

# COUNTY OF UNION

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

**MEMO TO:** ALL POTENTIAL BIDDERS

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CHOSEN FREEHOLDERS**

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*Deputy County Manager*

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*County Counsel*

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

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

**DATE:** June 7, 2018

**RE: CLARIFICATION NUMBER 2**  
**BA#6-2018 – SUPERSTRUCTURE REPLACEMENT OF**  
**W.R. TRACY DRIVE BRIDGE, MO-37**  
**BOROUGH OF MOUNTAINSIDE, CITY OF SUMMIT**  
**COUNTY OF UNION, NEW JERSEY**  
**UNION COUNTY ENGINEERING PROJECT #2015-020**

Please note the following Clarification:

Attached are signed and sealed plans replacing the previous set of unsigned plans.

No scope changes were made to the specifications or plans.

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

**DIVISION OF ENGINEERING**



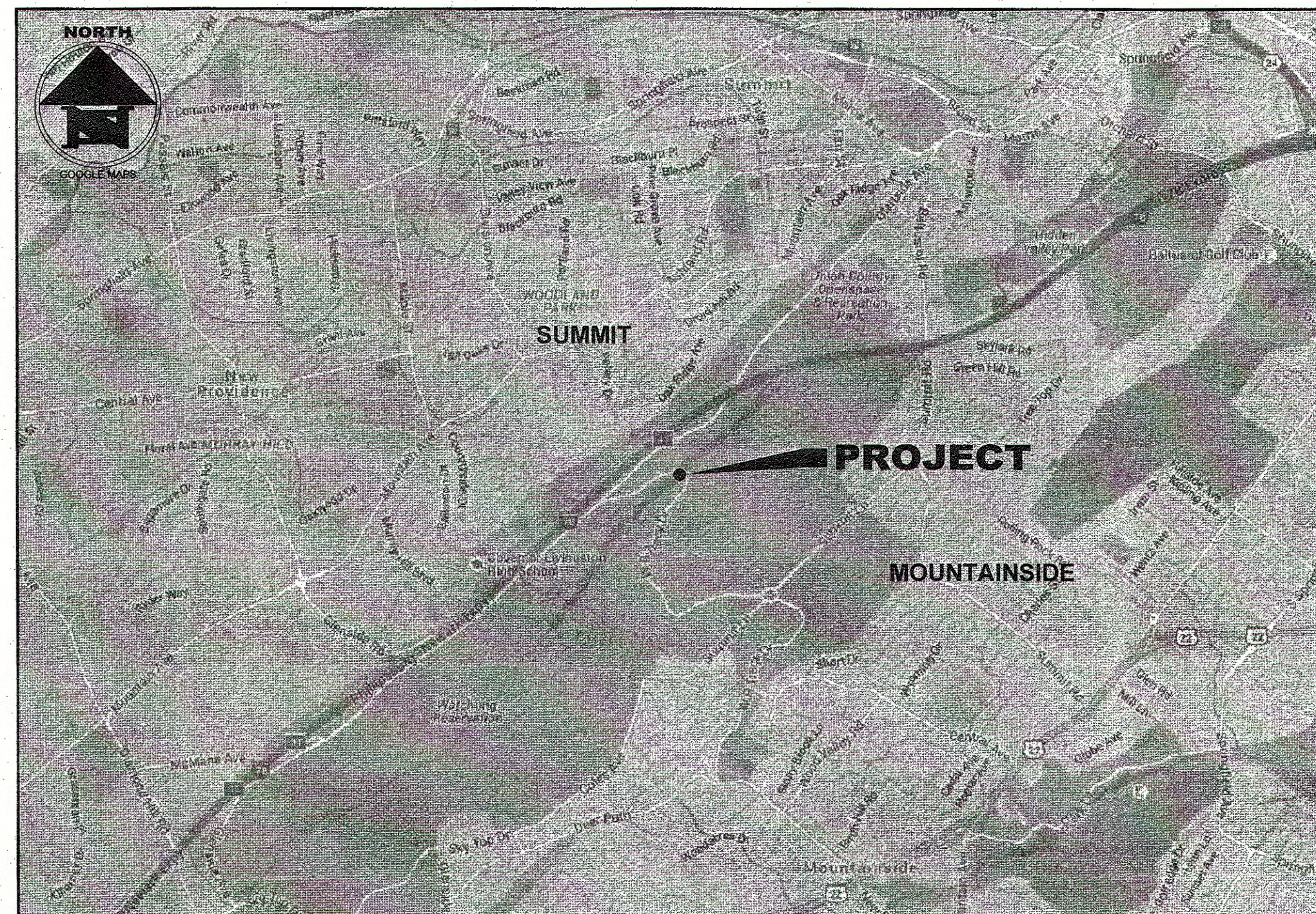
COUNTY OF UNION  
BOARD OF CHOSEN FREEHOLDERS

# W.R. TRACY DRIVE BRIDGE IMPROVEMENTS

CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE  
COUNTY OF UNION, NEW JERSEY

SEPTEMBER 8, 2017 LAST REVISED MAY 2018

UTILITY COMPANY CONTACTS	
COMPANY	ADDRESS
P.S.E. & G. - GAS	472 WESTEN CANAL ROAD SOMERSET, N.J. (732) 764-3067
ELIZABETH GAS COMPANY	520 GREEN LANE UNION, N.J. (908) 662-8321
J.C.P. & L.	P.O. BOX 1911 MORRISTOWN, N.J. (973) 401-8521
P.S.E. & G. - ELECTRIC	80 PARK PLAZA T-12 NEWARK, N.J. (973) 297-2128
NEW JERSEY AMERICAN WATER	1341 NORTH AVENUE PLAINFIELD, N.J. (973) 564-5701
VERIZON	175 WESTMAIN STREET FREEHOLD, N.J. (732) 357-2313
BERKELEY HEIGHTS MUNICIPAL SEWER	29 PARK AVENUE BERKELEY HEIGHTS, N.J. (908) 464-5100
WESTFIELD PUBLIC WORKS	959 NORTH AVENUE WESTFIELD, N.J. (908) 789-4100



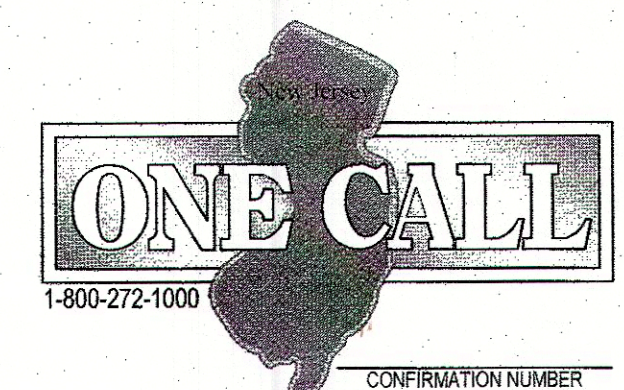
**KEY MAP (N.T.S.)**  
SOURCE: REF. GOOGLE MAPS

APPROVALS		
RECOMMENDED FOR APPROVAL BY:	<i>Thomas O. Mined</i> THOMAS O. MINED, P.E., COUNTY ENGINEER	6/5/2018 DATE
APPROVED BY:	<i>Edward T. Oatman</i> EDWARD T. OATMAN, COUNTY MANAGER	6/5/2018 DATE

LIST OF DRAWINGS	
DRAWING NO.	DRAWING TITLE
1.00	COVER SHEET
1.01	GENERAL NOTES & LEGEND
2.00	ROADWAY IMPROVEMENTS PLAN
3.00	SOIL EROSION AND SEDIMENT CONTROL PLAN
4.00	SOIL EROSION AND SEDIMENT CONTROL DETAILS
4.01	CONSTRUCTION DETAILS
5.00	NJDEP WETLAND PERMITTING PLAN
5.01	NJDEP STATE OPEN WATERS PERMITTING PLAN
5.02	NJDEP RIPARIAN PERMITTING PLAN

LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND IS NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION AND DEPTH OF ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS AS AN AID IN DETERMINING EXACT LOCATIONS.

**NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF 2007, WITH AMENDMENTS THERETO, TO GOVERN.**



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

<table border="1"> <thead> <tr> <th colspan="5">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DRAWN</th> <th>CHECKED</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>09-26-17</td> <td>ISSUED FOR AUDIT REVIEW</td> <td>ENS</td> <td>ENS, D.J.</td> </tr> <tr> <td>2.</td> <td>01-12-18</td> <td>ADDED APPROVAL SIGNATURE BLOCK</td> <td>ENS</td> <td>ENS, D.J.</td> </tr> <tr> <td>3.</td> <td>02-11-18</td> <td>ISSUED FOR BID</td> <td>ENS</td> <td>ENS, D.J.</td> </tr> </tbody> </table>	REVISIONS					NO.	DATE	DESCRIPTION	DRAWN	CHECKED	1.	09-26-17	ISSUED FOR AUDIT REVIEW	ENS	ENS, D.J.	2.	01-12-18	ADDED APPROVAL SIGNATURE BLOCK	ENS	ENS, D.J.	3.	02-11-18	ISSUED FOR BID	ENS	ENS, D.J.		<b>DAVID JUZMESKI,</b> P.E., P.P. PROFESSIONAL ENGINEER N.J. LICENSE NO. 46561		<b>THOMAS R. SOLFARO,</b> P.E., C.M.E. PROFESSIONAL ENGINEER N.J. LICENSE NO. 41951	A PROJECT OF <b>NEGLIA ENGINEERING ASSOCIATES</b> 34 PARK AVENUE TEL: 201-939-8805 LYNDHURST FAX: 201-939-0846 E-MAIL: NEA@NEGLIAENGINEERING.COM <b>MICHAEL J. NEGLIA, P.E., P.L.S., P.P.</b> PROFESSIONAL ENGINEER N.J. LICENSE NO. 38604 PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 38604 PROFESSIONAL PLANNER N.J. LICENSE NO. 33LI00569600	<b>COVER SHEET / KEY MAP</b> <b>W.R. TRACY DRIVE BRIDGE IMPROVEMENTS</b> <b>COUNTY BRIDGE No.: MO-37</b> <b>CITY OF SUMMIT &amp; BOROUGH OF MOUNTAINSIDE</b> <b>UNION COUNTY NEW JERSEY</b> DRAWN BY: E.M.J.      CHECKED BY: N.T.S.      PROJECT NO: UNIOCTY16.010      SHEET NO: 1.00 DESIGNED BY: E.M.J.      SCALE:      DATE: JUNE 8, 2017 FIELD BOOK NO.:      PAGE:
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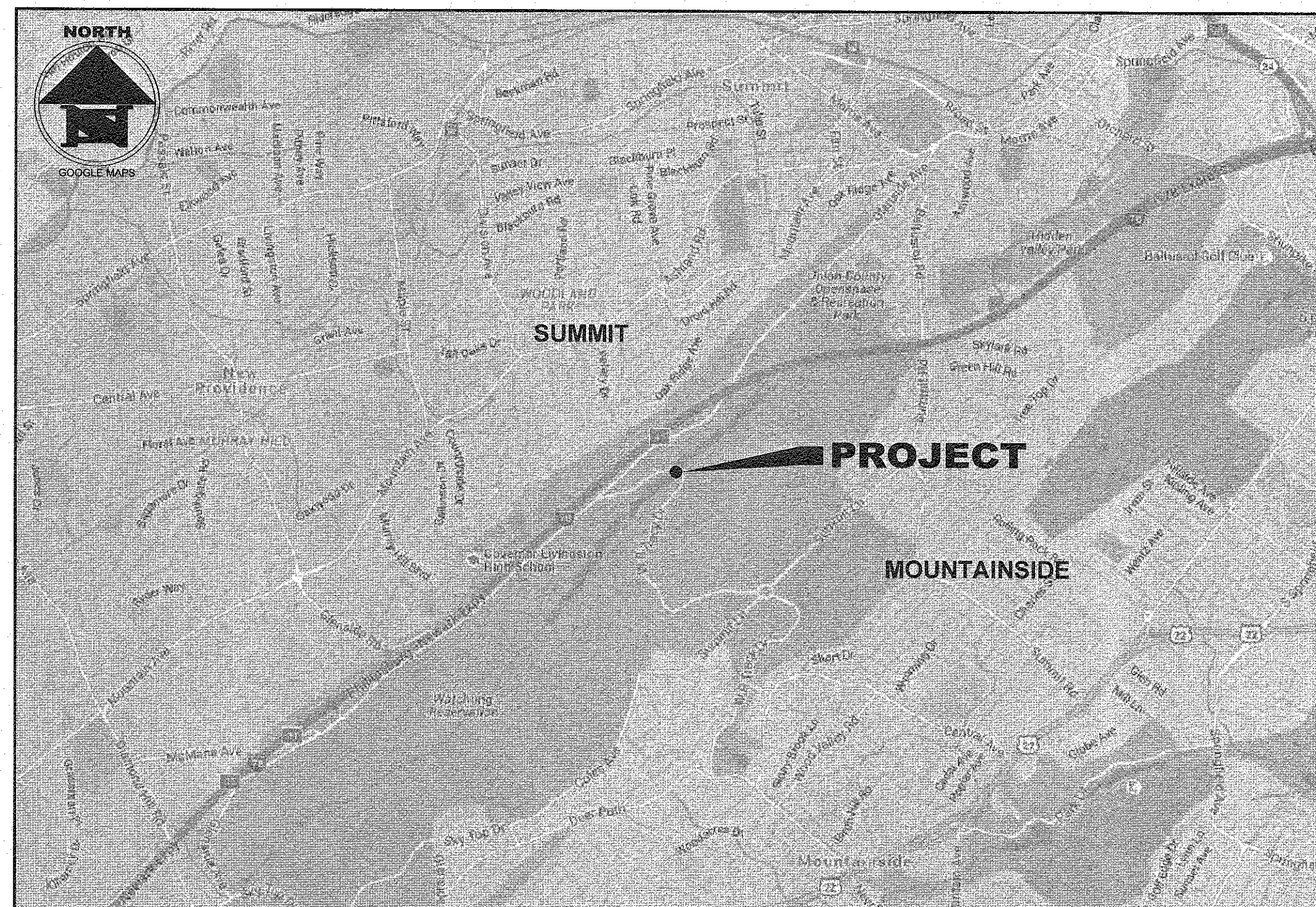
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# W.R. TRACY DRIVE BRIDGE IMPROVEMENTS

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SEPTEMBER 8, 2017 LAST REVISED MAY 2018

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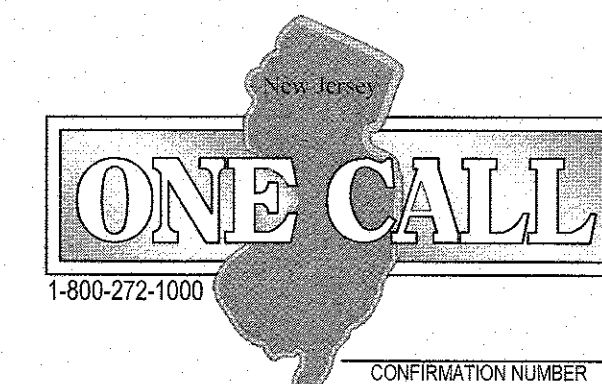
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APPROVED BY:	EDWARD T. GATMAN, COUNTY MANAGER

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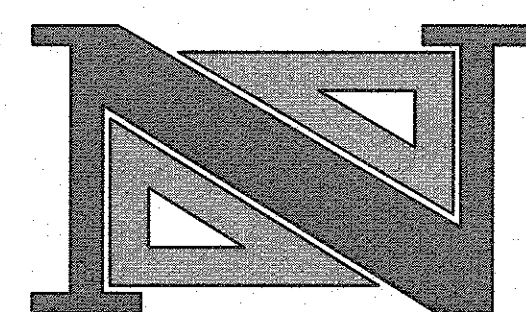
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3.	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S. D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 48151

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4193

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604  
PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604  
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33LI00569800

COVER SHEET / KEY MAP			
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COUNTY BRIDGE No.: MO-37			
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**GENERAL NOTES:**

**A. Legal**

- A1. The most current editions of The Standard Specifications for Road and Bridge Construction, Standard Inputs, and Standard Details, as published by the New Jersey Department of Transportation (NJDOT), the Plans, Technical Specifications, Advertisement, Contractor's Proposal and including but not limited to the amendments contained hereinafter shall comprise the Contract Documents. The Contractor shall read and understand the project specifications prior to construction. The municipality is under the jurisdiction of the state central law and the government.
- A2. The Contractor shall visit the site and familiarize himself with the existing conditions prior to submitting his bid. Any discrepancies between these plans and the actual conditions at the site shall be immediately reported to the Professional Engineer.
- A3. The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to the performance of the work, the protection of adjacent property and the maintenance of passageways.
- A4. The Contractor's attention is directed to the safety requirements as outlined in the General Conditions of the Construction Specifications. Neither the Engineer nor the Owner shall be held responsible and/or liable for the safety of the work site. The Contractor is responsible for maintaining a safe work site at all times.
- A5. The Contractor is responsible to obey all the safety and health regulations. The Owner assumes no responsibility for the health and safety of the work performed.

**B. Site Clearing and Construction**

- B1. The Contractor shall obtain all required local, County, State, Federal opening permits and shall bare the cost of all accompanying fees. All permits must be secured prior to the commencement of work.
- B2. Whenever a question arises regarding the specifications or drawings or any supplementary drawings or instructions of the Field Engineer, same shall be immediately brought to the attention of the Professional Engineer responsible for the design.
- B3. One copy of the approved construction plans and specifications furnished to the Contractor must be kept on the project site. All work and materials necessary for the completion of the work according to the intent and meaning of the Contract Documents, shall be furnished, performed and done in accordance with the specifications and plans. Any conflict or inconsistency between the plans and specifications, or any discrepancy between the figures and scale of drawings shall be submitted by the Contractor to the Engineer, whose decision thereon shall be final. The decision of the Engineer as to which specification will govern will be final.
- B4. The Contractor is responsible to construct the project in accordance with the contract documents. All proposed field changes must be approved in writing by the Professional Engineer responsible for the design (Project Manager, PE) prior to the construction of any field changes.
- B5. All information shown or noted for existing facilities, grades, roadways and materials is approximate. The Contractor shall be responsible to verify all information which may affect his work.
- B6. All disturbed shrubs, fencing, walkways, signs, mailboxes, driveways, etc., shall be restored to their original condition and to the satisfaction of the Engineer and/or the Owner. No separate payment shall be made for this restoration work unless same is clearly specified elsewhere in the construction documents. The Contractor shall take prudent measures to protect all existing property evidence (monuments, iron pipe, pins, etc.) during construction.
- B7. All property corners or monuments removed or damaged during construction shall be replaced by a NJ Licensed Land surveyor at no additional cost to the Owner.
- B8. Reconstructed curb shall be installed to match existing curb elevations and alignment unless otherwise specified on grading plans, profiles or cross sections. Separate payment will not be made for removal of existing curb in reconstructed areas. Payment for the removal of existing curb shall be included in the unit price bid for the Curb line item.
- B9. The Contractor shall sawcut and repair the pavement adjacent to newly constructed curb prior to proceeding on to subsequent stages of work. Curb trenches will not be left open overnight in areas where the roadway is to be opened to traffic. No separate payment will be given for such sawcutting and restoration, the cost of which shall be included in the unit price bid for the Curb line item.
- B10. All asphalt material removed from the project must be transported to an approved recycling center and the tonnage certified to the Owner. No separate payment will be made for this work but shall be included in the various items in the proposal.
- B11. The Contractor shall be responsible for the disposal of all excess materials excavated, whatever nature, at his own expense. The Owner is not obligated to supply a disposal site. The Contractor must not deposit the excess materials within the municipal limits without express permission of the Professional Engineer. Excavated material may not be stored on site and shall be removed at the end of each day.
- B12. All excavated materials are to be disposed of in accordance with approved NJDOT/NJDEP methods and means, or transported at the direction of the Owner.
- B13. All disturbed areas outside the project limits or not intended to be included in this project, shall be restored to their original condition, and to the satisfaction of the Owner. No separate payment shall be made for this restoration, unless specified elsewhere.
- B14. The Contractor must provide a smooth sawcut edge in all cases where proposed pavement of whatever nature, concrete curbs or concrete sidewalks abut existing pavements, curbs or sidewalks. No separate payment will be made for sawcutting. The cost shall be included in the various items in the proposal.
- B15. The Contractor may discover that existing roadway may contain existing concrete base or cobble stone and shall make all necessary requirements for its removal where required. The cost for this work shall be included in the cost of Roadway Excavation, Unclassified.
- B16. The replacement of any sidewalk within the project area may require that sidewalk slabs be sawcut from the surrounding concrete walk. No specific payment for saw cutting will be made and therefore shall be included under prices bid for concrete sidewalk items in the proposal.
- B17. As part of this Contract, the Contractor is required to prepare the existing pavement and seal all cracks and joints per Section 404 of the NJDOT Specifications prior to resurfacing. This work shall include, but is not limited to, all labor, materials and equipment necessary to clean cracks prior to the installation of surface course and apply a sealant as outlined in the NJDOT Specification. Prior to commencement, the Contractor shall obtain approval from the Professional Engineer as to the intended methods and materials that will be used for this project. This item shall not be measured for payment, but the cost thereof shall be included in the unit price bids for the Hot Mix Asphalt Surface Course line item.
- B18. No construction, maintenance or utility work on, under or above the project road that will obstruct, interfere with and/or detour traffic on the road, shall be performed before the hour of 9:00 AM or after 4:00 PM. The Contractor's work hours shall conform to local Ordinance requirements.
- B19. All trenches in the existing pavement shall be saw cut. No separate payment will be made for saw cutting and the cost thereof shall be included under prices bid for various items in the proposal.
- B20. The Contractor shall be responsible for restoration and maintenance of all access driveways at all times during construction at no additional cost to the Owner.
- B21. All sediment and soil erosion control practices are to be installed in conformance with Soil Conservation District standards prior to any major soil disturbances. All work shall be completed in proper sequence and all erosion control devices shall be maintained until permanent protection is established.
- B22. Contractor shall maintain access to all properties at all times during construction.
- B23. The Contractor shall take all necessary measures to maintain dust control as required or directed by the Professional Engineer. All vehicles shall be clean and all roadways shall be maintained as directed by the Field Engineer.
- B24. Contractor shall keep the site clean at all times and sweep the street at the end of each work day.

**B. Site Clearing and Construction/Cont.**

- B25. All material encountered within the work zone area that must be removed to construct the project as directed by the Field Engineer, shall be included in the unit price bid for Clearing Site. This is inclusive of but not limited to the removal of all curbed edging and concrete gutter.
- B26. All trees are to be saved and protected from harm during construction with the exception of the trees marked with an X on the construction plans. If any trees are damaged during construction, the Contractor will be responsible for the removal and replacement as determined by the Municipality.
- B27. All trees to be removed shall be marked by the Contractor and approved by the Owner before any tree removal commences. Each Tree designated for removal shall be completely removed, except for stumps that cannot be removed by grubbing which shall be grinded to twelve (12) inches below the existing ground surface.
- B28. The Contractor shall install protective blocking, bracing or sheeting to support any exposed gas, water, sanitary, telecommunications, or electric utilities in accordance with the respective utility company's regulations.
- B29. The Contractor shall be responsible for lapering proposed work to meet existing conditions in a uniform manner.

