25-27	S-8 Reddish Brown Clayey SILT, trace f Sand	Rec=6"
27		19		23		
28						
29						
30						
31	7	8	S-9	30-32	S-9 Top Reddish Brown Clayey SILT, trace mf Sand, trace mf+ Gravel	Rec=23"
32		11		20	PP=2.50 tsf	Rec=23"
33					Bot. Reddish Brown c'mf SAND, trace Silt	Rec=1"
34						
35						
36	25	76	S-10	35-37	S-10 Reddish Brown SILT, trace mf Sand, and c' mf Gravel	36.0'
37		100/5.5"			PP=4.0 tsf Rec=24"	DR 37.0'
38					End of test Boring @ 37.0'	E.O.B.
39						
40						
41						
42						

VISUAL IDENTIFICATION TERMS USED						
Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils	Consistency of Clayey Soils	Proportions Used		
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S) 0.1-0.5 tsf	trace 1-10%
SILT & CLAY	low PL	Thread 1/8"	Loose	15-35%	firm (F) 0.5-1.0 tsf	little 10-20%
CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH) 1.0-2.0 tsf	some 20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H) 2.0-4.0 tsf	and 35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH) over 4.0 tsf	

Project: Netherwood Bridge Plainfield Union County, New Jersey		Sheet 1 of 2 Boring No.: B-2				
Sampler: 2" split spoon Hammer/Fall: 140lbs/30" Rig Type/Drilling Method: Truck Rig-CME75/ Mud Rotary		Location Plan: Drilling Company: Environmental Technical Drilling, Inc. Driller: Vinnie Helper, Charlie				
Project#: PUN00612.01	Ground Elevation: -119.50	Date/Time: 8/24/2015	Drilling Inspector: A. Iqbal			
Start Date: 8/24/2015	Depth To Water: 8/24/2015	Soils Engineer: Paul Echaniz, P.E.				
End Date: 8/24/2015	Ground Water Elev.: 8:34AM-02:32PM					
Depth Below Surface (ft)	Casing per ft	Blows Sampler per 6 Inches	Sample ID	Depth (ft)	Identification of Soils/Remarks	Stratigraphy
1					Drilled through 8 inches of Asphalt course	
2	21	8	S-1	0.7-2.7	S-1 Gray c' mf GRAVEL, trace mf Sand, trace Silt	
3		5		5	Rec=1"	
4	6	7	S-2	2.7-4.7	S-2 Brown SILT, trace Mica PP=2.0 tsf, Rec=20"	Fill
5		10		9		
6	9	12	S-3	5.7	S-3 Brown Clayey SILT (No Recovery) Rec=112"	
7		13		23		
8	9	9	S-4	7-9	S-4 Brown c'mf GRAVEL, some c' mf Sand, little Silt	
9		4		2	Rec=20"	9.0' (E.L. 110.5)
10	26	28	S-5	9-11	S-5 Reddish Brown c'mf GRAVEL, trace mf Sand, trace Silt	
11		36		38		
12	43	42	S-6	11-13	S-6 Reddish Brown c'mf GRAVEL, little c'mf Sand, little Silt	
13		52		34		
14						
15						
16	14	26	S-7	15-17	S-7 Reddish Brown c'mf SAND, little Silt, some mf Gravel	
17		31		47		
18						
19						
20						
21	10	15	S-8	20-22	S-8 Reddish Brown c'mf SAND, trace Silt, little mf Gravel	GT
22		10		12		Glacial Till
23						
24						
25						
26	12	15	S-9	25-27	S-9 Reddish Brown mf+ Sand, little Silt	
27		15		20		
28						
29						
30						
31	10	14	S-10	30-32	S-10 Top Reddish Brown mf SAND, little Silt	Rec=5"
32		19		13	Bot. Reddish Brown SILT, trace mf Sand, trace mf Gravel	Rec=4"
33						
34						
35						
36	12	20	S-11	35-37	S-11 Same as S-10 (Bot)	Rec=112"
37		18		25	No Recovery	
38					Possibly weathered rock from 38.50' to 40.0'	38.50'(E.L. 81.0)
39					Placed the Rock Core barrel to core the Rock at 40.0'	Dr
40					40.0'(12:45PM)	40.0'(E.L. 79.50)
41					41.0'(12:52PM)	
42					42.0'(01:01PM)	Rock