**C. Utility Permits**

- C1. Prior to the start of construction, the Contractor shall have all underground utilities located and physically marked out within the limits of the project (call 1-800-272-1000). The Contractor shall provide test holes in areas of possible conflict to verify the depth and location of the utility. No separate payment shall be made for delays that may be necessary to relocate utilities or the proposed location of underground utilities. No separate payment will be made for test pits but the cost shall be included in the various items in the proposal.
- C2. Location and depth of existing utilities are only indicated to bring attention to possible conflicts. Any damage to utilities shall be the sole responsibility of the Contractor and all costs for repairs shall be borne by the Contractor.
- C3. Any damage to utilities shall be the sole responsibility of the Contractor and all costs for repair shall be borne by the Contractor. All disturbed or damaged walkways, signs, curbing, trees, hydrants, utilities, paved surfaces, driveways, building facades, etc. shall be restored to their original condition and to the satisfaction of the Owner. No separate payment will be made for this restoration unless specified elsewhere in the Contract.
- C4. The locations of utilities shown are approximate. The Contractor is responsible for verifying the exact locations of the utilities prior to the start of construction.
- C5. All gas and water valves and various manholes to remain shall be reset to finish grade.
- C6. The Contractor shall coordinate his work with the public utility companies. Electric, telephone, gas & cable utility manhole castings and valve box covers shall be reset by the respective utility companies.
- C7. Private utility companies must be contacted by the Contractor so that privately owned castings will be reset as required.
- C8. Water service valve boxes, gas service valve boxes, junction boxes, electric boxes, basement vault doors and all other appurtenances located in the sidewalk area shall be reset to the new sidewalk elevation. The cost for resetting any and all of these castings shall not be paid separately but shall be included in the various concrete sidewalk line items in the proposal.
- C9. The Contractor is responsible for accurately locating existing traffic signal loop detector and leads. The Contractor will only be compensated for the replacement of loop detectors and leads which have been removed at the direction of the Professional Engineer. The Contractor shall not remove loop detectors and leads unless he is directed to do so by the Professional Engineer.
- C10. Trenches shall be backfilled without delay. Open excavations shall be kept to a minimum and made safe at all times. All trenches shall be adequately compacted by approved methods and with materials approved by the Field Engineer. Any trench settlement shall be immediately brought to grade and temporary paving shall be placed where required. No trench (including curbs) shall be left open overnight.
- C11. The Contractor shall provide and maintain temporary ramps around all exposed utility castings, both public and private which have been uncovered during construction.

**D. Drainage**

- D1. The Contractor is responsible to clean and maintain all existing drainage structures prior to the start of construction within the project limits.
- D2. All existing storm sewer pipes within project limits must be cleaned by the Contractor after completion of construction. The cost for cleaning shall not be paid separately but shall be included in the various drainage items in the proposal.
- D3. All roof leaders and curb drains are to remain free flowing, during construction.
- D4. All roof drain pipes in curb/sidewalk area to be maintained and reconnected, and shall be extended under the sidewalk and through the curb.
- D5. All inlets, manholes and vault castings to be reset shall be reset to the proposed finished grade as directed by the Field Engineer. These castings must be reset flush to the proposed grade and the new pavement shall not be mounded up or feathered down to meet these castings. All castings reset to the improper grade or not to the satisfaction of the Field Engineer shall be reset to the new grade at no additional expense to the Owner.
- D6. Existing grades are the property of the Municipality or utility authority and will be delivered, at no additional cost to the Owner, to the local Department of Public Works or utility authority yard. Payment will not be made for new grades unless the existing grades are returned to the Owner.
- D7. All open drainage excavations shall be backfilled at the end of each day and protected from pedestrian and vehicular traffic.
- D8. The Contractor will be responsible for maintaining positive drainage during and after construction. If a situation arises where water will pond at a particular location, the Professional Engineer responsible for the design must be notified immediately in order to make corrective measures in writing.
- D9. The Contractor is fully responsible for verifying that all proposed storm sewer connections are to the existing storm sewer systems.

**E. Traffic Control**

- E1. The Contractor shall be responsible for coordination of traffic control measures.
- E2. Maintenance and Protection of Pedestrian Traffic Control must conform to NJDOT and MUTCD standards along with the requirements of the municipality. Police Traffic Directors shall be coordinated with the municipality, as needed.
- E3. The Contractor shall be responsible to prepare a detour plan as needed or required by the Owner and/or local Police department for review and approval prior to starting work.

**F. Signs**

- F1. Any signs located within the sidewalk areas should be reset/relocated in accordance with the standard NJDOT Standard Details. Separate payment will not be made for resetting objects located in the sidewalk. The cost shall be included in the unit price bid for the replacement of sidewalks, unless payment for such work is specified in the proposal.
- F2. The Contractor shall relocate/reset signs as shown on the plans or directed by the Professional Engineer. No separate payment will be made for this work but the cost shall be included in the various items in the proposal.
- F3. Signs for parking prohibition must be posted at least 48 hours in advance of construction. Contractor shall coordinate, obtain and place signs as directed by the Owner.

**G. Survey**

- G1. Layout of all work shall be adjusted in the field to meet site conditions as approved in writing by the Professional Engineer responsible for the design.
- G2. The Contractor is responsible to layout all new work prior to construction for Field Engineer's approval. Any locations not approved by the Field Engineer and installed by the Contractor shall be removed and replaced as per the Field Engineer's instructions at no additional cost to the Owner.
- G3. All layout work shall be done by a New Jersey Licensed Land Surveyor.
- G4. All existing locations taken from a survey prepared by Neglia Engineering Associates.

**H. Trees**

- H1. Contractor must retain a certified tree expert for tree evaluation where necessary. No additional payment will be made for tree expert; price to be included in site clearing.
- H2. All trees that have roots that encroach into the proposed curbs or pavement and are to be saved shall be evaluated by the Contractor's certified tree expert. All evaluations shall be in writing and shall accurately identify the tree in question by station and offset (left or right). All evaluations shall be submitted to the Professional Engineer for review and consultation with the Municipality's tree experts prior to cutting any roots. No separate payment will be made for this work but the cost thereof shall be included in the clearing site item.
- H3. Trees that are to be saved, where it is determined that root cutting may severely damage the tree, shall have a curb break and steel curb face plates installed as shown on the details.
- H4. The Contractor is responsible for the timely evaluation of all trees and there will not be change orders for delays resulting from root cutting.
- H5. In areas where the roots encroach into the curb line, the full pavement section shall be removed prior to removing the curb. Then the existing curb shall be removed by pulling it away from the tree towards the roadway to minimize root damage during the removal of the existing curb. No separate payment shall be made for this work but the cost thereof shall be included in the Clearing Site line item.

**J. ADA Requirements**

- J1. The Contractor shall be fully responsible for complying with NJDOT and ADA requirements related to the installation of handicap accessible ramps and the associated slopes. The ramps and alignments illustrated on these plans shall be used for schematic purposes only. The Contractor shall be fully responsible for proper construction and alignment in the field.
- J2. It is the Contractor's responsibility to verify that the proposed drop curb ramps meet current NJDOT and ADA Standards. Those ramps that do not meet standards, once constructed, shall be replaced to meet said standards at no additional cost to the owner.
- J3. The Contractor is responsible for determining the extent of improvements required for those ramp locations identified and completing said work to ensure ramps are in conformance with current NJDOT and ADA Standards.
- J4. Contractor shall not begin site clearing operations on a ramp until he verifies that ramp can be constructed to comply with applicable standards. The Contractor shall be responsible for all corrections to a ramp should he proceed with demolition prior to confirmation of constructability at no additional cost to the owner.

**STANDARD PLAN LEGEND**

**EXISTING CONDITIONS**

	WATER VALVE		INLET
	GAS VALVE		JUNCTION BOX
	CLEAN OUT		UTILITY POLE
	MANHOLE		FIRE HYDRANT
	SANITARY MANHOLE		CURB LINE
	DRAINAGE MANHOLE		DEPRESSED CURB
	TREE		RAILROAD TIE CURB OR WALL
	SHRUB		GAS MAIN
	ROOF DRAIN AT CURB		WATER MAIN
	EDGE OF PAVEMENT		DRAINAGE PIPE
	LANDSCAPED AREA		SANITARY SEWER PIPE
			STORM PIPE

**PROPOSED CONDITIONS**

- RESET VALVES & CLEANOUTS
- PROPOSED VALVES
- PROPOSED CLEAN OUT
- RESET MANHOLE CASTING
- RD|| RECONNECT ROOF DRAIN
- 
- 
- DC PROPOSED DEPRESSED CURB
- 
- 
- 
- 
- L.O.C. LIMIT OF CONSTRUCTION
- TBR TO BE REMOVED

**PAVEMENT MARKING STANDARD**

UNLESS OTHERWISE SHOWN, PAVEMENT MARKINGS SHOULD CONFORM TO THE FOLLOWING:

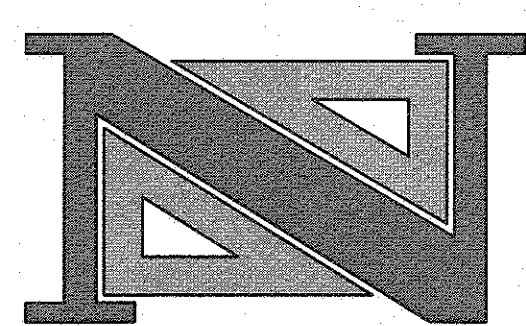
- CENTER LINES \_\_\_\_\_ 4" WIDE DOUBLE YELLOW LINE
- LANE LINE \_\_\_\_\_ 4" WIDE WHITE LINE
- CROSSWALK LINES \_\_\_\_\_ 6" WIDE WHITE LINE
- STOP LINE \_\_\_\_\_ 24" WIDE WHITE LINE
- HATCHING \_\_\_\_\_ 24" WIDE WHITE LINE
- PARKING STALL \_\_\_\_\_ 4" WIDE WHITE LINE
- HANDICAP STALL \_\_\_\_\_ 4" WIDE BLUE LINE

NOTE:  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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NO.	DATE	DESCRIPTION	DRAWN	DESIGNED	CHECKED
1	09-08-17	ISSUED FOR NJDOT REVIEW	E.N.S.	E.N.S.	D.J.
2	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4891

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4180

A PROJECT OF

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

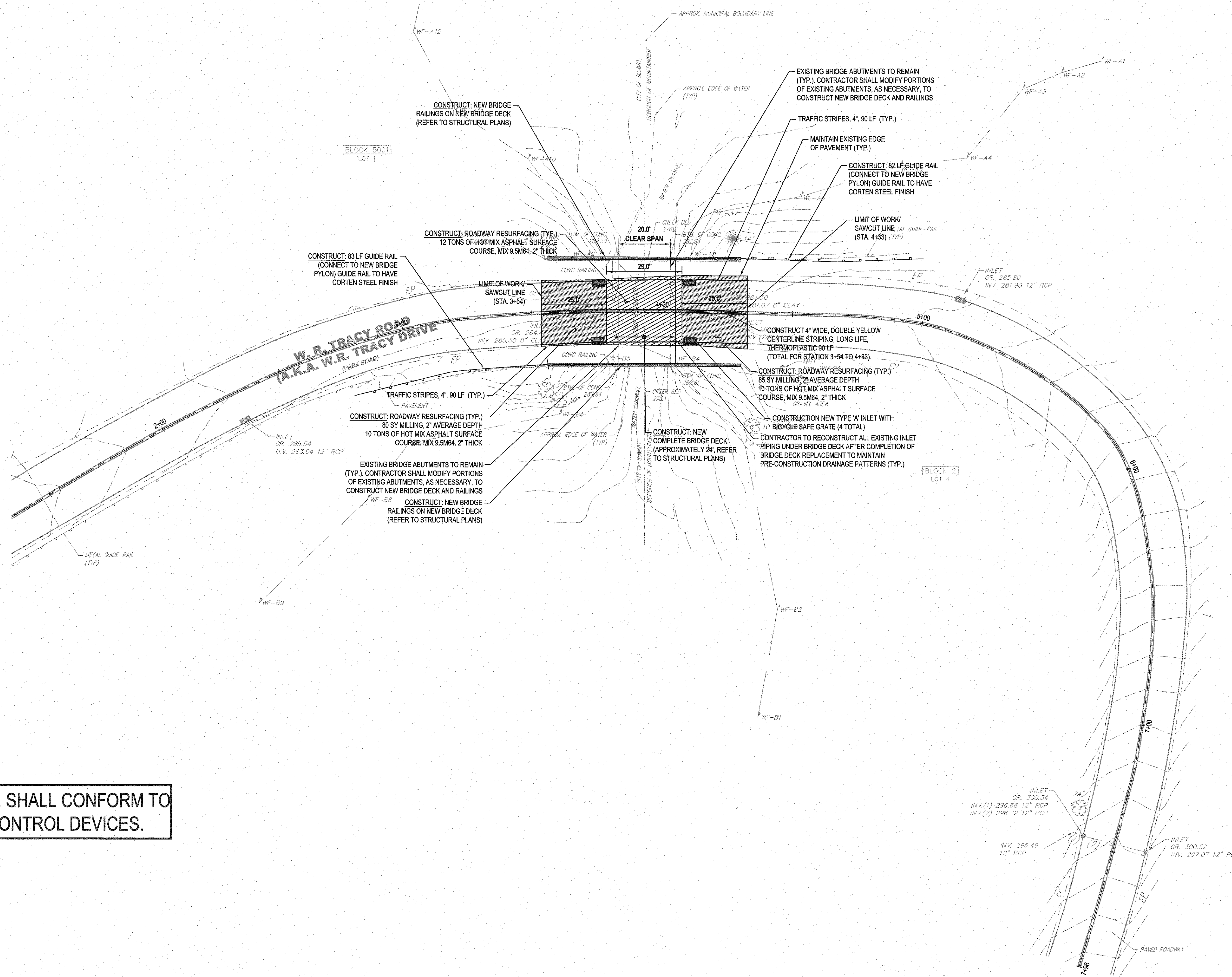
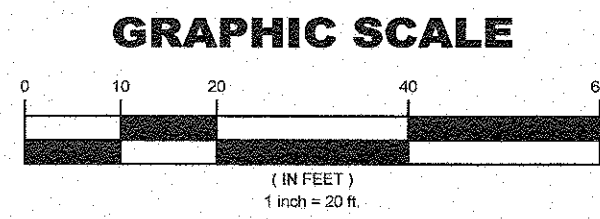
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33L100656800

**GENERAL NOTES AND LEGEND**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DRAWN BY: E.M.J. CHECKED BY: N.T.S. PROJECT NO: UNIOCTY16.010 SHEET NO: 1.01  
DESIGNED BY: E.M.J. SCALE: N.T.S. FIELD BOOK NO: DATE: JUNE 9, 2017

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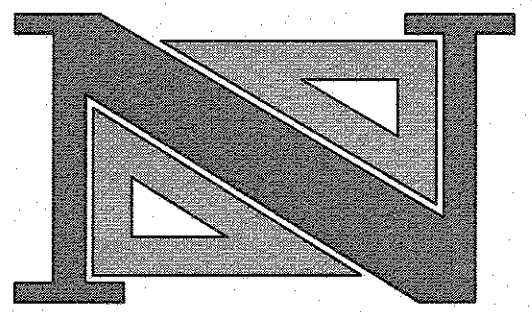
**ALL PAVEMENT MARKINGS, SIGNS, ETC. SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.**

- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - HORIZONTAL DATUM BASED ON NAD83, VERTICAL DATUM BASED ON NAVD88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.

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REVISIONS				
NO.	DATE	DESCRIPTION	DRAWN	CHECKED
1	09-09-17	ISSUED FOR NJDOT REVIEW	ENS	ENS, D.J.
2	03-28-18	REVISED PER NJDOT COMMENT LETTER	ENS	ENS, D.J.
3	05-11-18	ISSUED FOR BID	ENS	ENS, D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 40751

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 41502

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

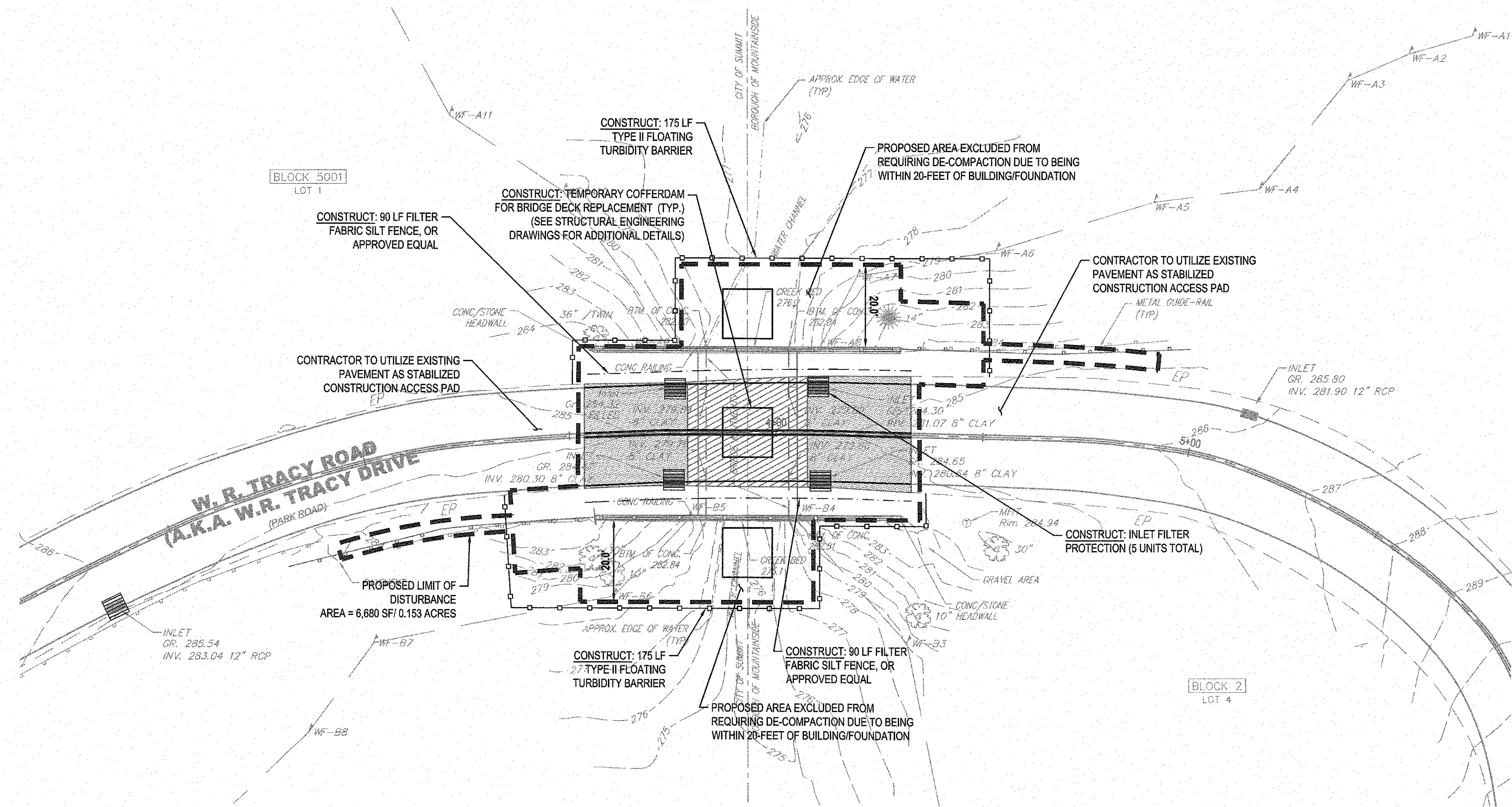
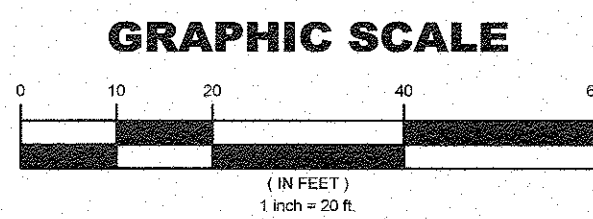
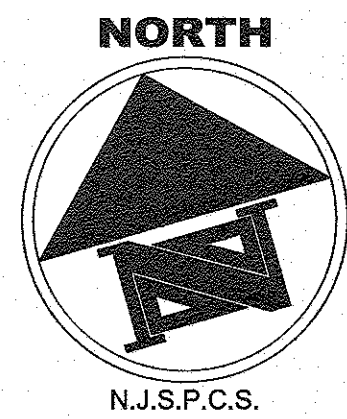
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33LI00569800

**ROADWAY IMPROVEMENTS PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DRAWN BY: E.M.J. CHECKED BY: D.J. PROJECT NO. SHEET NO.  
DESIGNED BY: E.M.J. SCALE: 1" = 20' UNIOCTY16.010 2.00  
FIELD BOOK NO. PAGE DATE: JUNE 9, 2017

UNION COUNTY UNICITY16.010 W.R. TRACY ROAD BRIDGE IMPROVEMENTS PLAN DRAWING - PHASE 1 MONDAY, JUNE 04, 2018 8:04:32 AM





**TOTAL DISTURBANCE AREA: 0.32 ACRES/14,020 SF**

**NOTE:** SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.

RECORD DEPTH OF PENETRATION WHEN WIRE DEFORMS; MINIMUM DEPTH OF 6" TO PASS TEST. EITHER PREMEDITATE OR PERFORM THE NEXT TEST.

\* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

**PROBING WIRE TEST**  
15.5 GA. STEEL WIRE (SURVEY FLAG)  
N.T.S.

GAGE READING 300 PSI OR LESS AT 6"

**NOTE:** SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6"

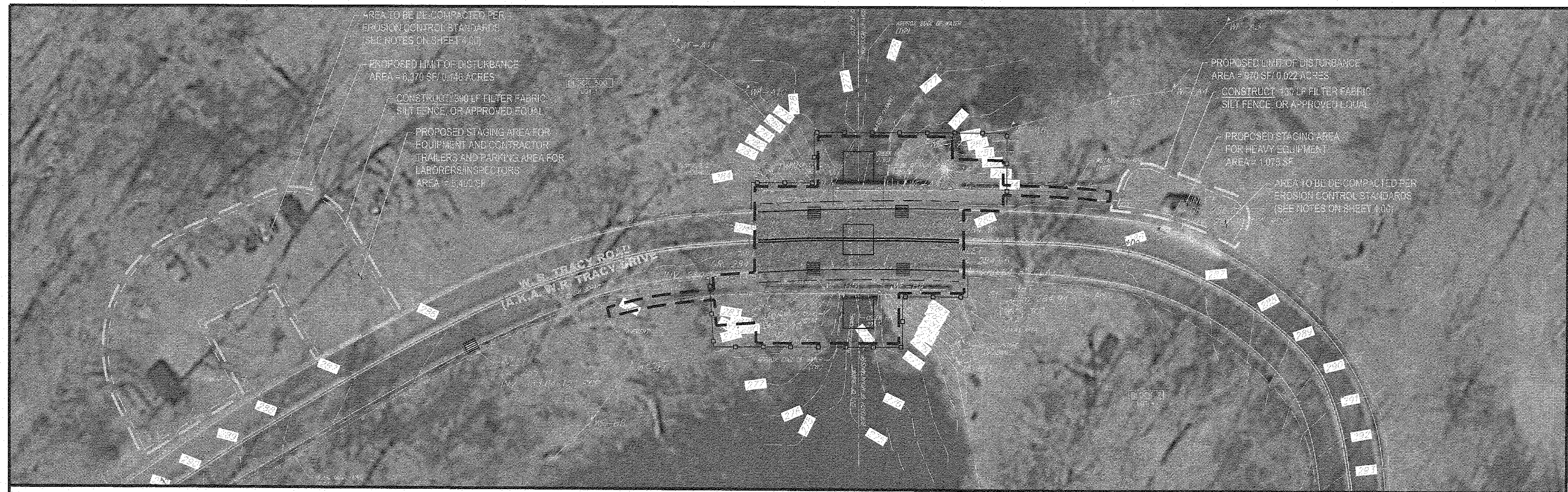
\* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

USE CORRECT SIZE TIP FOR SOIL TYPE

**HANDHELD SOIL PENETROMETER TEST**  
N.T.S.

**DE-COMPACTION TEST DETAILS**

- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - HORIZONTAL DATUM BASED ON NAD'83, VERTICAL DATUM BASED ON NAVD'88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.



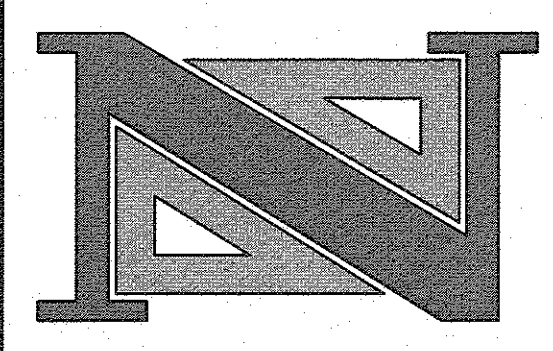
**ANTICIPATED CONTRACTOR STAGING AREAS**

SCALE: 1" = 30'

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REVISIONS				
NO.	DATE	DESCRIPTION	DRAWN	DESIGNED
1	09-08-17	ISSUED FOR RUDOT REVIEW	E.N.S.	E.N.S. D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 46951

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4189

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

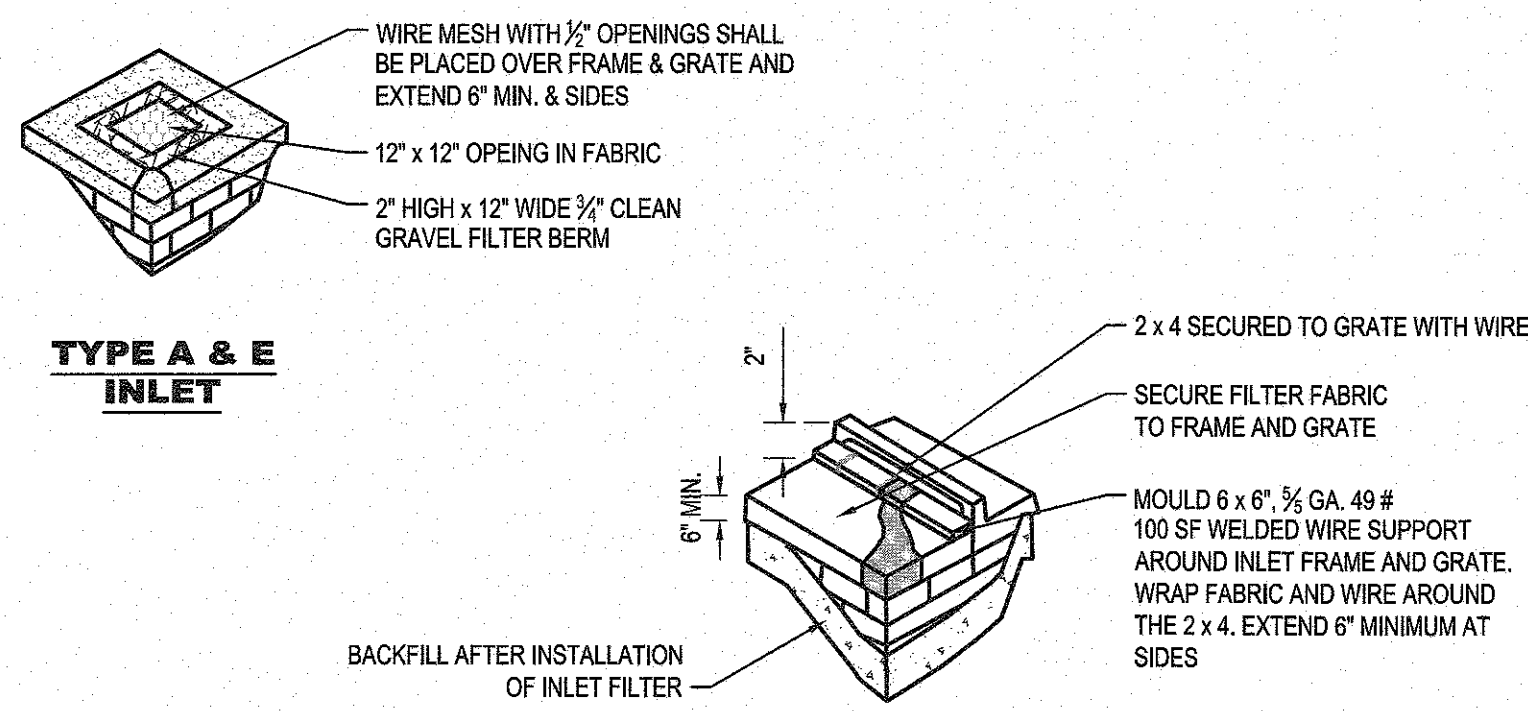
**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER N.J. LICENSE NO. 38604  
PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 38604  
PROFESSIONAL PLANNER N.J. LICENSE NO. 33L000569800

**SOIL EROSION & SEDIMENT CONTROL PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

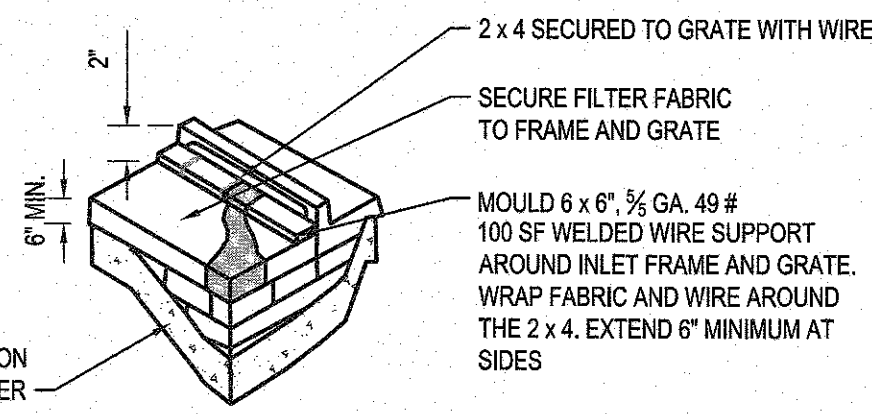
DRAWN BY: E.M.J. CHECKED BY: D.J. PROJECT NO: UNIOCTY16.010 SHEET NO: 3.00  
DESIGNED BY: E.M.J. SCALE: 1" = 20' DATE: JUNE 9, 2017  
FIELD BOOK NO: PAGE

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**TYPE A & E INLET**

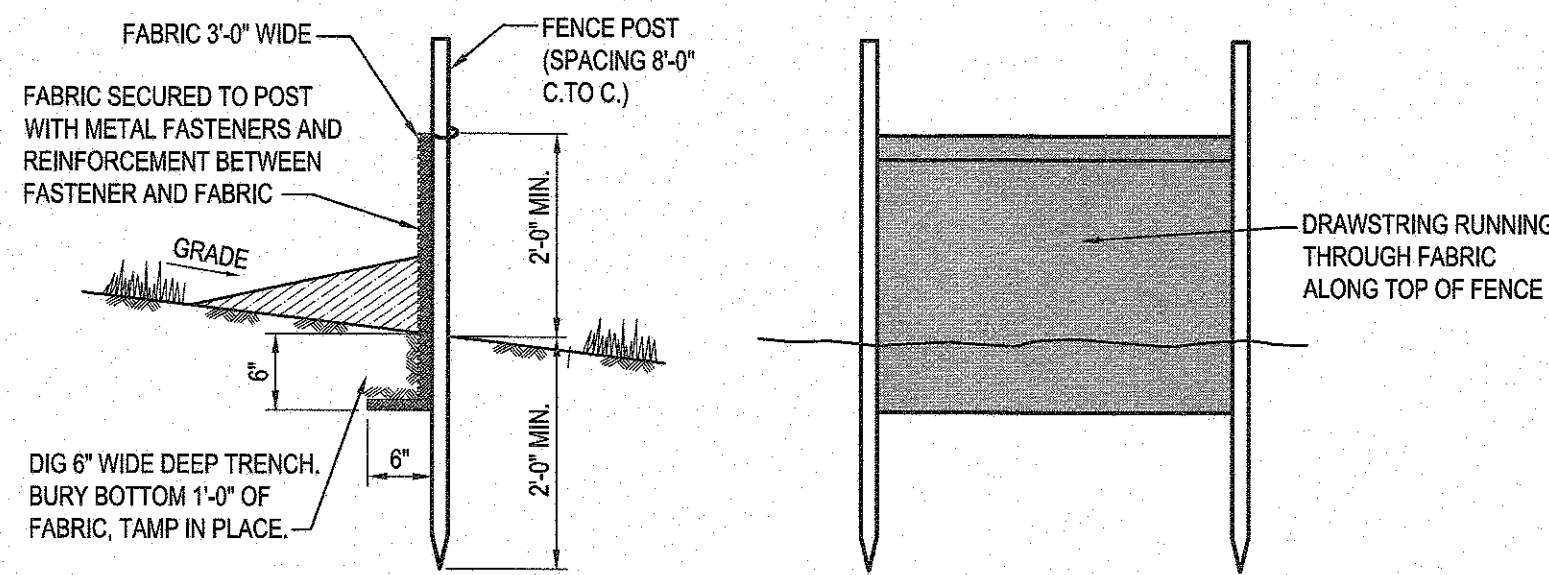


**TYPE B INLET**

- NOTES:**
1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM, AND CLEAN OR REPLACE AS REQUIRED.
  2. CONTRACTOR IS TO REMOVE FABRIC AND MESH JUST PRIOR TO PAVING.
  3. IF BOTTOM OF ROADWAY IS BELOW TOP OF INLET GRATE, CONSTRUCT PROPERLY FILTERED OPENING(S) IN INLET WALL TO ALLOW PASSAGE OF WATER.
  4. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER.

**INLET FILTER & PROTECTION**

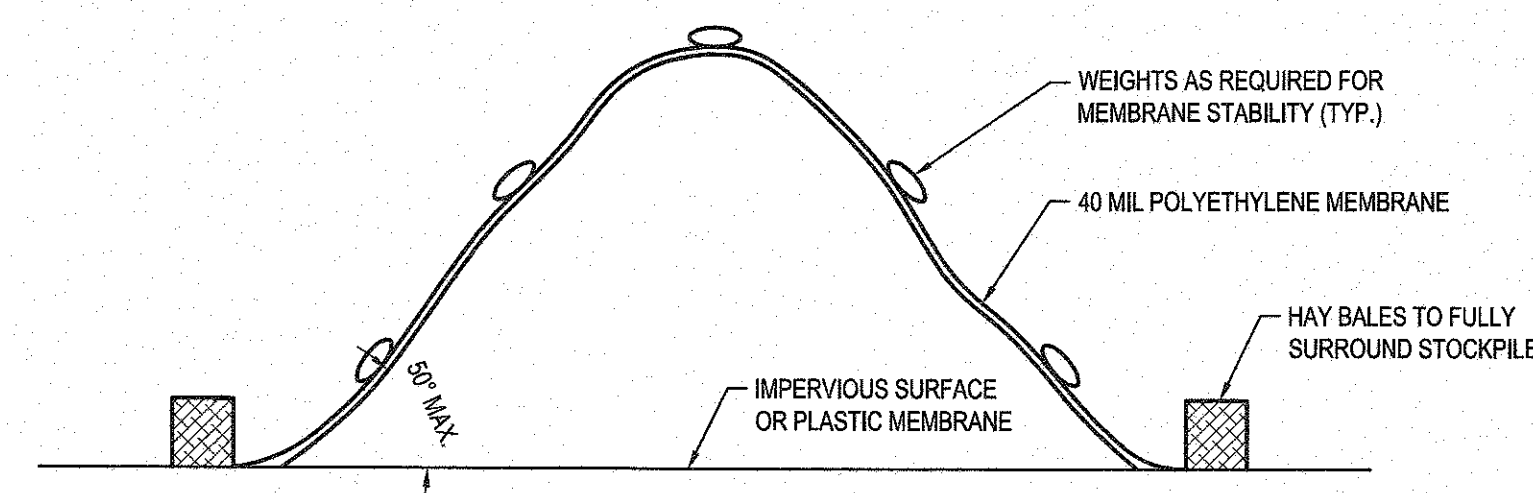
NOT TO SCALE



1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1 1/4 INCHES.
2. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED. FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC RECOMMENDED FOR SUCH USE BY THE MANUFACTURE, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS & STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

**SILT FENCE**

NOT TO SCALE



- NOTES:**
1. FOR NON-CONTAMINATED SOIL, SURROUND STOCKPILE WITH SILT FENCE. NO COVER REQUIRED.

**SOIL STOCKPILE**

NOT TO SCALE

**SEQUENCE OF CONSTRUCTION**

- |  |                 |
|--|-----------------|
| 1. INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, INLET FILTERS, TURBIDITY BARRIERS, AND OTHER SOIL EROSION MEASURES          | 1 WEEK          |
| 2. MOBILIZATION, SITE CLEARING, TEMPORARY UTILITY RELOCATIONS  | 1 WEEK          |
| 3. PAVEMENT REMOVAL, REMOVAL AND REPLACEMENT OF EXISTING BRIDGE DECK   | 14 WEEKS        |
| 4. FULL-DEPTH PAVEMENT REPLACE, MILLING AND REPAVING   | 2 WEEKS         |
| 5. PAVEMENT STRIPING & SITE RESTORATION  | 1 WEEK          |
| 6. CONDUCT SOIL COMPACTING TESTING AND REMEDIATE SUBSOIL (SCARIFICATION/TILLAGE TO A MINIMUM DEPTH OF 6") IF NECESSARY)                      | 1 WEEK          |
| 7. LANDSCAPING, REMOVE SOIL EROSION & SEDIMENT CONTROL DEVICES, FINAL SITE CLEANUP (PROVIDE PERMANENT STABILIZATION OF ALL EXPOSED SURFACES) | 1 WEEK          |
| <b>TOTAL =</b>   | <b>150 DAYS</b> |

**SEEDING SPECIFICATIONS**

- SELECT A MIXTURE FROM TABLE 4-3 (PG. 47) OR USE MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
  - SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDING AREA AND MOWED ONCE.
  - WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 850 F AND ABOVE. SEE TABLE 4-3 (PG.47), MIXTURES 1 TO 7. PLANTING RATES FOR WARM SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
  - COOL SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85F. MANY GRASSES BECOME ACTIVE AT 65F. SEE TABLE 3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PURE LIVE SEED IS NOT REQUIRED FOR COOL SEASON GRASSES.
- CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING BELOW) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
- AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CAPILLARITY ON SITE WILL BE MAXIMIZED.
- TEMPORARY SEEDING: TEMPORARY VEGETATIVE COVER SHALL CONSIST OF PERENNIAL RYEGRASS APPLIED UNIFORMLY AT A RATE OF 1.0 POUND PER 1,000 SQ. FT. (40 lbs/Ac.) IN ACCORDANCE WITH TABLE 7-2, PAGE 7-3. LIMESTONE (PULVERIZED DOLOMITIC EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDES) SHALL BE APPLIED AT THE RATE OF 45 LBS./1,000 SQ. FT. (1 TON/ACRE) IN ACCORDANCE WITH TABLE 7-1, PAGE 7-2. FERTILIZER (10-20-10 OR EQUIVALENT) AT THE RATE OF 11 lbs/1,000 SQ. FT. (500 lbs/Ac.) OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN, IN ACCORDANCE WITH PARAGRAPH 2A, PAGE 7-1.
- MULCHING IS REQUIRED ON ALL SEEDING SHALL BE ACCOMPLISHED AS FOLLOWS:
  - MULCH MATERIALS SHOULD BE UNROTTED SALT HAY, HAY, OR SMALL GRAIN STRAW AT A RATE OF 1.5 TO 2.0 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1,000 SQUARE FEET. MULCH BLOWERS SHOULD NOT GRIND OR CHOP THE MATERIAL.
  - SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQUARE-FOOT SECTIONS AND DISTRIBUTE 70 TO 90 LBS. WITHIN EACH SECTION.
  - MULCH ANCHORING SHALL BE ACCOMPLISHED USING EITHER PEG AND TWINE, MULCH NETTING, MULCH-ANCHORING COULTER TOOL OR LIQUID MULCH BINDERS, PER THE ACCOMPANYING "STABILIZATION WITH MULCH ONLY" SPECIFICATION. \* OPTIMUM SEEDING DATES: 03/01 - 05/15 AND 08/15 - 10/01
- PERMANENT SEEDING
  - TOPSOIL TO BE PLACED TO A DEPTH OF 4 INCHES ON EXPOSED SOILS UPON COMPLETION OF FINAL GRADING.
  - SEED IS TO BE UNIFORMLY APPLIED TO THE NORMAL DEPTH OF 1/4-INCH TO 1/2-INCH (EXCEPT HYDROSEEDING), ZONE 6b SEED MIXTURE 17, AS SHOWN ON PAGE 4-12 IN THE SOIL EROSION STANDARDS. THE SEEDING RATE SHALL BE:

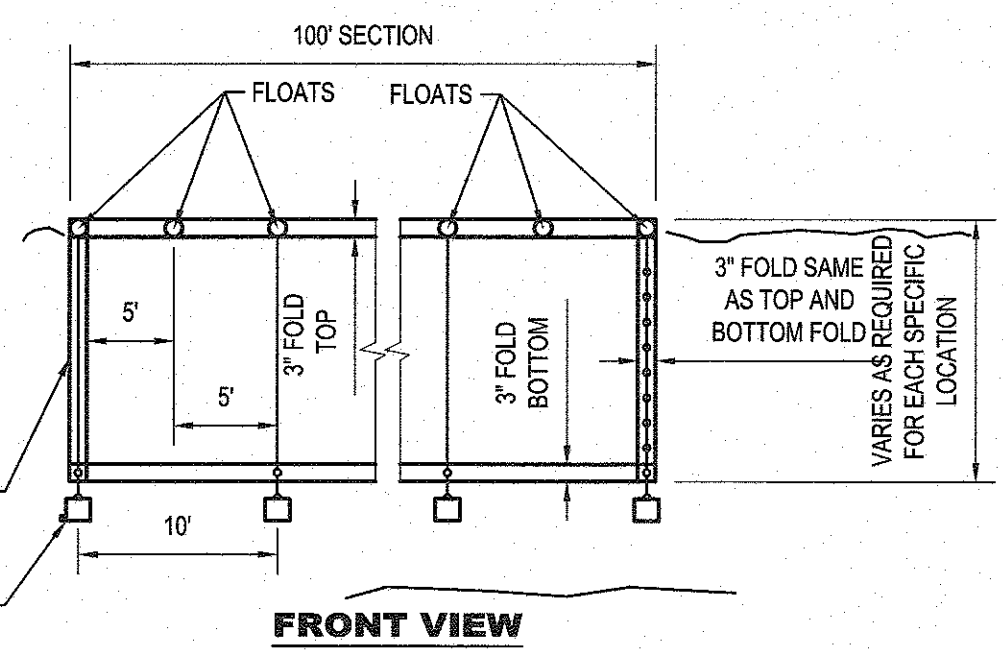
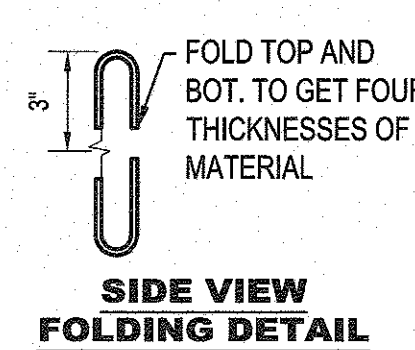
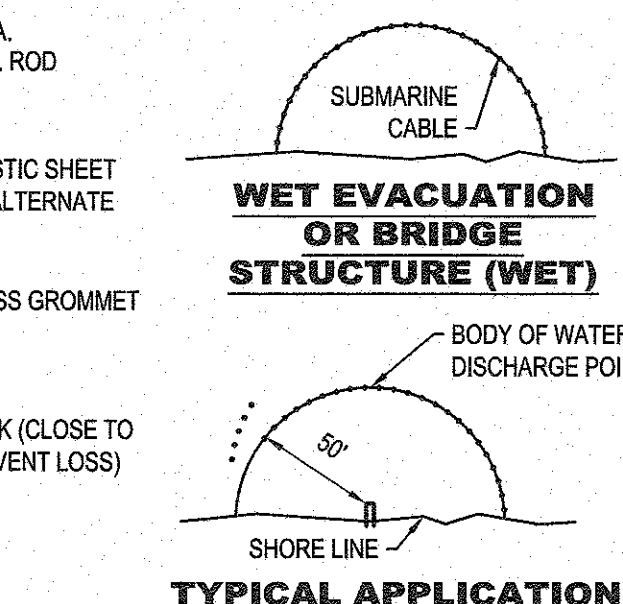
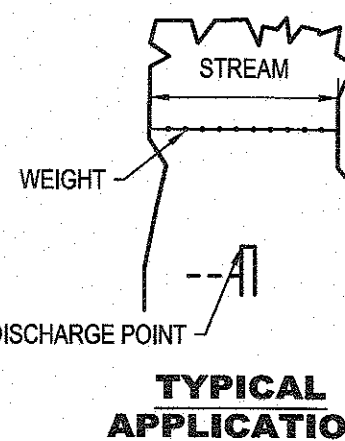
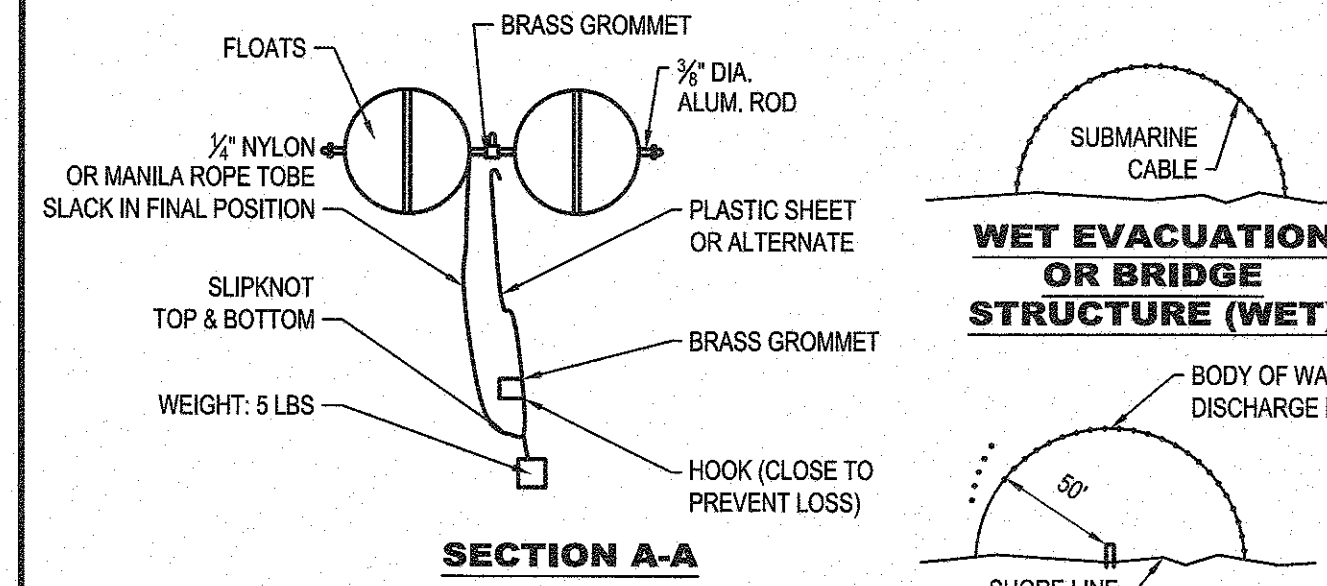
SEED MIXTURE	PLANTING RATE	
	LBS PER ACRE	LBS PER 1,000 SF
HARD FESCUE	120	2.7
CREeping FESCUE	30	0.7
PERENNIAL RYEGRASS	10	0.25

\*OPTIMAL SEEDING DATES: 3/1 - 4/30 AND 8/15 - 10/15

- SUITABLE EQUIPMENT WILL BE USED TO PREPARE A REASONABLE, UNIFORM, FINE SEED BED TO A MINIMUM DEPTH OF 4 INCHES.
- APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIME SHALL BE PULVERIZED DOLOMITIC LIMESTONE. CALCIUM CARBONATE IS THE EQUIVALENT STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. THE FOLLOWING TABLE IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES:

**SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES**

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- PERMANENT VEGETATION SHALL BE SEEDING OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
- TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 100'X30'X1" PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OR PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- IN THAT NUSA 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.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONS.
- 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 STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
- MULCHING IN THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING THE LIFE OF THE CONSTRUCTION PROJECT.
- 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.
- HYDROSEEDING 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 OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.