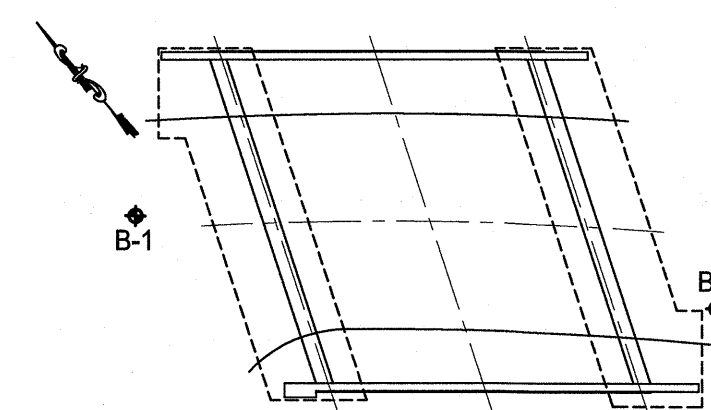
VISUAL IDENTIFICATION TERMS USED						
Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils	Consistency of Clayey Soils	Proportions Used		
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S) 0.1-0.5 tsf	trace 1-10%
SILT & CLAY	low PL	Thread 1/8"	Loose	15-35%	firm (F) 0.5-1.0 tsf	little 10-20%
CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH) 1.0-2.0 tsf	some 20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H) 2.0-4.0 tsf	and 35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH) over 4.0 tsf	

Project: Netherwood Bridge Plainfield Union County, New Jersey		Sheet 2 of 2 Boring No.: B-2				
Sampler: 2" split spoon Hammer/Fall: 140lbs/30" Rig Type/Drilling Method: Truck Rig-CME75/ Mud Rotary		Location Plan: Drilling Company: Environmental Technical Drilling, Inc. Driller: Vinnie Helper, Charlie				
Project#: PUN00612.01	Ground Elevation: 8/24/2015	Date/Time: 8/24/2015	Drilling Inspector: A. Iqbal			
Start Date: 8/24/2015	Depth To Water: 8/24/2015	Soils Engineer: Paul Echaniz, P.E.				
End Date: 8/24/2015	Ground Water Elev.: 8:34AM-02:32PM					
Depth Below Surface (ft)	Casing per ft	Blows Sampler per 6 Inches	Sample ID	Depth (ft)	Identification of Soils/Remarks	Stratigraphy
43					43.0' (01:14PM)	
44					44.0' (01:24PM)	
45					45.0' (01:38PM), Recovery=96.25%, RQD= 31.67%	45.0'(E.L. 114.5)
46					End of the test Boring @ 45.0'	E.O.B.
47						
48						
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VISUAL IDENTIFICATION TERMS USED						
Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils	Consistency of Clayey Soils	Proportions Used		
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S) 0.1-0.5 tsf	trace 1-10%
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CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH) 1.0-2.0 tsf	some 20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H) 2.0-4.0 tsf	and 35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH) over 4.0 tsf	

NOTES:

- FOR BORING LOCATION, SEE DRAWING NO. B-3.
- THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED.



BRIDGE KEY PLAN
SCALE: 1/32"=1'-0"

CME ASSOCIATES
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2941 SCIENTISTOWN AVENUE, PAULI, NEW JERSEY 08059
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PROFESSIONAL ENGINEER LIC. 32468

Revisions		
No.	Date	By
1	05/2017	NH

County of Union
Division of Engineering
2325 South Avenue, Scotch Plains, N.J. 07076

NETHERWOOD AVENUE BRIDGE REPLACEMENT, PL-37

City of Plainfield, Union County & Borough of North Plainfield, Somerset County NEW JERSEY

LOGS OF TEST BORINGS

Designed By: JN
Drawn By: JN
Checked By: NH
Approved By: NH

Scale: AS SHOWN
Sheet No. 33 of 33
Drawing No. B-20
Date: June 2016

Thomas O. Mineo
County Engineer
N.J.P.E. No. 19646

PUN00612.01