- NOTES:**
1. PLACE SILT BARRIER TO PREVENT DRIFTING OF SILT CAUSED BY DISCHARGE OF STORM SEWERS DURING CONSTRUCTION, DREDGING OR FILLING OPERATIONS.
  2. EXACT PLACEMENT OF SILT BARRIER SHALL BE SO AS TO EFFECTIVELY CONTROL SILT DISPERSION UNDER CONDITIONS PRESENT ON A PARTICULAR PROJECT.
  3. THE DETAILS SHOWN ON THIS SHEET ARE SUGGESTED METHODS ONLY ALTERNATE SOLUTION AND USAGE OF MATERIALS MAY BE USED AS APPROVED.
  4. AT SHALLOW WATER LOCATIONS, THE PLASTIC SHEET OR SUITABLE ALTERNATE MAY BE FASTENED TO STAKES DRIVEN INTO THE BOTTOM IN LIEU OF FLOATS AND WEIGHTS.
  5. THE CONTRACTOR SHALL USE A TYPE II FLOATING TURBIDITY BARRIER (INTENDED FOR LOW VELOCITY WATERWAYS).

**FLOATING TURBIDITY BARRIER**

NOT TO SCALE

**SOIL DE-COMPACTION AND TESTING REQUIREMENTS**

**SOIL COMPACTION TESTING REQUIREMENTS**

- SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
- COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION MITIGATION VERIFICATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
- IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

**COMPACTION TESTING METHODS**

- PROBING WIRE TEST (SEE DETAIL)
- HAND-HELD PENETROMETER TEST (SEE DETAIL)
- TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
- NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

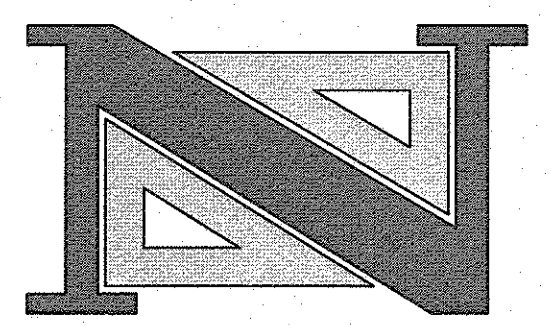
**PROCEDURES FOR SOIL COMPACTION MITIGATION**

- PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION			
1	09-29-17	ISSUED FOR ADOPT REVIEW	E.N.S.	E.N.S.	D.J.
2	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI, P.E., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 66591

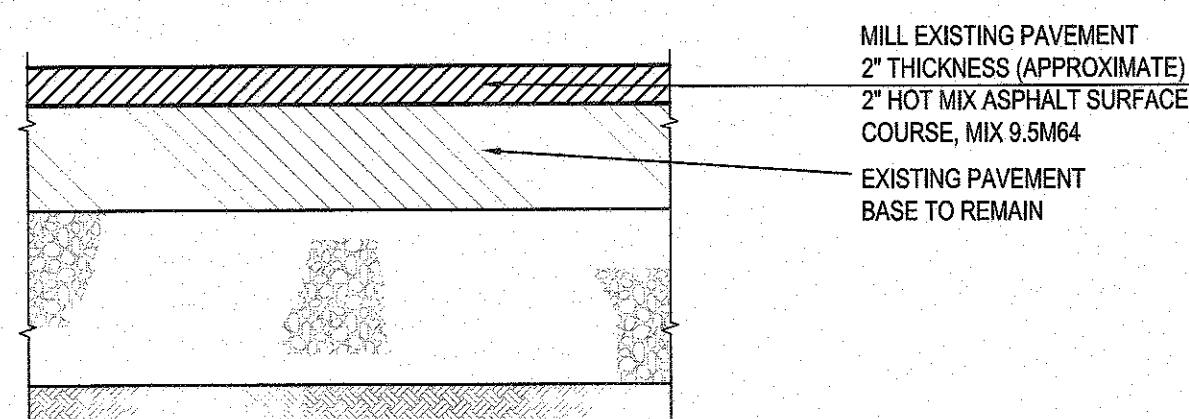
**THOMAS R. SOLFARO, P.E., C.M.E.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 1910

A PROJECT OF  
**NEGLIA ENGINEERING ASSOCIATES**  
34 PARK AVENUE  
TEL: 201-939-8805  
LYNDHURST, NEW JERSEY  
FAX: 201-939-0846  
E-MAIL: NEA@NEGLIAENGINEERING.COM  
**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER N.J. LICENSE NO. 38604  
PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 38604  
PROFESSIONAL PLANNER N.J. LICENSE NO. 33LJ00568600

**SOIL EROSION & SEDIMENT CONTROL DETAILS**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE UNION COUNTY**  
DRAWN BY: E.M.J. CHECKED BY: D.J. PROJECT NO: UNIOCTY16.010 SHEET NO: 4.00  
DESIGNED BY: E.M.J. SCALE: N.T.S. FIELD BOOK NO: \_\_\_\_\_ DATE: JUNE 7, 2017

MUNICIPALITY OF MOUNTAINSIDE, NJ, TRACY ROAD BRIDGE, CAD, FINAL DRAWINGS, 1:30 CONSTRUCTION DETAILS.DWG, Plotter: Monday, June 04, 2018 9:05:28 AM

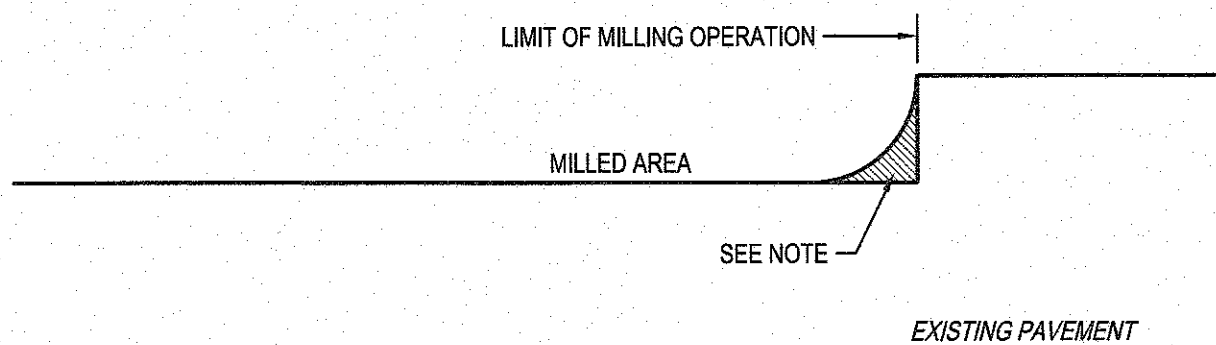




PAVEMENT RESURFACING SECTION

PAVEMENT RESURFACING SECTIONS

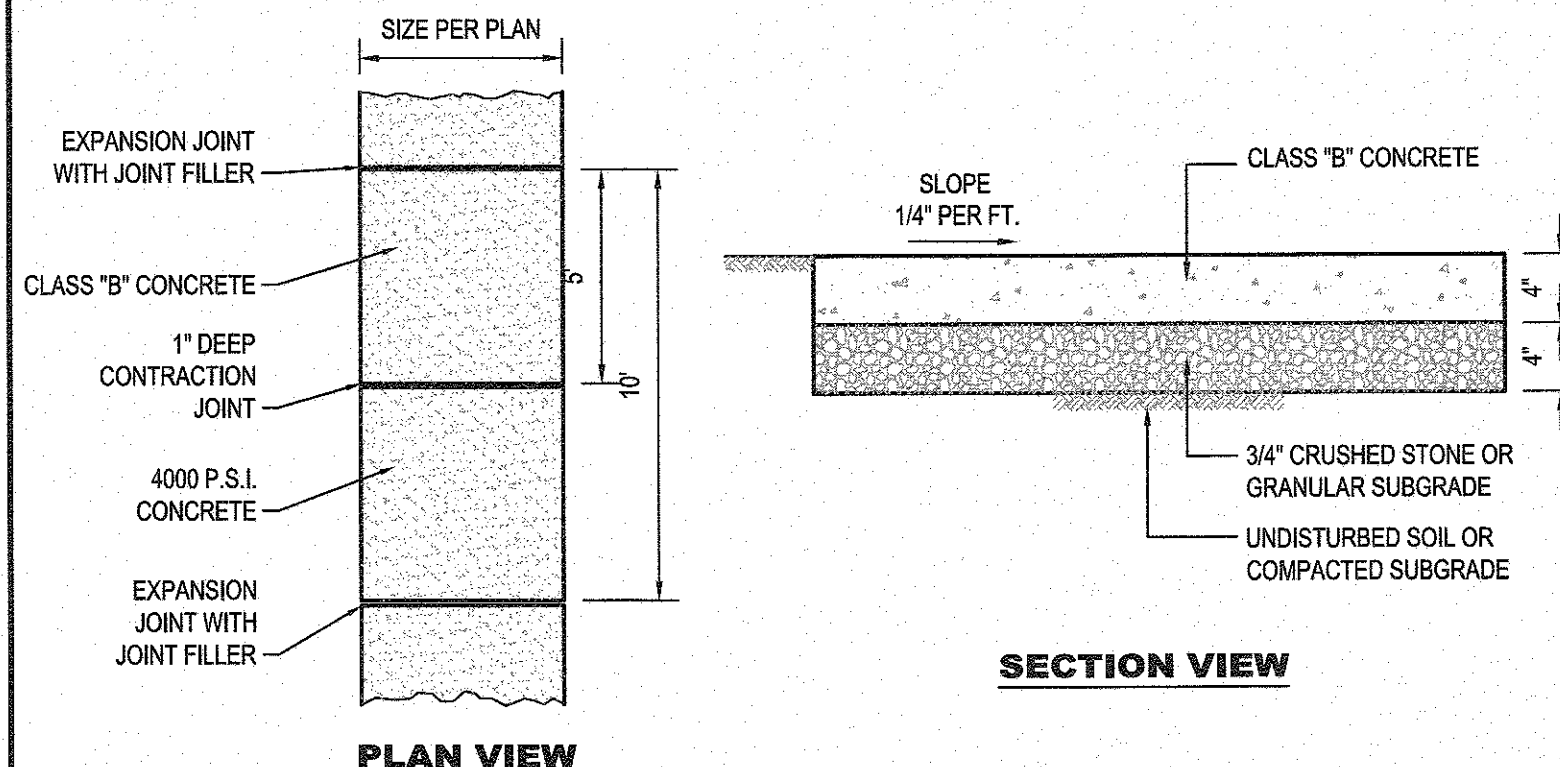
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NOTE: REMOVE THE HMA MATERIAL LEFT BY THE DRUM RADIUS AT THE LIMITS OF THE MILLING OPERATION. ENSURE THAT THE FACE IS CLEAN AND VERTICAL BY SAWCUTTING OR TRANSVERSE MILLING. THIS END TREATMENT IS NOT APPLICABLE TO ALL AREAS WHERE THE COMPLETED MILLING OPERATION MATCHES ANY EXISTING PAVEMENT, INCLUDING BRIDGES.

END TREATMENT FOR MILLING OPERATION

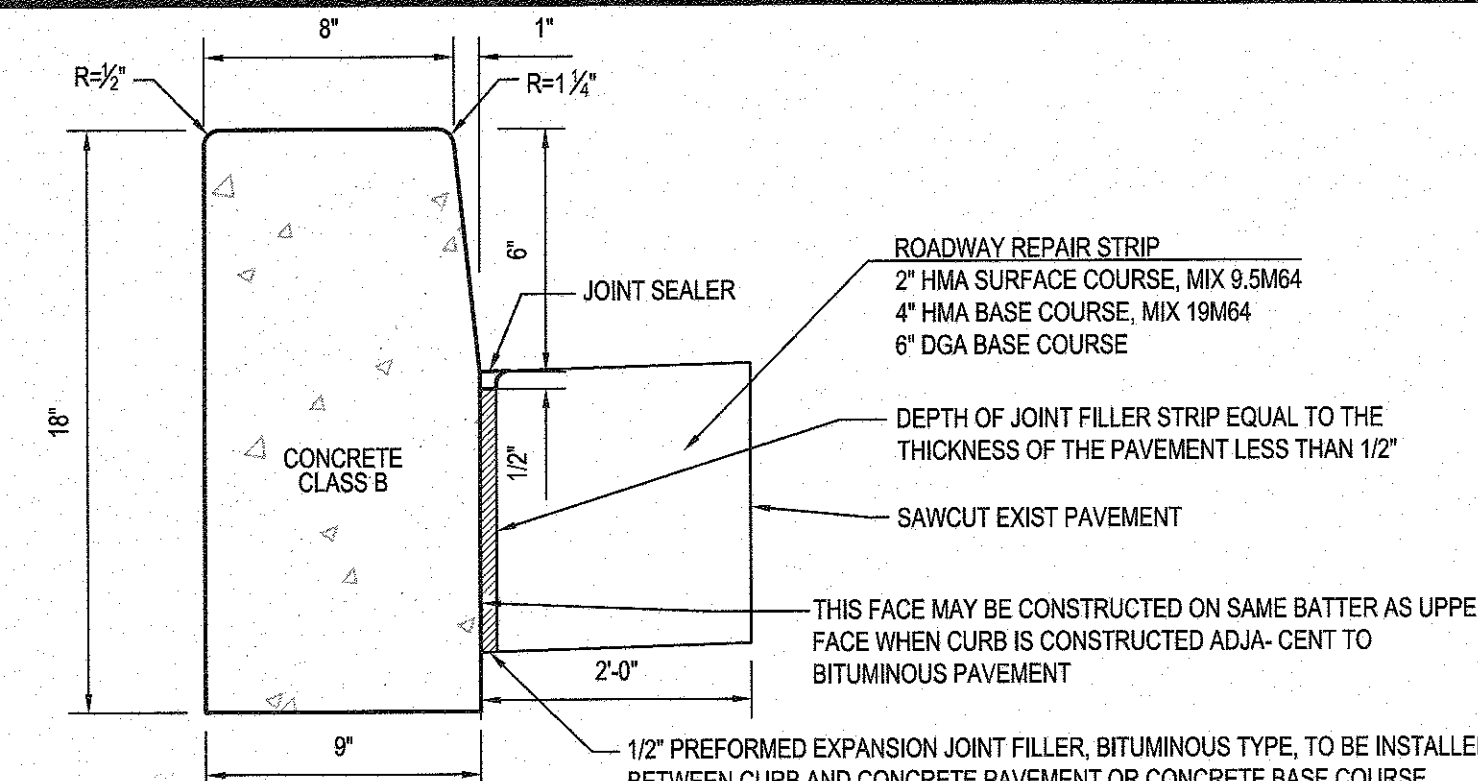
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NOTES:  
 1. UNIT PRICE FOR SIDEWALK INCLUDES EXCAVATION, GRADING, CONCRETE REMOVAL CONC. SAWCUTTING AND DISPOSAL AND D.G.A.  
 2. EXISTING GREEN BELT MATERIALS (GRASS, BRICK CONCRETE, ETC.) TO BE REPLACED WITH SAME MATERIAL UNLESS OTHERWISE APPROVED OR DIRECTED BY THE BOROUGH ENGINEER.  
 3. PAY LIMIT FOR TOPSOIL, SEED, & MULCHING IS AS SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.

4" THICK CONCRETE SIDEWALK

NOT TO SCALE



NOTES:  
 TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20 FT. APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER RECESSED 1/4" IN FROM FRONT FACE AND TOP OF CURB.  
 EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

9" X 18" CONCRETE VERTICAL CURB

NOT TO SCALE

GENERAL NOTES FOR SIGNS:

- DIMENSIONS, COLORS AND DETAILS OF VARIOUS SIZE SIGNS, AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGN PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
- (S) REPRESENTS A SPECIAL SIZE SIGN.
- LETTERS AND NUMERALS SHALL CONFORM TO THE CURRENT MANUAL, "STANDARD ALPHABETS FOR HIGHWAY SIGNS" U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
- THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE ENGINEER FOR THE DISTANCE TO BE USED ON THE ADVANCE WARNING SIGNS, AND FOR THE SPEED LIMIT TO BE USED ON THE R2-1 SIGN.
- DISTANCE LEGEND SIGN NUMBER FOLLOWED BY LETTER DISTANCE

LETTER	DISTANCE
A	1500'
B	1000'
C	500'
D	MILE
E	MILES AHEAD
F	AHEAD

BACKING MATERIAL

- ALUMINUM SHALL BE FLAT SHEET OF ALLOY 5052-H38 OR 6061-T6 ALLOY, 0.100" GAUGE.

TEMPORARY SIGN SUPPORTS

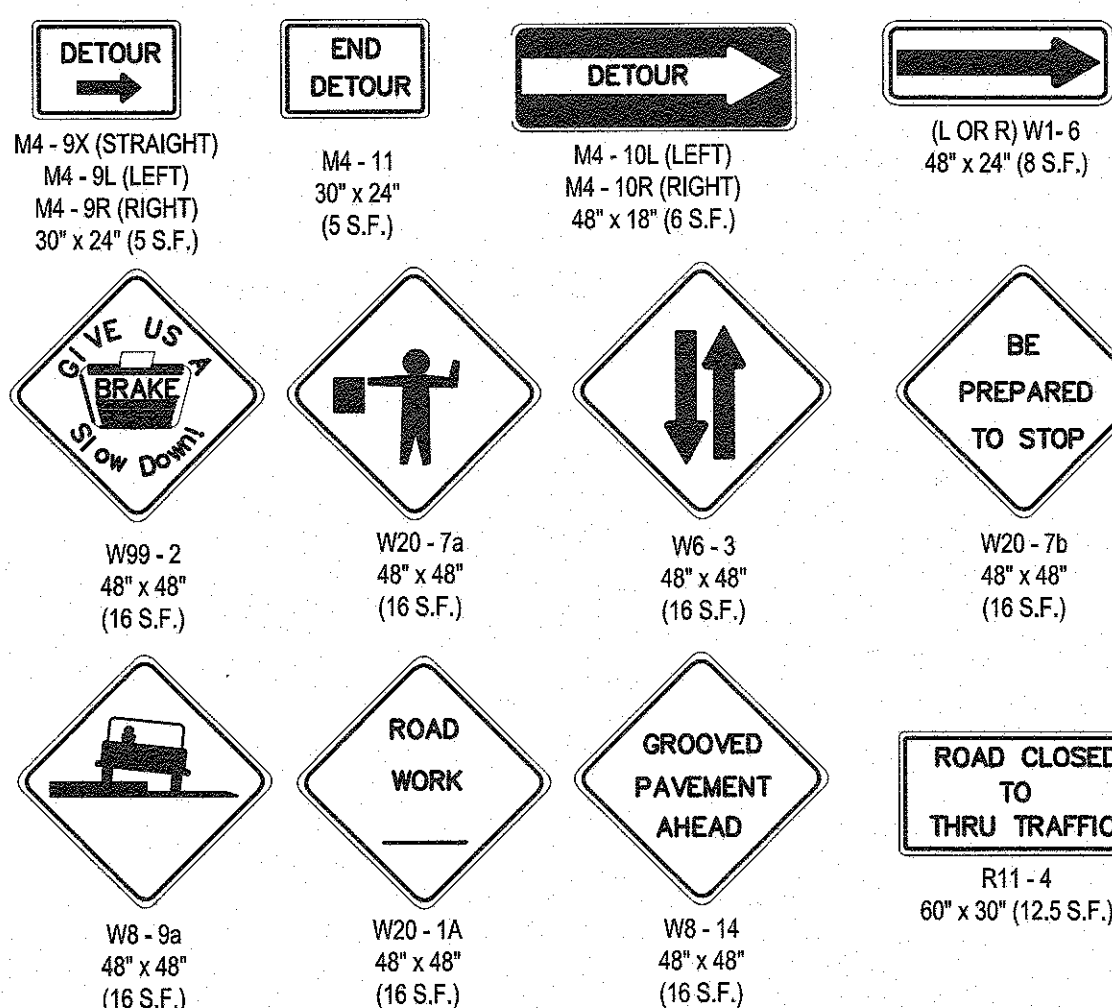
- SIGN SUPPORTS SHALL BE OF WELL SEASONED LUMBER, S4S, FREE OF SPLITS, KNOTS AND WARPS OR, OF STEEL COMPONENTS.
- WOOD POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL NOT EXCEED THE FOLLOWING DIMENSIONS FOR:  
 SINGLE POST = 4" x 6"; TWO POSTS = 3" x 6" OR 4" x 5"; THREE POSTS = 3" x 5" OR 4" x 4"  
 4" x 6" WOOD POSTS SHALL BE MODIFIED BY DRILLING 1 1/2" DIAMETER HOLES 4" AND 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
- NO BRACING IS PERMITTED. VERTICAL CLEARANCES FOR SIGNS MOUNTED ON WOOD SUPPORTS SHALL BE 7" MINIMUM. EMBEDMENT DEPTH FOR THE WOOD POST SHALL NOT EXCEED 3.5'.
- STEEL POSTS SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL FOR U-POST SIGN SUPPORT.
- TEMPORARY SIGN SUPPORTS NOT MEETING THIS CRITERIA SHALL BE SHIELDED BY A LONGITUDINAL BARRIER OR CRASH CUSHIONS.

SIGN FACES

- SIGN FACES SHALL BE RETROREFLECTIVE SHEETING, TYPE II OR III, EXCEPT FOR THE W20 SERIES AND W4-2 SIGN FACES WHICH SHALL BE TYPE IV-B SHEETING.

FASTENING

- ALL SIGNS SHALL BE SECURELY FASTENED TO THEIR SUPPORTS WITH BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH THE SPECIFICATIONS.



CONSTRUCTION SIGNS

NOT TO SCALE

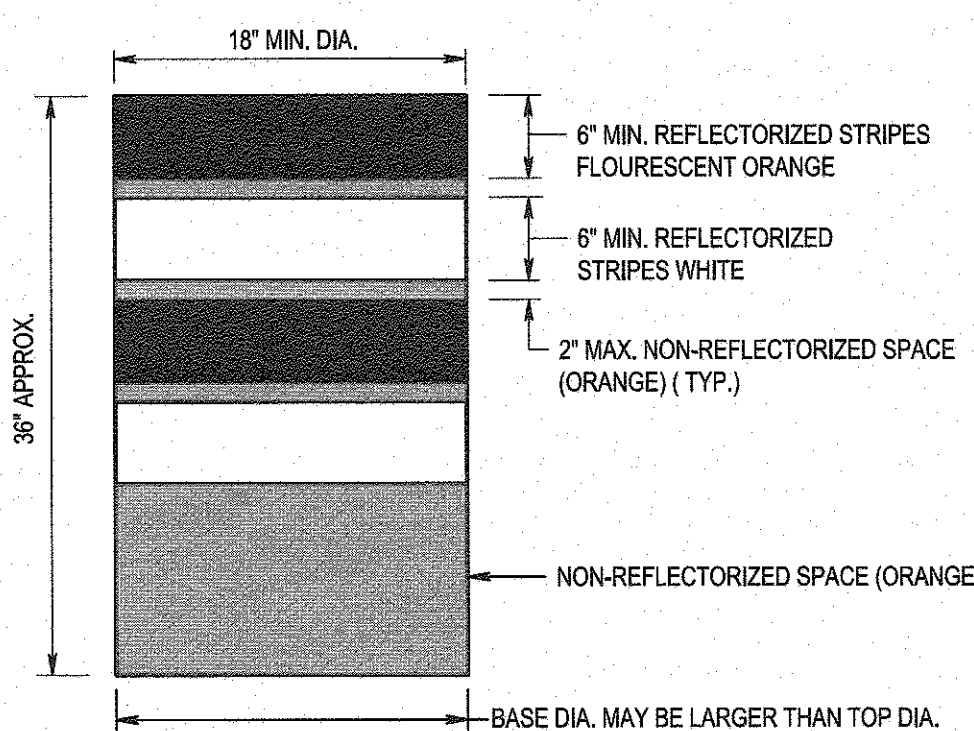
NOTES:

- THE 9" MIN. x 48", OR 12" MAX. x 48" BARRICADE RAILS SHALL BE FABRICATED FROM 0.125" MAX. PLASTIC SHEETING AND SHALL BE ATTACHED, 4 PER RAIL, WITH 1 INCH NO. 14 PAN HEAD METAL SCREWS OR PLASTIC RIVETS. ALL CORNERS SHALL BE ROUNDED.
- ORANGE AND SILVER (WHITE) STRIPES SHALL BE RETROREFLECTIVE SHEETING, ASTM D 4956 TYPE III, AS SHOWN FOR CONSTRUCTION SIGNS. ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.
- IF NECESSARY, THE SANDBAGS SHALL BE FABRICATED AND PLACED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
- THE FRAMING FOR BARRICADE PANELS SHALL BE NCHRP-350 CRASHED TESTED AND FHWA APPROVED.

BREAKAWAY BARRICADES

NOT TO SCALE

TYPE III BARRICADE - FRONT VIEW



DRUMS

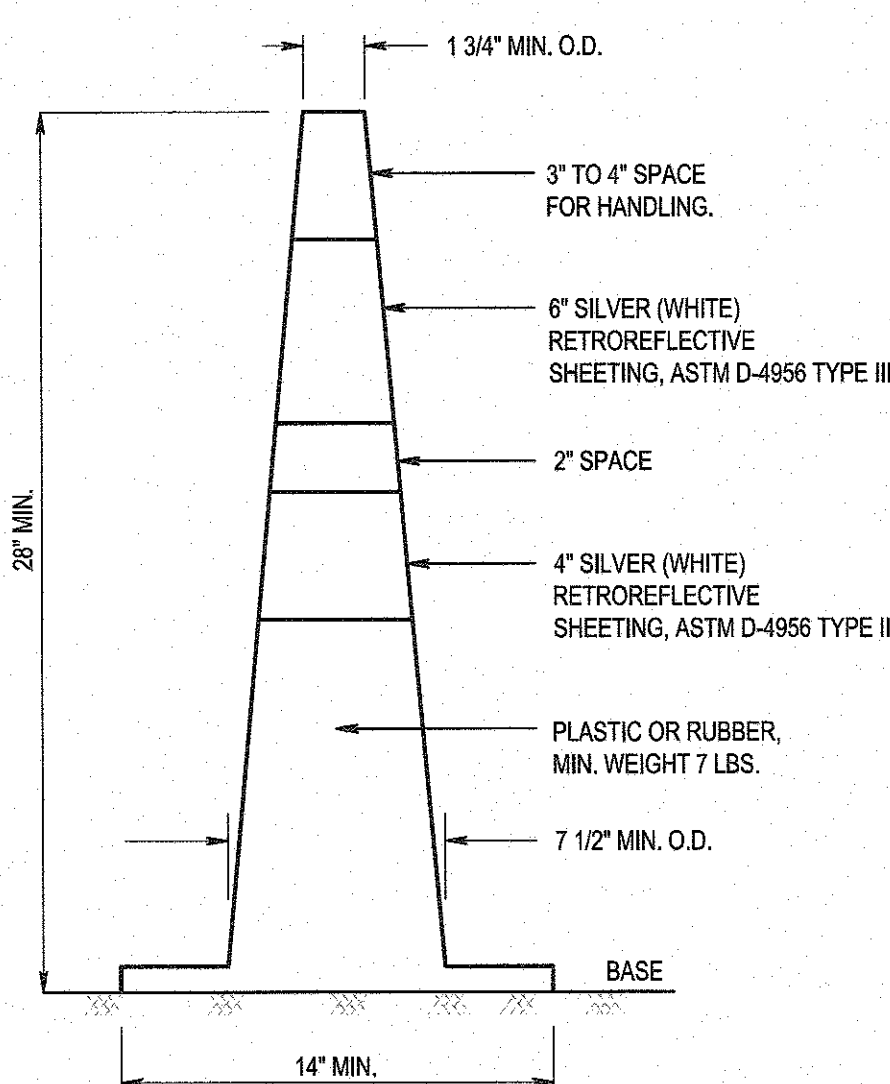
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DRUMS SHALL BE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE FLUORESCENT ORANGE AND WHITE RETROREFLECTIVE STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY SHALL BE NO MORE THAN 2" WIDE. RETROREFLECTIVE SHEETING FOR STRIPES SHALL CONFORM WITH ASTM D 4956 TYPE VII OR VIII WITH S2 REQUIREMENTS.

THE TOP OF THE DRUM SHALL NOT BE OPEN. DRUMS SHALL BE CONSTRUCTED TO INHIBIT ROLLING IF KNOCKED OVER.

THE REFLECTORIZED AREA OF DRUMS SHALL BE ROUND EXCEPT THAT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS AN 18 INCH DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED.

WHEN BALLAST IS REQUIRED BY THE R.E., SAND SHALL BE USED. THE MAXIMUM WEIGHT OF THE BALLAST SHALL BE 50 LBS. AND BE LOCATED APPROXIMATELY AT GROUND LEVEL. ALTERNATE TYPES OF BALLAST SHALL BE APPROVED BY THE R.E.



NOTES:

- TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR.
- BASES MAY BE OF BREAKAWAY BALLASTED TYPE.
- MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.

TRAFFIC CONES

NOT TO SCALE

GENERAL NOTES

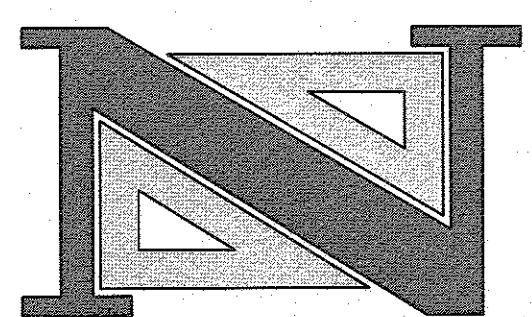
MAINTENANCE AND PROTECTION OF TRAFFIC

- All devices and procedures for the maintenance and protection of traffic shall be in accordance with the "Manual on Uniform Traffic Control Devices" for streets and highways. The contractor shall plan and carry out his work to provide for the convenient and safe passage of all vehicular and pedestrian traffic.
- Contractor to develop detailed maintenance and protection of traffic plan for review by the engineer prior to construction.
- The contractor shall follow the recommended traffic control procedures. If the contractor desires to change the procedure, he shall present his changes in writing to the engineer for review. There may be utility relocations, adjustments and improvements which are necessitated by the proposed construction. The contractor shall coordinate his work with each of the utility companies located within the project limits.
- The contractor is responsible for providing maintenance and protection of traffic throughout the duration of construction. The costs for the individual devices used to maintain and protect traffic shall be included in the lump sum price bid for maintenance and protection of traffic. No separate payments will be made for relocating the devices as required, or as directed by the municipality, during the course of construction.
- The contractor will not be permitted to close down the entire street. The contractor shall provide means of access at all times for pedestrians and vehicular traffic at all private driveways and occupied buildings affected by the work of this contract. During construction, in the vicinity of a driveway, the access width at the driveway entrance shall be plainly marked by lights, barricades or other such devices approved by the municipality.
- The contractor shall maintain at least one lane of traffic at all times.
- During construction, all roads shall be properly maintained to accommodate emergency vehicles at all times.
- All barricades shall be Type III breakaway barricades.
- Fill material for escape ramps shall be on-site material. All costs for storing, placing, moving and removing fill material shall be included in the price bid for the various items in the proposal.

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NO.	DATE	REVISIONS	DRAWN	DESIGNED	CHECKED
1	09-06-17	ISSUED FOR NUISOT REVIEW	E.N.S.	E.N.S.	D.J.
2	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



DAVID JUZMESKI,  
 P.E., P.P.  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 4691

*[Signature]*

THOMAS R. SOLFARO,  
 P.E., C.M.E.  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 4108

*[Signature]*

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 38804

**PROFESSIONAL LAND SURVEYOR**  
 N.J. LICENSE NO. 38804

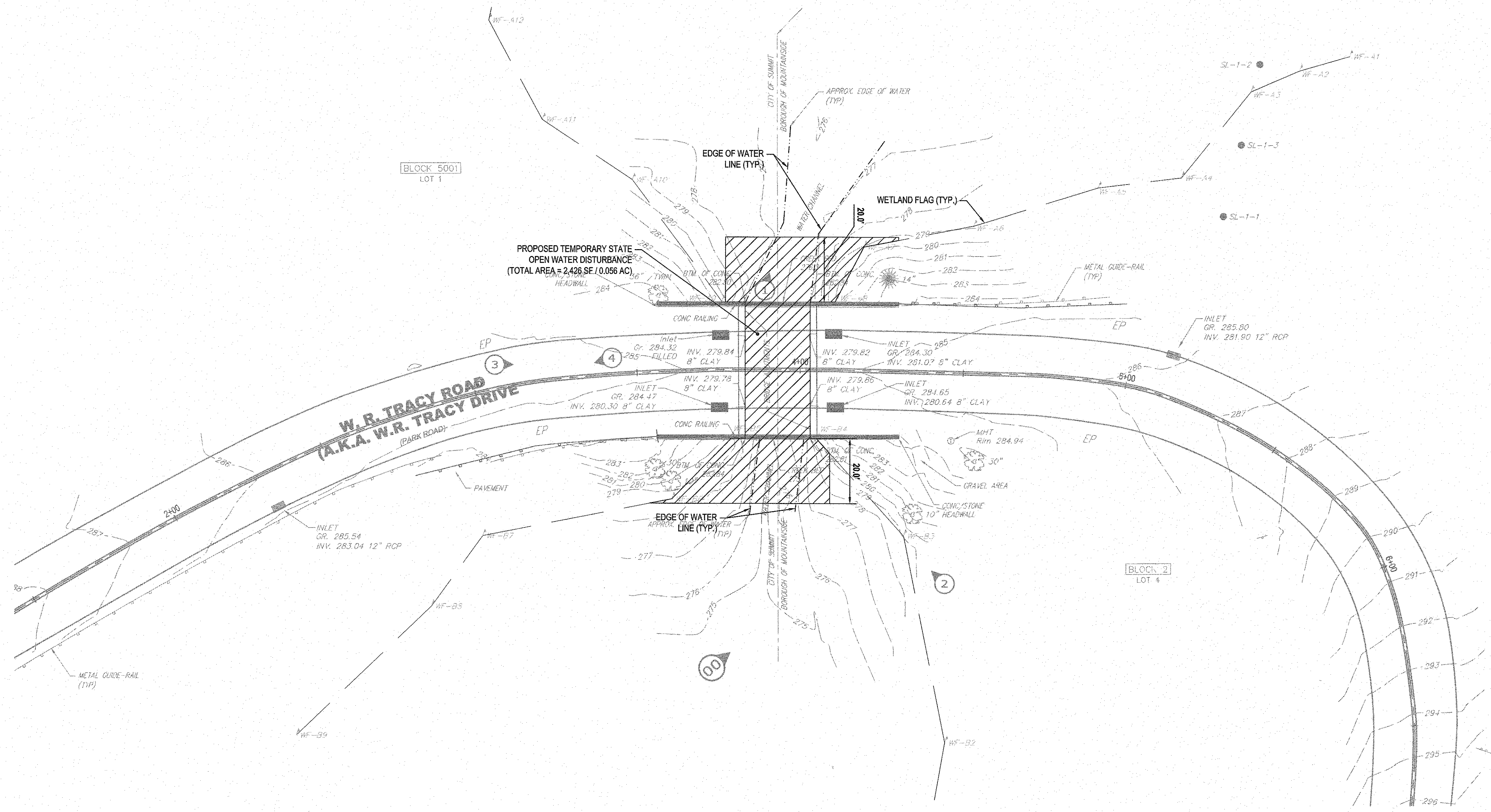
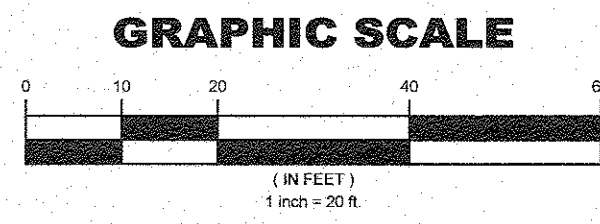
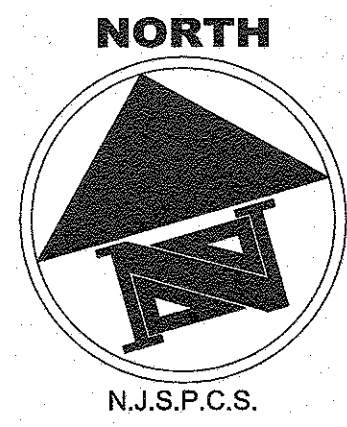
**PROFESSIONAL PLANNER**  
 N.J. LICENSE NO. 351,0056800

**CONSTRUCTION DETAILS**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DESIGNED BY: E.M.J. CHECKED BY: D.J. PROJECT NO. UNIOCTY16.010 SHEET NO. 4.01  
 SCALE: N.T.S. FIELD BOOK NO. DATE: JUNE 9, 2017

W.R. TRACY DRIVE BRIDGE IMPROVEMENTS CONSTRUCTION DETAILS.DWG (Sheet: Main) - June 04, 2018 9:08:47 AM





- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES INCLUDING BUT NOT LIMITED TO CONSTRUCTION PHASING, TRAFFIC CONTROL SIGNAGE, DETOURING, ETC.
  - ALL WORK SHALL BE ACCORDANCE WITH UNION COUNTY AND NJDOT DETAILS AND SPECIFICATIONS.
  - HORIZONTAL DATUM BASED ON NAD83, VERTICAL DATUM BASED ON NAVD88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.
  - CONTRACTOR TO CONTACT ENGINEER UPON THE DISCOVERY OF ANY DISCREPANCIES WITH RESPECT TO FIELD CONDITIONS WHEN COMPARED TO SITE PLANS OR DISCREPANCIES BETWEEN SITE PLANS AND DETAILS/SPECIFICATIONS PRIOR TO ANY CONSTRUCTION.

**STATE OPEN WATER DISTURBANCE CALCULATIONS:**

NJDEP WETLAND GENERAL PERMIT 10A - VERY MINOR ROAD CROSSING

SHORT CROSSING SCENARIO:

MAXIMUM ALLOWABLE FRESHWATER WETLANDS AND/OR STATE OPEN WATER CROSSING LENGTH = **100 FEET**

MAXIMUM PROPOSED FRESHWATER WETLANDS AND/OR STATE OPEN WATER CROSSING LENGTH = **24 FEET**

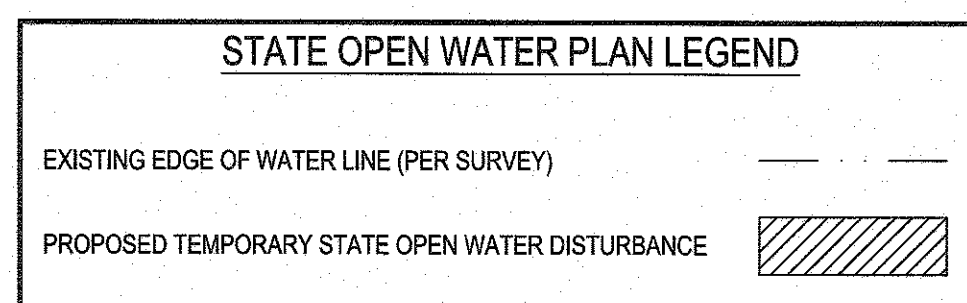
MAXIMUM ALLOWABLE CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATER = **0.25 ACRES (10,890 SQUARE FEET)**

TOTAL PERMANENT STATE OPEN WATER DISTURBANCE = **0 ACRES (0 SQUARE FEET)**

TOTAL TEMPORARY STATE OPEN WATER DISTURBANCE = **0.056 ACRES (2,426 SQUARE FEET)**

TOTAL PROPOSED CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATERS = **0 ACRES (0 SQUARE FEET)\*\***

\*\*REFER TO DRAWING 6.00 (NJDEP WETLAND PERMITTING PLAN) FOR ADDITIONAL WETLAND PERMITTING CALCULATIONS AND INFORMATION. REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR ADDITIONAL RIPARIAN CALCULATIONS AND INFORMATION.



**FLOOD HAZARD AREA PERMITTING:**

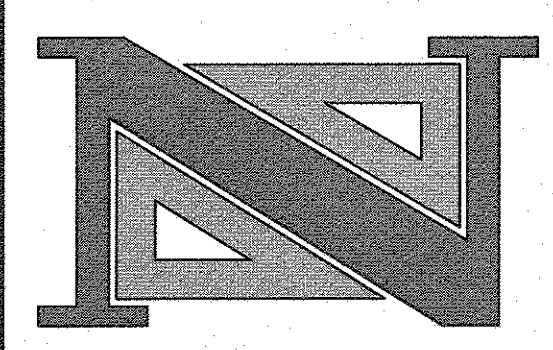
THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT FALL UNDER THE REGULATIONS ASSOCIATED WITH PERMIT-BY-RULE 42 WHICH PERMITS THE RECONSTRUCTION OF ALL OR PART OF A LAWFULLY EXISTING BRIDGE SUPERSTRUCTURE OVER A REGULATED WATER, PROVIDED THE CONDITIONS AT N.J.A.C. 7:13-6.7 ARE MET AND:

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

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

REVISIONS			
NO.	DATE	DESCRIPTION	CHECKED
1.	09-08-17	ISSUED FOR NJDOT REVIEW	E.N.S. E.N.S. D.J.
2.	02-28-18	REVISED PER NJDOT COMMENT LETTER	E.N.S. E.N.S. D.J.
3.	05-11-18	ISSUED FOR BID	E.N.S. E.N.S. D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 40571

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 41900

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

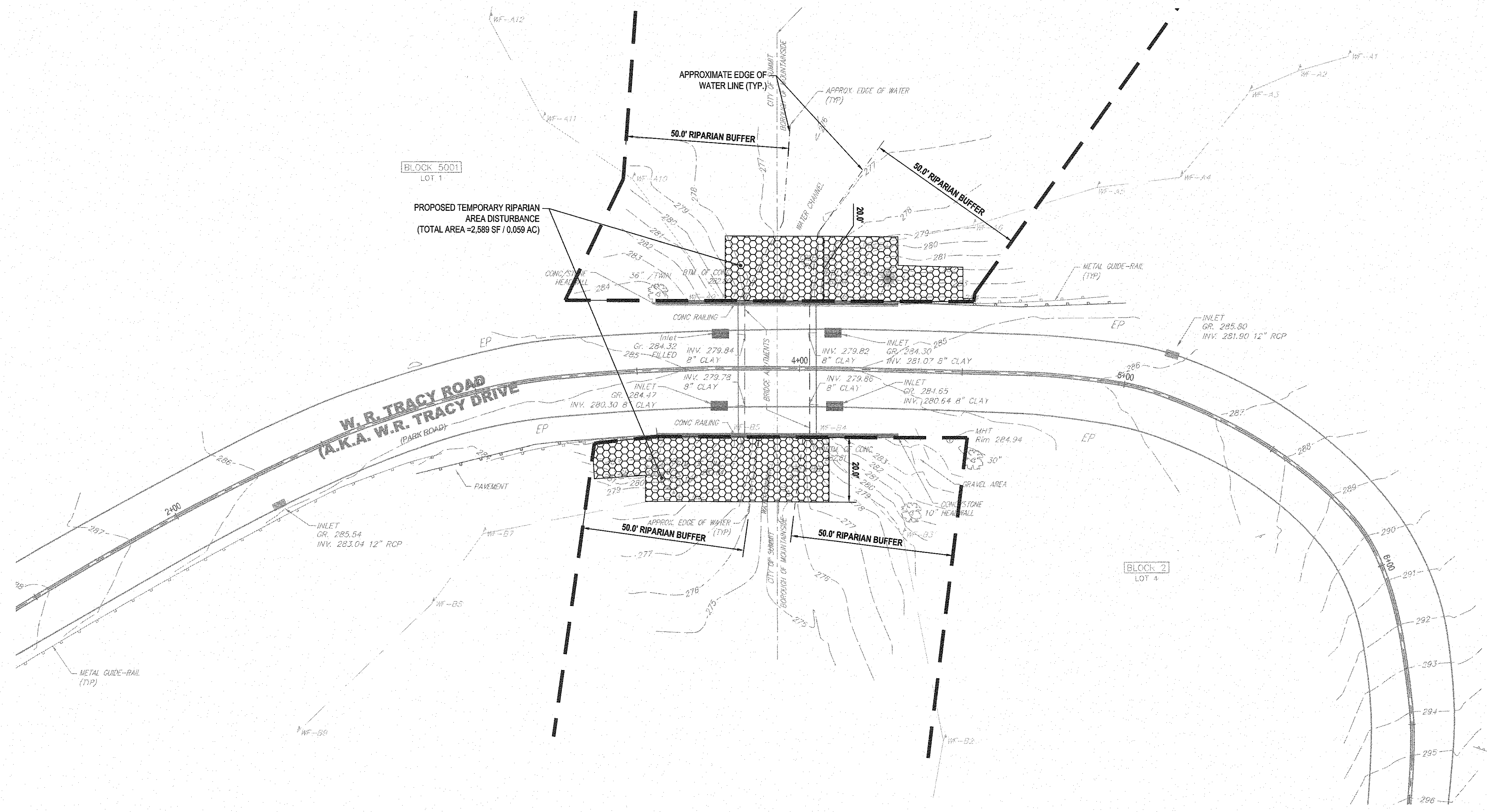
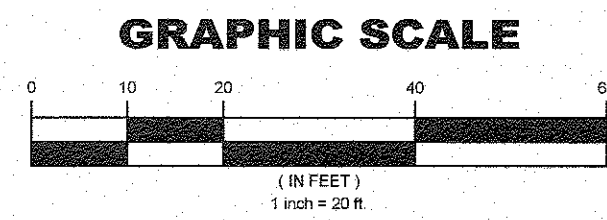
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33LJ00569800

**NJDEP STATE OPEN WATER PERMITTING PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DRAWN BY: E.M.J. CHECKED BY: D.J. PROJECT NO. UNIOCTY16.010 SHEET NO. 5.01  
DESIGNED BY: E.M.J. SCALE: 1" = 20' FIELD BOOK NO. DATE: JUNE 9, 2017

UNION COUNTY UNIOCTY16.010 W.R. TRACY ROAD BRIDGE/CAD\_FINAL DRAWINGS/06.01 - NJDEP STATE OPEN WATER PERMITTING PLAN/DWG - Plosec, Monday, June 04, 2018 8:13:47 AM





- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES INCLUDING BUT NOT LIMITED TO CONSTRUCTION PHASING, TRAFFIC CONTROL SIGNAGE, DETOURING, ETC.
  - ALL WORK SHALL BE ACCORDANCE WITH UNION COUNTY AND NJDOT DETAILS AND SPECIFICATIONS.
  - HORIZONTAL DATUM BASED ON NAD'83, VERTICAL DATUM BASED ON NAVD'88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.
  - CONTRACTOR TO CONTACT ENGINEER UPON THE DISCOVERY OF ANY DISCREPANCIES WITH RESPECT TO FIELD CONDITIONS WHEN COMPARED TO SITE PLANS OR DISCREPANCIES BETWEEN SITE PLANS AND DETAILS/SPECIFICATIONS PRIOR TO ANY CONSTRUCTION.

**RIPARIAN ZONE CALCULATIONS**

TOTAL AREA OF PERMANENT RIPARIAN (BUFFER) ZONE DISTURBANCE = 0 (0 SQUARE FEET)

TOTAL AREA OF TEMPORARY RIPARIAN (BUFFER) ZONE DISTURBANCE = 0.059 ACRES (2,589 SQUARE FEET)

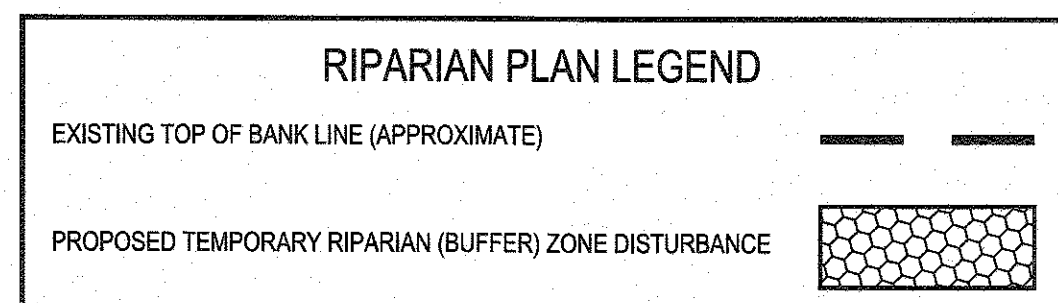
TOTAL ALLOWABLE AREA OF RIPARIAN ZONE DISTURBANCE FOR A PUBLIC RECONSTRUCTED ROADWAY CROSSING A WATER WITH A 50 FOOT RIPARIAN BUFFER = 0.069 ACRES (3,000 SQUARE FEET)

EXISTING IMPERVIOUS COVERAGE = 0.049 ACRES (2,117 SQUARE FEET)

PROPOSED IMPERVIOUS COVERAGE = 0.049 ACRES (2,117 SQUARE FEET)

DECREASE IN IMPERVIOUS COVERAGE = 0 ACRES (0 SQUARE FEET)

TOTAL SITE DISTURBANCE = 0.109 ACRES (4,742 SQUARE FEET)



**FLOOD HAZARD AREA PERMITTING:**

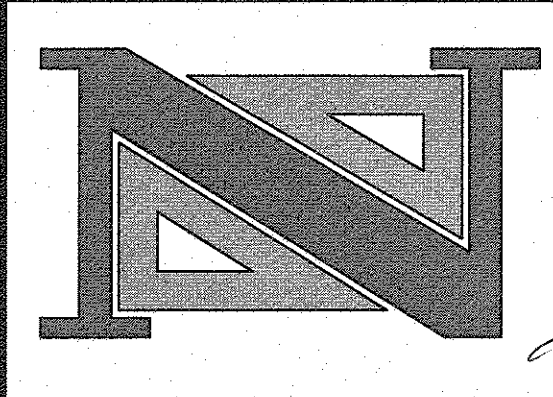
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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276890

NO.	DATE	DESCRIPTION	DRAWN	DESIGNED	CHECKED
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2.	02-28-18	REVISED PER NJDOT COMMENT LETTER	E.N.S.	E.N.S.	D.J.
3.	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI,**  
P.E., P.F.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 46921

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 41993

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33L00569800

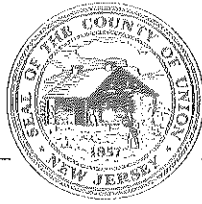
**NJDEP RIPARIAN PERMITTING PLAN  
W.R. TRACY DRIVE BRIDGE IMPROVEMENTS  
COUNTY BRIDGE No.: MO-37  
CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE  
UNION COUNTY NEW JERSEY**

PROJECT NO. UNIOCTY16.010 SHEET NO. 5.02

DRAWN BY: EMJ CHECKED BY: D.J. SCALE: 1" = 30' DATE: 3/9/2017

M:\UNION COUNTY\UNIOCTY16.010 W.R. TRACY ROAD BRIDGE\CAD\_FINAL DRAWINGS\05.02 - NJDEP RIPARIAN PERMITTING PLAN.DWG - Plotted: Monday, June 04, 2018 8:14:23 AM





# COUNTY OF UNION

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

**MEMO TO:** ALL POTENTIAL BIDDERS

**BOARD OF  
CHOSEN FREEHOLDERS**

**SERGIO GRANADOS**  
*Chairman*

**BETTE JANE KOWALSKI**  
*Vice Chairman*

**BRUCE H. BERGEN**

**LINDA CARTER**

**ANGEL G. ESTRADA**

**ANGELA R. GARRETSON**

**CHRISTOPHER HUDAK**

**MOHAMED S. JALLOH**

**ALEXANDER MIRABELLA**

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

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

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

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

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

**DATE:** June 1, 2018

**RE: CLARIFICATION NUMBER 1**  
**BA#6-2018 – SUPERSTRUCTURE REPLACEMENT OF**  
**W.R. TRACY DRIVE BRIDGE, MO-37**  
**BOROUGH OF MOUNTAINSIDE, CITY OF SUMMIT**  
**COUNTY OF UNION, NEW JERSEY**  
**UNION COUNTY ENGINEERING PROJECT #2015-020**

Please note the following Clarification:

The intention of the "Temporary Field Office", Item Number 6 on Bid Form Page B-4, is to provide a method of payment for the contractor's field office.

With respect to furnishings, size, equipment, amenities, etc. it will depend on the individual contractor, based upon what they need to complete the project in its entirety.

The County will not require a temporary space for an Engineer on-site.

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

**DIVISION OF ENGINEERING**



**SPECIFICATIONS  
FOR  
SUPERSTRUCTURE REPLACEMENT OF W.R. TRACY DRIVE  
BRIDGE, MO-37  
BOROUGH OF MOUNTAINSIDE, CITY OF SUMMIT  
COUNTY OF UNION, NEW JERSEY  
BA#6-2018; UNION COUNTY ENGINEERING PROJECT #2015-020**

**MAY 2018**

**UNION COUNTY OFFICIALS  
BOARD OF CHOSEN FREEHOLDERS**

Sergio Granados, Chairman  
Bette Jane Kowalski, Vice Chairman  
Bruce H. Bergen, Freeholder  
Linda Carter, Freeholder  
Angel G. Estrada, Freeholder  
Angela R. Garretson, Freeholder  
Christopher Hudak, Freeholder  
Mohamed S. Jalloh, Freeholder  
Alexander Mirabella, Freeholder

**CLERK OF THE BOARD**  
James E. Pellettiere, RMC

**COUNTY MANAGER**  
Edward T. Oatman

**DEPARTMENT OF ENGINEERING, PUBLIC WORKS AND  
FACILITIES MANAGEMENT**  
Joseph A. Graziano, Sr., CPWM  
Director, Department of Engineering, Public Works and  
Facilities Management

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

**PREPARED BY:**  
**Neglia Engineering Associates**  
34 Park Avenue  
Lyndhurst, New Jersey 07071  
T: 201-939-8805  
F: 201-939-0846



**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 12, 2018 at 10:30 a.m., prevailing time, in the 3<sup>rd</sup> Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**SUPERSTRUCTURE REPLACEMENT OF W.R. TRACY DRIVE BRIDGE, MO-37  
BOROUGH OF MOUNTAINSIDE, CITY OF SUMMIT, COUNTY OF UNION, NEW JERSEY  
BA#6-2018; UNION COUNTY ENGINEERING PROJECT #2015-020**

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

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

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

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

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

**UNION COUNTY BOARD  
OF CHOSEN FREEHOLDERS**  

---

*We're Connected to You!*



**SUPERSTRUCTURE REPLACEMENT OF W.R. TRACY DRIVE BRIDGE, MO-37**  
**BOROUGH OF MOUNTAINSIDE, CITY OF SUMMIT, COUNTY OF UNION, NEW JERSEY**  
BA#6-2018; Union County Engineering Project #2015-020

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## **GENERAL SPECIFICATIONS CONTINUED**

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- Bidding Documents
- Bid Form
- Consent of Surety
- Bidder Signature Page
- Bidder Disclosure Statement
- Subcontractor Identification Statement: List of Subcontractors
- Subcontractor Identification Certification
- Acknowledgement of Addendum
- Contractor Business Registration Certificate
- Affirmative Action Requirement
- Experience Statement
- Certificate of Bidder Showing Ability to Perform Contract
- Non-Collusion Affidavit
- Contractor Registration Advisement
- Americans with Disabilities Act
- Statement of Bidder's Qualifications
- Contractor Performance Record
- Affidavit Regarding List of Disbarred, Suspended or Disqualified Bidders
- Prior Negative Experience Questionnaire-Certification
- Contractor's Certification of Compliance - New Jersey Prevailing Wage Act
- Uncompleted Contracts Affidavit
- Certificate of Insurance Statement
- Collection of Use Tax on Sales to Local Governments Statement
- Time of Completion
- Disclosure of Investment Activities in Iran

## **STANDARD SPECIFICATION FORM - SS-1**

## **NEW JERSEY PREVAILING WAGE DETERMINATION DOCUMENTS**

## **NJDOT SPECIAL PROVISIONS FOR STATE AID PROJECTS**

## **PROJECT TECHNICAL SPECIFICATIONS**

## **NJDEP FRESHWATER WETLAND PERMIT**



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

**DEFINITIONS**

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

**OWNER/COUNTY:**

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

**ADDRESS BIDS AND SUBMIT TO:**

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

**TITLE OF PROJECT: Superstructure Replacement of W.R. Tracy Drive Bridge, Mo-37  
Borough of Mountainside, City of Summit, County of Union, NJ  
BA#6-2018; Union County Engineering Project #2015-020**

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

**ENGINEER: Neglia Engineering Associates**

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

**COUNTY ENGINEER:**

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

**CONSTRUCTION MANAGER:**



## GENERAL SPECIFICATIONS

### 1. BID FORM

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

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

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

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

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

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

The bidding sheet for this Project may include a fixed amount as a Bid Allowance. If applicable, all bidders are required to add this fixed amount to their base bid and to include this additional amount in their Bid Bond. This sum will be included in the Contract as well as the performance, labor and materials bond. Payment by the County will be made to the Contractor from these funds only upon the completion of extra Work pursuant to a written Change Order(s) signed by the County's Engineer or his designee and the Contractor, prior to the commencement of such Work. Work commenced prior to written approval by the County shall be done at 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 Laura M. Scutari, QPA, MPA, 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, Laura M. Scutari, 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. 34:11-56.25 et seq, requires that the following additional conditions be strictly followed. The bidders represent that he is not listed or is not on record in the Office of the Commissioner or the Department of Labor and Industry as one who failed to pay prevailing wages in accordance with the provisions of this Act. The bidder agrees to the inclusion of a contract provision upon award which specifically requires said Contractor to fully comply with each and all of the requirements of the aforesaid Act as it relates to prevailing rates



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

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

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

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

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

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

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

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

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



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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

## **29. STORAGE**

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

## **30. FINAL CLEAN UP**

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



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

### 31. SUB-LETTING OF WORK

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

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

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

### 32. SAFETY

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

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

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



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

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

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

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

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

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

### **35. PERMITS**

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

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

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

### **37. CHANGE ORDERS**

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

### **38. SUPPLEMENTAL WORK**

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



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

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

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

### **40. PROGRESS PAYMENTS**

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

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

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

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

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

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

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



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

#### **41. INSPECTION**

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

#### **42. DAMAGES**

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

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

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

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



## **44. AFFIRMATIVE ACTION REQUIREMENTS**

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

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

#### **CONSTRUCTION CONTRACTS**

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

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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

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



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

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

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

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

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

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

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



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

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

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

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

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

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

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

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



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

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

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

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

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#### 45. INVESTMENT ACTIVITIES IN IRAN

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

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

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

#### 47. UTILITIES

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

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

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

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

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

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

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

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

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

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

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



## **49. PRECONSTRUCTION**

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

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

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

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

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

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

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

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

Proof of business registration shall be

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

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

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

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

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

### **IN ADDITION:**

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

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



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

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

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

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

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

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

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

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

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

Contractors are required to comply with the following:

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



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

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

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

EDWARD T. OATMAN  
COUNTY MANAGER

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.



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

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

**I HAVE TAKEN THE FOLLOWING ACTIONS:**

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

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

**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.**



**BID FORM**

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

**SUPERSTRUCTURE REPLACEMENT OF W.R. TRACY DRIVE BRIDGE, MO-37  
BOROUGH OF MOUNTAINSIDE, CITY OF SUMMIT, COUNTY OF UNION, NEW JERSEY  
BA#6-2018; UNION COUNTY ENGINEERING PROJECT #2015-020**

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 NO	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
1.	PERFORMANCE BOND AND PAYMENT BOND	DOLLAR	1		
2.	OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE	DOLLAR	1		
3.	POLLUTION LIABILITY INSURANCE	DOLLAR	1		
4.	MOBILIZATION	L.S.	1		
5.	SILT FENCE	L.F.	180		
6.	TEMPORARY FIELD OFFICE	L.S.	1		
7.	CONSTRUCTION LAYOUT	L.S.	1		
8.	CONCRETE WASHOUT SYSTEM	UNIT	1		
9.	TEMPORARY CONSTRUCTION ACCESS/WHEEL CLEANING	L.S.	1		
10.	PROJECT SCHEDULING AND UPDATES	L.S.	1		
11.	PROTECTION & SAFETY (CONSTRUCTION FENCE, BARRICADES)	L.S.	1		
12.	TEMPORARY SHIELDING AND SCAFFOLD	L.S.	1		
13.	TEMPORARY COFFERDAMS & DEWATERING	L.S.	1		
14.	CLEARING BRIDGE SUPERSTRUCTURE, No. MO-37	L.S.	1		
15.	CLEARING BRUSH	L.S.	1		
16.	REMOVE TREE 36"	L.S.	1		
17.	EXCAVATION, UNCLASSIFIED	C.Y.	82		
18.	BACKFILLING, UNCLASSIFIED	C.Y.	27		
19.	BACKFILLING, ROADWAY	C.Y.	90		
20.	FINAL CLEANUP	L.S.	1		
21.	CONCRETE BRIDGE DECK, HPC	C.Y.	55		
22.	CONCRETE BRIDGE PARAPETS & PYLONS, HPC	C.Y.	23		
23.	REINFORCEMENT STEEL, EPOXY COATED	L.B.	27,030		
24.	DRILL DOWEL HOLES & CUT KEYWAY AT WINGWALLS	L.S.	1		
25.	DECK JOING SEAL – FILLER & SEAL, HOT APPLIED	L.F.	85		

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

26.	DECK SURFACE SEALER, HOT APPLIED	S.Y.	112		
27.	COMBINATION RAIL: 3 RAIL STEEL	L.F.	140		
28.	W BEAM ATTACHMENT TO PYLON – TYPE B	UNIT	2		
29.	RUBRAIL ATTACHMENT TO PYLON	UNIT	2		
30.	DATE PLATE	UNIT	2		
31.	STONE VENEER RE-POINTING	L.F.	79		
32.	STONE VENEER REPAIR	S.F.	17		
33.	STONE VENEER RETROFIT JOINT	L.F.	28		
34.	FOUNDATION – VERTICAL JOINT REPAIR	L.F.	28		
35.	TOPSOILING, 4" THICK	S.Y.	260		
36.	FERTILIZING AND SEEDING	S.Y.	260		
37.	STRAW MULCHING	S.Y.	260		
38.	MILLING, 2" AVERAGE DEPTH	S.Y.	165		
39.	HOT MIX ASPHALT SURFACE COURSE, MIX 9.5M64, AVERAGE 2" THICK	TON	32		
40.	BEAM GUIDE RAIL, BRIDGE	L.F.	165		
41.	FLARED GUIDE RAIL TERMINAL	UNIT	2		
42.	PRECASE INLET TYPE 'A' W/ BICYCLE SAFE GRATE	E.A.	4		
43.	TRAFFIC STRIPES, 4"	L.F.	180		
44.	4" WIDE CONTINUOUS DOUBLE YELLOW CENTERLINE STRIPING, LONG LIFE, THERMOPLASTIC	L.F.	90		
45.	INLET FILTER	E.A.	4		
46.	FLOATING TURBIDITY BARRIER, TYPE 2	L.F.	350		
47.	ALLOWANCE FOR POLICE TRAFFIC CONTROL	DOLLAR	1	\$15,000	\$15,000
48.	TRAFFIC FLAGGERS	M.H.	350	\$69.68	\$24,388.00
49.	ALLOWANCE FOR BEHIND WALL DRAINAGE REPAIRS	DOLLAR	1	\$50,000	\$50,000
50.	CONTRACT ALLOWANCE FOR RECONSTRUCTION OF DRAINAGE PIPE BENEATH BRIDGE DECK	DOLLAR	1	\$3,000	\$3,000

Written \_\_\_\_\_

Figures \_\_\_\_\_



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

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

**FIFTY THOUSAND DOLLARS AND NO CENTS**

Written

**\$50,000.00**

Figures

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

\_\_\_\_\_  
Written

\_\_\_\_\_  
Figures

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

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

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

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

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

\_\_\_\_\_  
**NAME OF INSURANCE COMPANY**  
**ADDRESS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_

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

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



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

**BIDDER SIGNATURE PAGE**

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

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

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

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

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

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

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

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

**Corporate Seal**

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

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

**STATEMENT OF OWNERSHIP DISCLOSURE**

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

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

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

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

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

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

**Part II**

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

**OR**

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

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



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

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

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

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

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

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

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

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

**Part IV Certification**

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

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



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)

**SUBCONTRACTOR IDENTIFICATION CERTIFICATION**

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

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

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

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

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

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

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

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

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

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

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



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

**ACKNOWLEDGMENT OF ADDENDUM**

**COUNTY OF UNION**

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

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

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

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

**ACKNOWLEDGMENT BY BIDDER:**

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

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

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

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

**CONTRACTOR BUSINESS REGISTRATION CERTIFICATE**

New Mandatory Requirement - Effective 1/18/2010

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

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

Proof of business registration shall be

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

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

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

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

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

**IN ADDITION:**

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

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

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

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



**BUSINESS REGISTRATION**  
Mandatory Requirement

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

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

Proof of business registration shall be:

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

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

**TAXPAYER NAME:** TAX REG TEST ACCOUNT  
**TRADE NAME:** TAX REG TEST ACCOUNT

**TAX REGISTRATION TEST ACCOUNT**  
**CLIENT REGISTRATION**

**TAXPAYER IDENTIFICATION#:** 970-097-382/000  
**SEQUENCE NUMBER:** 01072300

**ADDRESS:** 847 ROEBLING AVE  
TRENTON NJ 08611  
**ISSUANCE DATE:** 07/14/04

**EFFECTIVE DATE:** 07/01/04

**Certificate Number:** 1093907  
**Date of Issuance:** October 14, 2004

**For Office Use Only:**  
20041014112823533

ATTACH BRC HERE

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

**AFFIRMATIVE ACTION REQUIREMENT**

**REQUIRED AFFIRMATIVE ACTION EVIDENCE**

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

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

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

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

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

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

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

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

**EXPERIENCE STATEMENT**

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

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

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

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

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

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

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





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

**NON-COLLUSION AFFIDAVIT**

(N.J.S.A. 52:34-15)

STATE OF \_\_\_\_\_ )  
 ) SS: \_\_\_\_\_  
COUNTY OF \_\_\_\_\_ )

I \_\_\_\_\_, of the City of \_\_\_\_\_, in the County of \_\_\_\_\_, and the State of \_\_\_\_\_, of full age, being duly sworn according to law, on my oath depose and say that: I am \_\_\_\_\_ of the firm of \_\_\_\_\_, the bidder making the proposal for the above named project, and that I executed the said proposal for the above named project, and that I executed the said proposal with full authority to do so; that said bidder has not, directly or indirectly, entered into any agreement, participation in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named project; and that all statements contained in said proposal and in this Affidavit are true and correct, and made with full knowledge that the COUNTY OF UNION, NEW JERSEY relies upon the truth of the statements contained in said proposal and in the statements contained in the affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bonafide established commercial or selling agencies maintained by \_\_\_\_\_ (N.J.S.A. 52:34-15).

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

\_\_\_\_\_  
**ORIGINAL SIGNATURE ONLY**

**NOTE: The person who signed the bidder signature page for the bidder should sign this form also.**

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

\_\_\_\_\_  
Notary Public of the State of \_\_\_\_\_  
My commission expires: \_\_\_\_\_

**WARNING: IF YOU FAIL TO FULLY, ACCURATELY, AND COMPLETELY FILL OUT THIS AFFIDAVIT OF NON-COLLUSION, YOUR BID MAY BE REJECTED.**

**Contractor Registration Advisement**  
For Public Works Projects

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

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

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

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



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

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

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

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

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

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

Signature \_\_\_\_\_ Date \_\_\_\_\_

**STATEMENT OF BIDDER'S QUALIFICATIONS**

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

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

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

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

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

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

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

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

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

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

\_\_\_\_\_

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

\_\_\_\_\_

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

**CONTRACTOR PERFORMANCE RECORD**

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

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

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

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

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

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

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

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

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

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

Subscribed and sworn to before me

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

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

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





**PRIOR NEGATIVE EXPERIENCE QUESTIONNAIRE**

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

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

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

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

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

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

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

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

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

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

**PRIOR NEGATIVE EXPERIENCE CERTIFICATION**

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

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

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

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

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

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

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



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 FRM 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 \_\_\_\_\_ **150** \_\_\_\_\_ **calendar days** from the date of the notice to proceed.

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

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

**SITE VISIT – GENERAL CONTRACTOR**

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

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

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

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

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

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

**PART 1**

**CERTIFICATION**

VENDOR/BIDDER MUST COMPLETE PART 1 BY CHECKING ONE OF THE BOXES  
**FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE**

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

**CHECK THE APPROPRIATE BOX**

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

**OR**

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

**PART 2**

PLEASE PROVIDE ADDITIONAL INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

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

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

*Attach Additional Sheets If Necessary*

**CERTIFICATION**

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

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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

*Revised 10/19/17*



## STANDARD SPECIFICATIONS

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

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

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

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

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

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



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

**PREVAILING WAGE RATE DETERMINATION**

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

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

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

**Prevailing Wage Rate**

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

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

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

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

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

**Apprentice Rate Schedule**

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

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

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

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

## **Comments/Notes**

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

## **Public Works Contractor Registration**

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

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

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

## **Snow Plowing**

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



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

County - UNION

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

**PREVAILING WAGE RATE**

	03/01/18
Journeyman (Mechanic)	W37.98 B23.93 T61.91

**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**

	01/01/18
Foreman	W49.50 B42.52 T92.02
General Foreman	W51.50 B43.50 T95.00
Journeyman	W44.50 B40.92 T85.42

**Craft: Boilermaker                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	65%	70%	75%	80%	85%	90%	95%			
Benefit =	34.83	35.70	36.58	37.44	38.32	39.19	40.05			

**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**

	01/01/18
Foreman	W33.54 B16.17 T49.71
General Foreman	W34.04 B16.17 T50.21
Mechanic	W32.04 B16.17 T48.21

**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**

	05/01/17	05/01/18
Deputy Foreman	W44.10 B31.94 T76.04	W45.20 B33.03 T78.23
Foreman	W47.10 B31.94 T79.04	W48.20 B33.03 T81.23
Journeyman	W41.10 B31.94 T73.04	W42.20 B33.03 T75.23

**Craft: Bricklayer, Stone Mason**

**APPRENTICE RATE SCHEDULE**

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

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

**Craft: Bricklayer, Stone Mason**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 5-1-18:

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

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**

	11/01/17	05/01/18	11/01/18
Foreman	W55.11	W56.02	W0.00
	B31.41	B31.94	B0.00
	T86.52	T87.96	T88.54
Journeyman	W47.92	W48.71	W0.00
	B27.31	B27.77	B0.00
	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**

	11/01/17	05/01/18	11/01/18
Foreman	W55.11 B31.41 T86.52	W56.02 B31.94 T87.96	W0.00 B0.00 T88.54
Journeyman	W47.92 B27.31 T75.23	W48.71 B27.77 T76.48	W0.00 B0.00 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**

	12/13/17	05/01/18	11/01/18
Foreman	W52.67 B45.57 T98.24	W0.00 B0.00 T99.24	W0.00 B0.00 T100.49
Foreman (Concrete Form Work)	W51.87 B32.46 T84.33	W0.00 B0.00 T85.35	W0.00 B0.00 T86.60
Journeyman	W45.80 B45.57 T91.37	W0.00 B0.00 T92.62	W0.00 B0.00 T93.87
Journeyman (Concrete Form Work)	W45.10 B32.46 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	18.32	22.90	29.77	36.64						
Benefit	30.57	for all	intervals							

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

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

**Craft: Dockbuilder                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR CONCRETE FORM WORK ONLY:

INTERVAL	PERIOD AND RATES			
Yearly	18.04	22.55	29.32	36.08
Benefits	22.46 for all intervals			

**CREOSOTE HANDLING:**

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

**HAZARDOUS WASTE WORK:**

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

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

**FOREMAN REQUIREMENTS:**

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



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

**County - UNION**

**OVERTIME:**

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

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

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

**County - UNION**

**Craft: Drywall Finisher**

**PREVAILING WAGE RATE**

	05/01/17
Foreman	W43.45 B23.60 T67.05
General Foreman	W45.43 B23.60 T69.03
Journeyman	W39.50 B23.60 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**

	05/29/17	05/28/18
Cable Splicer	W60.08 B34.53 T94.61	W61.52 B35.35 T96.87
Foreman	W61.17 B35.15 T96.32	W62.64 B35.98 T98.62
Journeyman	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
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**

	11/15/17	10/29/18	10/28/19	11/02/20
Master	W53.52	W54.86	W56.16	W57.42
Technician/General	B29.43	B30.17	B30.89	B31.58
Foreman	T82.95	T85.03	T87.05	T89.00
Senior Technician/Lead Foreman (21-30 Workers on Job)	W48.99 B26.94 T75.93	W50.22 B27.62 T77.84	W51.41 B28.27 T79.68	W52.56 B28.91 T81.47
Technician A/Foreman (11-20 Workers on Job)	W46.93 B25.81 T72.74	W48.11 B26.46 T74.57	W49.25 B27.08 T76.33	W50.35 B27.69 T78.04
Technician B/Working Foreman (4-10 Workers on Job)	W44.88 B24.67 T69.55	W46.00 B25.30 T71.30	W47.09 B25.90 T72.99	W48.15 B26.47 T74.62
Technician C/Journeyman (1-3 Workers on Job)	W41.17 B22.64 T63.81	W42.20 B23.21 T65.41	W43.20 B23.76 T66.96	W44.17 B24.29 T68.46

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

**APPRENTICE RATE SCHEDULE**

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

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

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

**COMMENTS/NOTES**

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

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

NOTES:

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

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

SHIFT DIFFERENTIALS:

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

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

**County - UNION**

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

**OVERTIME:**

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

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

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

**County - UNION**

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

**PREVAILING WAGE RATE**

See "Electrician" Rates

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

**COMMENTS/NOTES**

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

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

**County - UNION**

**Craft: Electrician- Outside Commercial**

**PREVAILING WAGE RATE**

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

<b>INTERVAL</b>	<b>PERIOD AND RATES</b>									
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	67% of	Appren	tice	Wage	Rate	for all	intervals			

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

**COMMENTS/NOTES**

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

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

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

**County - UNION**

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

**PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

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

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	28.24	30.60	32.95	35.30	37.66	40.01	42.36			
Benefits	24.29	25.67	27.03	28.40	29.77	31.13	32.51			

**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**

	03/17/18
Journeyman	W64.48 B43.36 T107.84

**Craft: Elevator Constructor**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	28.74	35.46	41.91	48.36						
Benefits	34.88	36.07	37.69	39.30						

**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**

	03/17/18
Journeyman	W50.49 B41.66 T92.15

**Craft: Elevator Modernization & Service**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	28.74	27.77	32.82	37.87						
Benefits	34.81	35.13	36.58	38.03						

**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**

	05/25/17	05/01/18	05/01/19
Foreman	W48.81 B23.62 T72.43	W50.81 B23.62 T74.43	W52.81 B23.62 T76.43
General Foreman	W50.81 B23.75 T74.56	W52.81 B23.75 T76.56	W54.81 B23.75 T78.56
Journeyman	W44.81 B23.36 T68.17	W46.81 B23.36 T70.17	W48.81 B23.36 T72.17

**Craft: Glazier                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	50%	55%	60%	65%	70%	75%	80%	90%		
6 Months										
Benefits	8.85	8.85	11.46	11.46	12.88	12.88	16.37	16.37		

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

**Craft: Glazier                      COMMENTS/NOTES**

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.

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

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

**County - UNION**

**Craft: Heat & Frost Insulator**

**PREVAILING WAGE RATE**

	09/27/17
Foreman	W53.77 B31.17 T84.94
General Foreman	W56.32 B32.28 T88.60
Journeyman	W52.49 B30.61 T83.10

**Craft: Heat & Frost Insulator**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	24.40	28.94	34.95	40.96						
Benefits	18.33	21.68	23.89	25.96						

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

**Craft: Heat & Frost Insulator**

**COMMENTS/NOTES**

NOTE: These rates apply to the installing of insulation on hot and cold mechanical systems.

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

**SHIFT DIFFERENTIAL:**

- Shift work must run for a minimum of 5 consecutive workdays.
- Second Shift shall work 7.5 hours and receive 8 hours pay, at the regular rate, plus 25% per hour.
- Third Shift shall work 7 hours and receive 8 hours pay, at the regular rate, plus 30% per hour.

**OVERTIME:**

The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

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

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

County - UNION

**Craft: Heat & Frost Insulator - Asbestos Worker**

**PREVAILING WAGE RATE**

	09/27/17
Asbestos Helper	W34.42
Abatement	B23.37
	T57.79

**Craft: Heat & Frost Insulator - Asbestos Worker**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	HEAT &	FROST	INSULAT OR						

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

**Craft: Heat & Frost Insulator - Asbestos Worker**

**COMMENTS/NOTES**

NOTE: These rates apply only to the removal of insulation materials/asbestos from mechanical systems, including containment erection and demolition, and placing material in appropriate containers.

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

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- The second shift shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 25% per hour.
- The third shift shall work 7 hours and receive 8 hours pay at the regular rate, plus 30% per hour.

**OVERTIME:** The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

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



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

**County - UNION**

**Craft: Ironworker                      PREVAILING WAGE RATE**

	07/01/17
Rod /Fence Foreman	W43.49 B45.02 T88.51
Rod/Fence Journeyman	W40.49 B45.02 T85.51
Structural Foreman	W45.54 B45.02 T90.56
Structural Journeyman	W42.54 B45.02 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.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Saturday, and all hours on Sunday and holidays shall be paid at time and one-half the regular rate.
- Benefits on ALL overtime hours shall be paid at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Good Friday, Easter, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. (Holidays start at 12:00 am).



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

**County - UNION**

**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 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**

As of 3-1-18, benefits shall be \$20.23.  
As of 9-1-18, benefits shall be \$20.28.  
As of 3-1-19, benefits shall be \$21.03.  
As of 3-1-20, benefits shall be \$21.78.

Heavy & General Laborer rates are located in the "Statewide" rate package.

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

County - UNION

**Craft: Laborer-Residential and Modular Construction**

**PREVAILING WAGE RATE**

	04/26/18
* Skilled Tradesman (only applies to Modular Construction)	W25.85 B5.45 T31.30
Foreman (person directing crew, regardless of his skill classification)	W29.85 B5.45 T35.30
Laborer	W21.85 B5.45 T27.30
Laborer (for single family and stand-alone duplex owned by single owner)	W16.35 B2.95 T19.30

**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: 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**

	05/04/17
Foreman	W59.13 B27.67 T86.80
General Foreman	W61.13 B27.67 T88.80
Journeyman	W54.13 B27.67 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**

	12/01/17
Apprentice (1st year)	W25.45 B11.00 T36.45
Apprentice (2nd year)	W29.45 B18.00 T47.45
Foreman (Charge Person)	W37.60 B18.17 T55.77
Journeyman 1 (at least 1 year of working exp. as a journeyman)	W33.33 B18.17 T51.50
Journeyman 2 (at least 2 years of working exp. as a journeyman)	W37.10 B18.17 T55.27

**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**

	08/03/17
Foreman	W43.18 B23.26 T66.44
General Foreman	W47.10 B23.51 T70.61
Journeyman	W39.25 B23.01 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							11.00	11.00	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 - Repainting**

**PREVAILING WAGE RATE**

	05/26/17
Foreman	W31.95 B19.38 T51.33
General Foreman	W34.86 B19.51 T54.37
Journeyman	W29.05 B19.26 T48.31

**Craft: Painter - Repainting**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	NEW	CONSTR UC	TION					

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

**Craft: Painter - Repainting**

**COMMENTS/NOTES**

NOTE: These rates may only be used on jobs where no major alterations (only doing painting and carpeting with nothing else being changed in the office or on the project) occur, and where not more than 3 other trades are present on the job, but may NOT, under any circumstances, be used for work on bridges, stacks, elevated tank, or generating stations.

Spraying, sandblasting, lead abatement, work on tanks or stacks, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

**FOREMEN REQUIREMENTS:**

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

**OVERTIME:**

- Hours in excess of 8 per day and 40 per week shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.
- Four 10-hour days may be worked, at straight time, Monday through Sunday.

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

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

County - UNION

Craft: Painter- Containment

PREVAILING WAGE RATE

	05/04/17
Journeyman	W35.18 B24.75 T59.93

Craft: Painter- Containment

COMMENTS/NOTES

NOTE: These rates shall require no painting, but used in a supporting capacity only, such as wrapping, boxing, fencing, etc. on tanks.

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

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

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

- Four 10-hour days may be worked, at straight time, Monday through Friday.

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

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

**County - UNION**

**Craft: Painter-Elevated Water Tanks**

**PREVAILING WAGE RATE**

	05/04/17
Foreman	W48.92 B24.92 T73.84
General Foreman	W50.92 B24.92 T75.84
Journeyman	W43.92 B24.92 T68.84

**Craft: Painter-Elevated Water Tanks**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

**Craft: Painter-Elevated Water Tanks**

**COMMENTS/NOTES**

These rates apply to: All new and repaint elevated water tanks (interior and exterior).

**FOREMEN REQUIREMENTS:**

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

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

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

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

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

**County - UNION**

**Craft: Painter-Structural Steel**

**PREVAILING WAGE RATE**

	05/04/17
Foreman	W47.87 B25.27 T73.14
General Foreman	W49.87 B25.27 T75.14
Journeyman	W42.87 B25.27 T68.14

**Craft: Painter-Structural Steel**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

**Craft: Painter-Structural Steel**

**COMMENTS/NOTES**

These rates apply to: All work in power plants (any aspect). On steeples, on dams, on hangers, transformers, substations, etc. and on open steel, whether new or repaint. All new work (excluding traditional commercial painting work) in refineries, tank farms, water/sewerage treatment facilities and on pipelines.

**FOREMEN REQUIREMENTS:**

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

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

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

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

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

County - UNION

**Craft: Paperhanger - New Construction**

**PREVAILING WAGE RATE**

	05/26/17
Foreman	W44.20 B23.33 T67.53
Journeyman	W40.19 B23.07 T63.26

**Craft: Paperhanger - New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
4 Months	30%	40%	50%	60%	70%	75%	80%	85%	90%	
Benefits							11.00	11.00	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**

	05/26/17
Foreman	W32.80 B19.42 T52.22
Journeyman	W29.82 B19.29 T49.11

**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**

OVERTIME (Maintenance Work Only):

- All hours in excess of 8 per day, Monday through Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sundays and holidays shall be paid at double time, inclusive of benefits.

NOTE: Maintenance work is work to repair, restore, or improve the efficiency of existing facilities. This does NOT apply to ANY new construction.

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

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

**County - UNION**

**Craft: Plasterer**

**PREVAILING WAGE RATE**

See Bricklayer, Stone Mason Rates

**Craft: Plasterer**

**COMMENTS/NOTES**

\*\*\*See BRICKLAYER, STONE MASON Rates\*\*\*

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

**County - UNION**

**Craft: Plumber                      PREVAILING WAGE RATE**

	05/01/17	05/01/18
Foreman	W56.87 B33.84 T90.71	W58.41 B34.66 T93.07
General Foreman	W60.56 B33.84 T94.40	W62.19 B34.66 T96.85
Journeyman	W52.66 B33.84 T86.50	W54.08 B34.66 T88.74

**Craft: Plumber                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	30%	45%	55%	65%	75%					
Yearly										
Benefits	10.15	15.23	18.61	22.00	25.38					

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

\* Employers may employ 1 apprentice on any job where 1 or 2 journeymen are employed. Thereafter, 1 apprentice may be employed for every 4 journeymen.

**Craft: Plumber                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 5-1-18:

INTERVAL	PERIOD AND RATES				
Yearly	30%	45%	55%	65%	75%
Benefits	13.35	19.71	21.51	23.34	25.13

**FOREMAN REQUIREMENTS:**

- On any job having 2 or more Plumbers, 1 must be designated a Foreman.
- On any job having 9 or more Plumbers, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours between 7:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must continue for a minimum of 5 consecutive workdays.
- When two shifts are worked, the second shift shall work 7.5 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 10%, inclusive of benefits.
- When a third shift is worked, the third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 15%, inclusive of benefits.

**OVERTIME:**

- All hours in excess of 8 per day, or before of after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays, shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a



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

**County - UNION**

day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half, inclusive of benefits.

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

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

**County - UNION**

**Craft: Roofer                      PREVAILING WAGE RATE**

	06/02/17
Foreman	W37.02 B25.78 T62.80
Journeyman	W36.02 B25.78 T61.80

**Craft: Roofer                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	14.40	18.01	21.61	25.21	28.82	32.42				
Benefits	2.13	2.13	23.03	23.03	23.03	23.03				

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

- \* A) For roofing jobs that are of the 1 or single ply nature: 1:2 or fraction thereof
- B) For roofing jobs on new built up roofs: 1:3 or fraction thereof
- C) For roofing jobs that are of a tear-off nature: 1:2 or fraction thereof
- D) For roofing jobs {not requiring complete removal of existing systems, installation done over existing roof}: 1:3 or fraction thereof

**Craft: Roofer                      COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 4-1-17:

INTERVAL	PERIOD AND RATES							
6 Months	14.40	18.01	21.61	23.41	25.21	27.01	28.82	32.42
Benefits	2.13	2.13	23.03	23.03	23.03	23.03	23.03	23.03

Pitch: +.50 per hour

Mop Man: +.30 per hour

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

**OVERTIME:**

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

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

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

**County - UNION**

**Craft: Sheet Metal Sign Installation**

**PREVAILING WAGE RATE**

	04/01/18
Foreman	W35.79 B33.00 T68.79
Journeyman	W34.54 B33.00 T67.54

**Craft: Sheet Metal Sign Installation**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 hours	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
Benefits	10.44	11.89	13.34	14.82	16.68	18.17	19.66	21.16	22.65	24.14

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

**Craft: Sheet Metal Sign Installation**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 4-1-18:

INTERVAL	PERIOD AND RATES									
1000 Hours	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
Benefits	11.17	12.73	14.30	15.86	17.82	19.43	21.03	22.63	24.23	25.82

**FOREMAN REQUIREMENT:**

When there are 6 or more Sheet Metal Sign Installers on a job, 1 shall be designated a Foreman.

The regular workday consists of 8 hours, between 7:00 AM and 3:30 PM.

**OVERTIME:**

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

Four(4) 10 hour days may be worked, Monday through Friday, at straight time, for projects lasting at least one week in duration. The fifth day may be used as a make-up day at straight time for a day lost due to inclement weather. However, if the fifth day is not a make-up day, all hours worked will be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

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

**County - UNION**

**Craft: Sheet Metal Worker**

**PREVAILING WAGE RATE**

	07/07/17
Foreman	W49.95 B41.27 T91.22
General Foreman	W50.95 B41.27 T92.22
Journeyman	W46.45 B41.27 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**

	01/23/18
Foreman	W63.38 B27.67 T91.05
General Foreman	W66.39 B27.67 T94.06
Journeyman	W59.28 B27.67 T86.95

**Craft: Sprinkler Fitter**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	10.50	12.25	50%	55%	60%	65%	70%	75%	80%	85%
1000 Hours	10.50	12.25	50%	55%	60%	65%	70%	75%	80%	85%
Benefits	11.27	11.27	22.67	22.67	22.67	22.67	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	11.27	11.27	22.67	22.67	22.67	22.67	Intervals	7 to 10	receive	Journeyman Ben.

**Craft: Sprinkler Fitter**

**COMMENTS/NOTES**

The regular workday consists of 8 consecutive hours between 6:00 AM and 4:30 PM.

**FOREMAN REQUIREMENTS:**

- The first Sprinkler Fitter on the job must be designated a Foreman.
- On any job having 12 or more Sprinkler Fitters, one must be designated a General Foreman.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 2 consecutive workdays.
- 2nd and 3rd shift shall receive an additional 15% of the regular rate, per hour.
- Any "off hours" shift starting at 8:00 PM or later shall receive an additional 25% of the regular rate, per hour.

**OVERTIME:**

The first 2 hours in excess of 8 per day, after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate. Hours worked in excess of 10 per day, Monday through Friday, and all hours on Saturday, Sunday and holidays, shall be paid double the regular rate.  
Four 10 hour days may be worked, Monday through Friday, at straight-time.

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

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

**County - UNION**

**Craft: Tile Finisher-Marble**

**PREVAILING WAGE RATE**

	01/01/18
Finisher	W46.66 B34.18 T80.84

**Craft: Tile Finisher-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 Finisher-Marble**

**COMMENTS/NOTES**

**OVERTIME:**

Hours in excess of 7 per day, Monday through Friday, and the first 7 hours on Saturdays shall be paid at time and one half the regular rate, inclusive of benefits. Hours in excess of 7 on Saturdays and all hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.



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

**County - UNION**

**Craft: Tile Setter - Ceramic**

**PREVAILING WAGE RATE**

	12/04/17
Finisher	W44.14 B29.76 T73.90
Setter	W57.27 B33.02 T90.29

**Craft: Tile Setter - Ceramic**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	35%	40%	50%	55%	60%	65%	70%	75%	80%	90%

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

**Craft: Tile Setter - Ceramic**

**COMMENTS/NOTES**

**OVERTIME:**

Hours in excess of 7 per day, and the first 10 hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Saturdays after 10 hours shall be paid double the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

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

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

**County - UNION**

**Craft: Tile Setter - Marble**

**PREVAILING WAGE RATE**

	01/01/18
Tile Setter	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**

	01/01/18
Grinder or Assistant	W53.45 B34.90 T88.35
Mechanic	W55.05 B34.92 T89.97
Terrazzo Resinous Worker	W45.90 B28.27 T74.17

**Craft: Tile Setter - Mosaic & Terrazzo**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	50%	55%	60%	65%	70%	75%	85%	95%	100%	

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

**Craft: Tile Setter - Mosaic & Terrazzo**

**COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM ON OR AFTER 1-1-18:

INTERVAL	PERIOD AND RATES						
1500 Hours	35%	45%	60%	70%	80%	90%	100%

The regular workday consists of 7 hours, between 8:00 AM and 3:30 PM.

**OVERTIME:**

- Hours in excess of 7 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Monday after Easter, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

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

**County - UNION**

**Craft: Truck Driver**

**PREVAILING WAGE RATE**

	11/01/17	05/01/18	11/01/18
Bucket, Utility, Pick-up, Fuel Delivery trucks	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Dump truck, Asphalt Distributor, Tack Spreader	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Euclid-type vehicles (large, off-road equipment)	W36.98 B34.58 T71.56	W37.41 B35.40 T72.81	W37.81 B35.80 T73.61
Helper on Asphalt Distributor truck	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Straight 3-axle truck	W36.88 B34.58 T71.46	W37.31 B35.40 T72.71	W37.71 B35.80 T73.51
Tractor Trailer (all types)	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)	W36.83 B34.58 T71.41	W37.26 B35.40 T72.66	W37.66 B35.80 T73.46
Winch Trailer	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 : 03/31/2020**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**OPERATING ENGINEERS**     **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
48.98	31.70	80.68	82.03	83.03	85.38

**CLASSIFICATIONS:**

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder, Tree Shearer

Bulldozer, finish grade

Cableway

Carryall

Concrete Pump

Concrete Pumping System (Pumpcrete & similar types)

Conveyor, 125 feet or longer

Drill Doctor (Duties include dust collector and maintenance)

Front End Loader (2 cu. yds. but less than 5 cu. yds.)

Grader, finish

Groove Cutting Machine (ride-on type)

Heater Planer

Hoist: Outside Material Tower Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type) \* receives an additional \$1.00 per hour on 100 ft. up to 199 ft. total height, and an additional \$2.00 per hour on 200 ft. and over total height.

Hydraulic Crane (10 tons & under)

Hydraulic Dredge

Hydro-Axe

Hydro-Blaster

**OPERATING ENGINEERS**     **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

	<b>01/01/2018</b>		<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
48.98	31.70	80.68	82.03	83.03	85.38

**CLASSIFICATIONS:**

Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)

Log Skidder

Pan

Paver, concrete

Plate & Frame Filter Press

Pumpcrete (unit type)

Pumpcrete, Squeezecrete, or Concrete Pumping machine (regardless of size)

Scraper

Side Boom

Straddle Carrier (Ross and similar types)

Whiphammer

Winch Truck (hoisting)

**OPERATING ENGINEERS**    **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
47.07	31.70	78.77	80.12	81.12	83.47

**CLASSIFICATIONS:**

- Asphalt Curbing Machine
- Asphalt Plant Engineer
- Asphalt Spreader
- Autograde Curb Trimmer & Sidewalk Shoulder Slipform (CMI & similar types)
- Autograde Curecrete Machine (CMI & similar types)
- Autograde Tube Finisher & Texturing Machine (CMI & similar types)
- Bar Bending Machines (Power)
- Batcher, Batching Plant, & Crusher [On Site]
- Belt Conveyor System
- Boom-Type Skimmer Machine
- Bridge Deck Finisher
- Bulldozer (all sizes)
- Captain (Power Boats)
- Car Dumper (railroad)
- Compressor & Blower unit for loading/unloading of concrete, cement, fly ash, or similar type materials (used independently or truck-mounted)
- Compressor (2 or 3 battery)
- Concrete Breaking Machine
- Concrete Cleaning/Decontamination Machine
- Concrete Finishing Machine
- Concrete Saw or Cutter (ride-on type)
- Concrete Spreader (Hetzl, Rexomatic & similar types)
- Concrete Vibrator



**OPERATING ENGINEERS**    **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
47.07	31.70	78.77	80.12	81.12	83.47

**CLASSIFICATIONS:**

- Conveyors - under 125 feet
- Crane Signalman
- Crushing Machine
- Directional Boring Machine
- Ditching Machine - Small (Ditchwitch, Vermeer or similar types)
- Dope Pot - Mechanical (with or without pump)
- Dumpster
- Elevator
- Fireman
- Fork Lift (Economobile, Lull & similar types)
- Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)
- Generator (2 or 3 battery)
- Giraffe Grinder
- Goldhofer/Hydraulic Jacking Trailer
- Grader & Motor Patrols
- Grout Pump
- Gunnite Machine (Excluding nozzle)
- Hammer - Vibratory (in conjunction with generator)
- Heavy Equipment Robotics - Operator/Technician
- Hoist (roof, tigger, aerial platform hoist, house car)
- Hopper
- Hopper Doors (power operated)
- Ladder (motorized)

**OPERATING ENGINEERS**    **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
47.07	31.70	78.77	80.12	81.12	83.47

**CLASSIFICATIONS:**

Laddervator

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

Pavement Breaker (truck-mounted or small self-propelled  
ride-on type)

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Rod Bending Machines

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

**OPERATING ENGINEERS**     Rates Expiration Date : 03/31/2020

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
47.07	31.70	78.77	80.12	81.12	83.47

**CLASSIFICATIONS:**

Tug Captains

Tug Master (Power Boats)

Ultra High Pressure Waterjet Cutting Tool System -  
Operator/Maintenance Technician

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
43.73	31.70	75.43	76.78	77.78	80.13

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Tire Repair & Maintenance

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
41.15	31.70	72.85	74.20	75.20	77.55

**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 : 03/31/2020**

**Effective Dates:**

	<b>01/01/2018</b>		<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
51.31	31.70	83.01	84.36	85.36	87.71

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

**OPERATING ENGINEERS**    **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

	01/01/2018		07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
50.57	31.70	82.27	83.62	84.62	86.97

**CLASSIFICATIONS:**

- Autograde Pavement Profiler (CMI & similar types)
- Autograde Pavement Profiler - Recycle Type (CMI & similar types)
- Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)
- Autograde Slipform Paver (CMI & similar types)
- Backhoe (Excavator)
- Central Power Plant
- Concrete Paving Machine
- Cranes, Derricks, Pile Drivers (all types), under 100 tons with a boom (including jib and/or leads) under 100 ft.
- Draglines
- Drill, Bauer, AMI and similar types
- Drillmaster, Quarrymaster
- Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill
- Elevator Grader
- Field Engineer-Chief of Party
- Front End Loader (5 cu. yards or larger)
- Gradall
- Grader, Rago
- Helicopter Co-Pilot
- Helicopter Communications Engineer
- Juntann Pile Driver
- Locomotive (large)
- Mucking Machine

**OPERATING ENGINEERS**     **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
50.57	31.70	82.27	83.62	84.62	86.97

**CLASSIFICATIONS:**

Pavement & Concrete Breaker (Superhammer & Hoe Ram)

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

Vacuum Truck



**OPERATING ENGINEERS**    **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
45.44	31.70	77.14	78.49	79.49	81.84

**CLASSIFICATIONS:**

- Chipper
- Compressor (single)
- Concrete Spreader (small type)
- Conveyor Loader (Except elevator graders)
- Engines, Large Diesel (1620 HP) & Staging Pump
- Farm Tractor
- Fertilizing Equipment (operation & maintenance)
- Fine Grade Machine (small type)
- Form Line Grader (small type)
- Front End Loader (under 1 cubic yard)
- Generator (single)
- Grease, Gas, Fuel, & Oil Supply Trucks
- Heaters (Nelson or other type)
- Lights - portable generating light plant
- Mixer, Concrete (small)
- Mulching Equipment (operation & maintenance)
- Power Broom or Sweeper
- Pump (diesel engine & hydraulic - regardless of power)
- Pump (larger than 2 inch suction, including submersible pumps)
- Road Finishing Machine (small type)
- Roller - grade, fill, or stone base
- Seeding Equipment (operation & maintenance)
- Sprinkler & Water Pump Trucks

**OPERATING ENGINEERS**     **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
45.44	31.70	77.14	78.49	79.49	81.84

**CLASSIFICATIONS:**

- Steam Generator or Boiler
- Stone Spreader
- Tamping Machine (vibrating ride-on type)
- Temporary Heating Plant (Nelson or other type, including propane, 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:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
52.39	31.70	84.09	85.44	86.44	88.79

**CLASSIFICATIONS:**

- Helicopter Pilot/Engineer

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
57.07	31.70	88.77	90.12	91.12	93.47

**CLASSIFICATIONS:**

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

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
56.07	31.70	87.77	89.12	90.12	92.47

**CLASSIFICATIONS:**

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

**OPERATING ENGINEERS**     **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
52.57	31.70	84.27	85.62	86.62	88.97

**CLASSIFICATIONS:**

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

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
55.07	31.70	86.77	88.12	89.12	91.47

**CLASSIFICATIONS:**

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

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
51.57	31.70	83.27	84.62	85.62	87.97

**CLASSIFICATIONS:**

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

**STRUCTURAL STEEL ERECTION**     **Rates Expiration Date : 03/31/2020**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

	<b>01/01/2018</b>		<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
54.20	31.70	85.90	87.25	88.25	90.60

**CLASSIFICATIONS:**

Helicopter Co-Pilot & Communications Engineer

**STRUCTURAL STEEL ERECTION**     **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
50.14	31.70	81.84	83.19	84.19	86.54

**CLASSIFICATIONS:**

A-Frame

Cherry Picker -10 tons or less (Over 10 tons use crane rate)

Hoist (all types Except Chicago-boom)

Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)

Side Boom

Straddle Carrier

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
47.48	31.70	79.18	80.53	81.53	83.88

**CLASSIFICATIONS:**

- Aerial Platform Used On Hoists
- Apprentice Engineer/Oiler with Compressor or Welding Machine
- Captain (Power Boats)
- Compressor (2 or 3 in battery)
- Concrete Cleaning/Decontamination Machine Operator
- Conveyor or Tugger Hoist
- Directional Boring Machine
- Elevator or House Car
- Fireman
- Forklift
- Generator (2 or 3)
- Heavy Equipment Robotics, Operator/Technician
- Maintenance Utility Man
- Master Environmental Maintenance Technician
- Tug Master (Power Boats)
- Ultra High Pressure Waterjet Cutting Tool System Operator/Maintenance Technician
- Vacuum Blasting Machine Operator/Maintenance Technician
- Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels



**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
45.95	31.70	77.65	79.00	80.00	82.35

**CLASSIFICATIONS:**

Compressor (Single)

Generators

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

Welding System, Multiple (Rectifier Transformer Type)

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
44.19	31.70	75.89	77.24	78.24	80.59

**CLASSIFICATIONS:**

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
51.76	31.70	83.46	84.81	85.81	88.16

**CLASSIFICATIONS:**

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

**Effective Dates:**

01/01/2018			07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
41.15	31.70	72.85	74.20	75.20	77.55

**CLASSIFICATIONS:**

Field Engineer - Rodman or Chainman

**STRUCTURAL STEEL ERECTION**      **Rates Expiration Date : 03/31/2020**

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
50.90	31.70	82.60	83.95	84.95	87.30

**CLASSIFICATIONS:**

Field Engineer-Chief of Party

Vacuum Truck

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
59.09	31.70	90.79	92.14	93.14	95.49

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) 100 tons and over and Tower Cranes.

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
57.43	31.70	89.13	90.48	91.48	93.83

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), 100 tons and over and Tower Crane.

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
54.59	31.70	86.29	87.64	88.64	90.99

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
52.93	31.70	84.63	85.98	86.98	89.33

**CLASSIFICATIONS:**

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

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

STRUCTURAL STEEL ERECTION      Rates Expiration Date : 03/31/2020

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
54.59	31.70	86.29	87.64	88.64	90.99

**CLASSIFICATIONS:**

Helicopter Pilot & Engineer

**TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST**      **Rates Expiration Date : 03/31/2020**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

**OVERTIME:**

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

**Effective Dates:**

	01/01/2018		07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
50.57	31.70	82.27	83.62	84.62	86.97

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

	01/01/2018		07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total
43.73	31.70	75.43	76.78	77.78	80.13

**CLASSIFICATIONS:**

Driller's Helper

**FREE AIR TUNNEL JOBS**     **Rates Expiration Date : 02/28/2021**

{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:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
42.00	29.73	71.73	73.03	75.78	78.28

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
41.70	29.73	71.43	72.73	75.48	77.98

**CLASSIFICATIONS:**

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

**FREE AIR TUNNEL JOBS**      **Rates Expiration Date : 02/28/2021**

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
41.20	29.73	70.93	72.23	74.98	77.48

**CLASSIFICATIONS:**

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

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
43.70	29.73	73.43	74.73	77.48	79.98

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
40.65	29.73	70.38	71.68	74.43	76.93

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
40.30	29.73	70.03	71.33	74.08	76.58

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
40.15	29.73	69.88	71.18	73.93	76.43

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY  
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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
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FREE AIR TUNNEL JOBS      Rates Expiration Date : 02/28/2021

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
39.75	29.73	69.48	70.78	73.53	76.03

**CLASSIFICATIONS:**

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



**DRILL FOR GROUND WATER SUPPLY**     **Rates Expiration Date : 03/31/2020**

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:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
49.32	31.70	81.02	82.37	83.37	85.72

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

<b>01/01/2018</b>			<b>07/01/2018</b>	<b>01/01/2019</b>	<b>07/01/2019</b>
Rate	Fringe	Total	Total	Total	Total
42.48	31.70	74.18	75.53	76.53	78.88

**CLASSIFICATIONS:**

Driller's Helper

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

NOTE: These wage rates only apply to dredging and other marine construction activities occurring in navigable waters and their tributaries.

Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.

**OVERTIME:**

Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**Effective Dates:**

**10/01/2017**

Rate	Fringe	Total
38.18	14.33	52.51

**CLASSIFICATIONS:**

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

**Effective Dates:**

**10/01/2017**

Rate	Fringe	Total
33.03	13.92	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:**

**10/01/2017**

Rate	Fringe	Total
31.09	13.77	44.86

**CLASSIFICATIONS:**

Certified Welder

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

**Effective Dates:**

**10/01/2017**

Rate	Fringe	Total
30.24	13.40	43.64

**CLASSIFICATIONS:**

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

**Effective Dates:**

**10/01/2017**

Rate	Fringe	Total
29.26	13.32	42.58

**CLASSIFICATIONS:**

Boat Operator

**Effective Dates:**

**10/01/2017**

Rate	Fringe	Total
24.30	12.62	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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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
PREVAILING WAGE RATE DETERMINATION

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 : 02/28/2021**

"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:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
41.50	29.73	71.23	72.53	75.28	77.78

**CLASSIFICATIONS:**

Paving Foreman

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
40.05	29.73	69.78	71.08	73.83	76.33

**CLASSIFICATIONS:**

Head Raker

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.90	29.73	69.63	70.93	73.68	76.18

**CLASSIFICATIONS:**

Raker, Screedman, Luteman

ASPHALT LABORERS - SOUTH     Rates Expiration Date : 02/28/2021

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.65	29.73	69.38	70.68	73.43	75.93

**CLASSIFICATIONS:**

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

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.75	29.73	69.48	70.78	73.53	76.03

**CLASSIFICATIONS:**

Milling Controller

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.95	29.73	69.68	70.98	73.73	76.23

**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:**

**10/17/2017**

Rate	Fringe	Total
31.62	25.55	57.17

**CLASSIFICATIONS:**

Helper (4th year helper)

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
39.69	25.55	65.24

**CLASSIFICATIONS:**

Driller

**Effective Dates:**

**10/17/2017**

Rate	Fringe	Total
45.73	25.55	71.28

**CLASSIFICATIONS:**

Foreman

**HEAVY & GENERAL LABORERS - NORTH**     **Rates Expiration Date : 02/28/2021**

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:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.25	29.73	68.98	70.28	73.03	75.53

**CLASSIFICATIONS:**

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.95	29.73	69.68	70.98	73.73	76.23

**CLASSIFICATIONS:**

"C" Rate:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; traffic control coordinator; asphalt raker or lute man

**HEAVY & GENERAL LABORERS - NORTH**      **Rates Expiration Date : 02/28/2021**

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
40.20	29.73	69.93	71.23	73.98	76.48

**CLASSIFICATIONS:**

"B" Rate:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
43.75	29.73	73.48	74.78	77.53	80.03

**CLASSIFICATIONS:**

"A" Rate:

blaster

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
41.50	29.73	71.23	72.53	75.28	77.78

**CLASSIFICATIONS:**

"FOREMAN" Rate:

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

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
42.50	29.73	72.23	73.53	76.28	78.78

**CLASSIFICATIONS:**

"GENERAL FOREMAN" Rate

**HEAVY & GENERAL LABORERS - SOUTH**    **Rates Expiration Date : 02/28/2021**

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:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.25	29.73	68.98	70.28	73.03	75.53

**CLASSIFICATIONS:**

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

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.25	29.73	68.98	70.28	73.03	75.53

**CLASSIFICATIONS:**

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

**HEAVY & GENERAL LABORERS - SOUTH**      **Rates Expiration Date : 02/28/2021**

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
39.95	29.73	69.68	70.98	73.73	76.23

**CLASSIFICATIONS:**

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
39.95	29.73	69.68	70.98	73.73	76.23

**CLASSIFICATIONS:**

wagon or directional drill operator; drill master

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
43.75	29.73	73.48	74.78	77.53	80.03

**CLASSIFICATIONS:**

blaster

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
41.50	29.73	71.23	72.53	75.28	77.78

**CLASSIFICATIONS:**

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

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
42.50	29.73	72.23	73.53	76.28	78.78

**CLASSIFICATIONS:**

general foreman

TERRITORY  
ENTIRE STATE

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

**HEAVY & GENERAL LABORERS - SOUTH**      **Rates Expiration Date : 02/28/2021**

**Effective Dates:**

<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
40.20	29.73	69.93	71.23	73.98	76.48

**CLASSIFICATIONS:**

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man

**PIPELINE - MAINLINE TRANSMISSION**     **Rates Expiration Date : 06/03/2018**

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:**

**06/05/2017**

Rate	Fringe	Total
54.58	28.97	83.55

**CLASSIFICATIONS:**

Pipeline Journeyman Welder



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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT  
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PIPELINE - MAINLINE TRANSMISSION      Rates Expiration Date : 06/03/2018

**Effective Dates:**

**06/05/2017**

Rate	Fringe	Total
54.58	28.97	83.55

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

**06/05/2017**

Rate	Fringe	Total
33.27	19.97	53.24

**CLASSIFICATIONS:**

Pipeline Helper

**PIPELINE - GAS DISTRIBUTION**     **Rates Expiration Date : 10/31/2020**

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

**SHIFT DIFFERENTIALS:**

An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

**OVERTIME:**

Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

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

**Effective Dates:**

	<b>11/05/2017</b>		<b>11/01/2018</b>	<b>11/01/2019</b>
Rate	Fringe	Total	Total	Total
58.83	22.55	81.38	82.96	84.63

**CLASSIFICATIONS:**

Pipeline Journeyman Welder

**Effective Dates:**

	<b>11/05/2017</b>		<b>11/01/2018</b>	<b>11/01/2019</b>
Rate	Fringe	Total	Total	Total
58.83	22.55	81.38	82.96	84.63

**CLASSIFICATIONS:**

Pipeline Journeyman

**Effective Dates:**

	<b>11/05/2017</b>		<b>11/01/2018</b>	<b>11/01/2019</b>
Rate	Fringe	Total	Total	Total
37.68	16.74	54.42	56.00	57.67

**CLASSIFICATIONS:**

Pipeline Helper

**ASPHALT LABORERS- NORTH**     **Rates Expiration Date : 02/28/2021**

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:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
41.50	29.73	71.23	72.53	75.28	77.78

**CLASSIFICATIONS:**

Asphalt Foreman

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
40.20	29.73	69.93	71.23	73.98	76.48

**CLASSIFICATIONS:**

Asphalt Screedman

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.95	29.73	69.68	70.98	73.73	76.23

**CLASSIFICATIONS:**

Asphalt Raker or Lute Man

TERRITORY  
ENTIRE STATE

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

ASPHALT LABORERS- NORTH      Rates Expiration Date : 02/28/2021

Effective Dates:

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
39.25	29.73	68.98	70.28	73.03	75.53

CLASSIFICATIONS:

Asphalt Laborer

**ELECTRICIAN- UTILITY WORK (NORTH)**     **Rates Expiration Date : 11/30/2021**

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:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
53.70	35.97	89.67	92.06	94.45	96.84

**CLASSIFICATIONS:**

Chief Lineman

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
50.66	33.94	84.60	86.85	89.11	91.36

**CLASSIFICATIONS:**

Journeyman Lineman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date : 11/30/2021**

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
50.66	33.94	84.60	86.85	89.11	91.36

**CLASSIFICATIONS:**

Special License Operator

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
50.16	33.60	83.76	85.98	88.22	90.44

**CLASSIFICATIONS:**

Transit Man

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
48.64	32.58	81.22	83.38	85.53	87.70

**CLASSIFICATIONS:**

Line Equipment Operator

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
42.56	28.51	71.07	72.96	74.84	76.73

**CLASSIFICATIONS:**

Dynamite Man

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
63.33	42.43	105.76	108.56	111.38	114.19

**CLASSIFICATIONS:**

General Foreman

**Effective Dates:**

	12/05/2017		12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
58.26	39.03	97.29	99.88	102.47	105.05

**CLASSIFICATIONS:**

Assistant General Foreman

**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date : 11/30/2021**

**Effective Dates:**

12/05/2017			12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
56.74	38.01	94.75	97.27	99.79	102.32

**CLASSIFICATIONS:**

Line Foreman

**Effective Dates:**

12/05/2017			12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
41.04	27.49	68.53	70.35	72.17	73.99

**CLASSIFICATIONS:**

Street Light Mechanical Leader

**Effective Dates:**

12/05/2017			12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
39.01	26.13	65.14	66.88	68.62	70.34

**CLASSIFICATIONS:**

Groundman Winch Operator

**Effective Dates:**

12/05/2017			12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
39.01	26.13	65.14	66.88	68.62	70.34

**CLASSIFICATIONS:**

Groundman Truck Operator

**Effective Dates:**

12/05/2017			12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
38.51	25.80	64.31	66.01	67.71	69.43

**CLASSIFICATIONS:**

Street Light Mechanic

**Effective Dates:**

12/05/2017			12/02/2018	12/01/2019	11/29/2020
Rate	Fringe	Total	Total	Total	Total
38.51	25.80	64.31	66.01	67.71	69.43

**CLASSIFICATIONS:**

Line Equipment Mechanic



**ELECTRICIAN- UTILITY WORK (NORTH)**      **Rates Expiration Date : 11/30/2021**

**Effective Dates:**

<b>12/05/2017</b>			<b>12/02/2018</b>	<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total	Total
32.93	22.06	54.99	56.46	57.91	59.38

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

<b>12/05/2017</b>			<b>12/02/2018</b>	<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total	Total
30.40	20.36	50.76	52.12	53.47	54.80

**CLASSIFICATIONS:**

Groundman 1st Year

**Effective Dates:**

<b>12/05/2017</b>			<b>12/02/2018</b>	<b>12/01/2019</b>	<b>11/29/2020</b>
Rate	Fringe	Total	Total	Total	Total
50.16	33.60	83.76	85.98	88.22	90.44

**CLASSIFICATIONS:**

Line Equipment Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 12/04/2021**

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:**

**12/03/2017**

Rate	Fringe	Total
60.25	46.05	106.30

**CLASSIFICATIONS:**

General Foreman

**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date : 12/04/2021**

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
53.66	42.21	95.87

**CLASSIFICATIONS:**

Foreman

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
50.84	40.58	91.42

**CLASSIFICATIONS:**

Small Job Foreman

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
47.07	38.39	85.46

**CLASSIFICATIONS:**

Heavy Equipment Operator

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
47.07	38.39	85.46

**CLASSIFICATIONS:**

Cable Splicer

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
47.07	38.39	85.46

**CLASSIFICATIONS:**

Journeyman Lineman

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
47.07	38.39	85.46

**CLASSIFICATIONS:**

Journeyman Welder

**ELECTRICIAN- UTILITY WORK (SOUTH)**      **Rates Expiration Date : 12/04/2021**

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
47.07	38.39	85.46

**CLASSIFICATIONS:**

Journeyman Painter

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
37.66	32.92	70.58

**CLASSIFICATIONS:**

Light Equipment Operator

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
32.95	30.18	63.13

**CLASSIFICATIONS:**

Groundman Truck Driver

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
30.60	28.82	59.42

**CLASSIFICATIONS:**

Groundman 3rd Year

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
28.24	27.44	55.68

**CLASSIFICATIONS:**

Groundman 2nd Year

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
25.89	26.08	51.97

**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 : 12/04/2021

**Effective Dates:**

**12/03/2017**

Rate	Fringe	Total
20.71	23.07	43.78

**CLASSIFICATIONS:**

Flagman

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**      **Rates Expiration Date : 02/28/2021**

**\*\*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:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
63.00	29.73	92.73	94.41	97.91	101.16

**CLASSIFICATIONS:**

Walking Boss & Superintendent

**Effective Dates:**

	03/01/2018		09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
62.55	29.73	92.28	93.96	97.46	100.71

**CLASSIFICATIONS:**

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

**HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS**      **Rates Expiration Date : 02/28/2021**

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
61.80	29.73	91.53	93.21	96.71	99.96

**CLASSIFICATIONS:**

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

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
65.55	29.73	95.28	96.96	100.46	103.71

**CLASSIFICATIONS:**

Blaster

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
60.98	29.73	90.71	92.38	95.88	99.13

**CLASSIFICATIONS:**

Top Labor Foreman

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
60.45	29.73	90.18	91.86	95.36	98.61

**CLASSIFICATIONS:**

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

**Effective Dates:**

03/01/2018			09/01/2018	03/01/2019	03/01/2020
Rate	Fringe	Total	Total	Total	Total
60.23	29.73	89.96	91.63	95.13	98.38

**CLASSIFICATIONS:**

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY  
ENTIRE STATE

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

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS      Rates Expiration Date : 02/28/2021

**Effective Dates:**

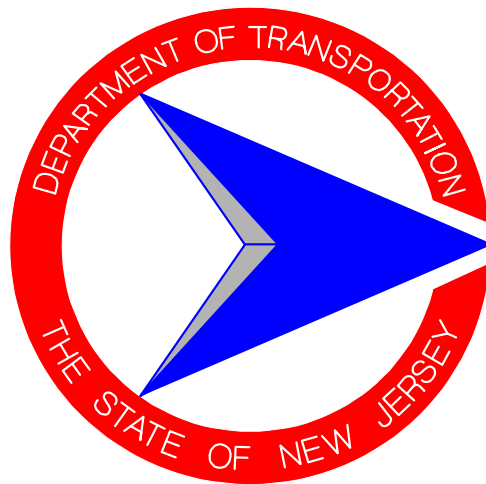
<b>03/01/2018</b>			<b>09/01/2018</b>	<b>03/01/2019</b>	<b>03/01/2020</b>
Rate	Fringe	Total	Total	Total	Total
59.63	29.73	89.36	91.03	94.53	97.78

**CLASSIFICATIONS:**

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



# **State of New Jersey Department of Transportation**



## **Special Provisions For State Aid Projects**

**Chris Christie**  
Governor

**Kim Guadagno**  
Lt. Governor

**Richard T. Hammer**  
Acting Commissioner

**Edition 2011**

**SPECIAL PROVISIONS  
FOR  
STATE AID PROJECTS**

**FOR THE \_\_\_\_\_ OF**

\_\_\_\_\_  
**IN THE \_\_\_\_\_ OF \_\_\_\_\_**

**COUNTY OF \_\_\_\_\_**

**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](http://lwd.dol.state.nj.us/labor/wagehour/wagehour_index.html). The State wage rates in effect at the time of award will be made a part of this Contract, pursuant to Chapter 150, Laws of 1963 (NJSA 34:11-56.25, *et seq.*).

In the event it is found that any employee of the contractor or any subcontractor covered by the contract, has been paid a rate of wages less than the minimum wage required to be paid by the contract, the contracting agency may terminate the contractor's or subcontractor's right to proceed with the work, or such part of the work, as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise. The contractor and his sureties shall be liable to the contracting agency for any excess costs occasioned thereby.

**GENERAL**

-----  
All awards shall be made subject to the approval of the New Jersey Department of Transportation. No construction shall start before approval of said award by the New Jersey Department of Transportation. Prior to the start of construction the contractor must submit a Material Questionnaire (SA-11) listing all sources of materials. Any materials used on the project from a non-approved New Jersey Department of Transportation source will be considered non-participating. The contractor is also notified that the District Office, Division of Local Aid and Economic Development must be notified of the construction commencement date at least three (3) calendar days prior to the start of construction.

Award of contract and subletting will not be permitted to, materials will not be permitted from, and use of equipment will not be permitted that is owned and/or operated by, firms and individuals included in the report of suspensions, debarments and disqualifications of firms and individuals as maintained by the Department of the Treasury, General Services Administration, CN-039, Trenton NJ 08625 (609-292-5400).

Payment for a pay item in the proposal includes all the compensation that will be made for the work of that item as described in the contract documents unless the "measurement and payment" clause provides that certain work essential to that item will be paid for under another pay item.

Whenever any section, subsection, subpart or subheading is amended by such terms as changed to, deleted or added it is construed to mean that it amends that section, subsection, subpart or subheading of the 20047 Standard Specifications unless otherwise noted.

Whenever reference to page number is made, it is construed to refer to the 20047 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.

\*\*\*\*\*  
**SECTION 401 –HOT MIX ASPHALT (HMA) COURSES**  
**ALTERNATE SUBSECTIONS 401.03.03 H, I AND J**  
**FOR**  
**STATE AID PROJECTS**  
\*\*\*\*\*

**401.03.03 H AIR VOIDS ACCEPTANCE PLAN**

THIS SUBSECTION IS REPLACED BY THE FOLLOWING:

**H. Air Void Requirements.**

Pavement lots are defined as approximately 15,000 square yards of pavement in Surface area. If pavement lot area is less than 5000 square yards, the Regional District Local Aid Office may waive the air voids requirements.

The RE will designate an independent testing agency (Laboratory) to perform the quality assurance sampling, testing and analysis. The Laboratory is required to be accredited by the AASHTO Accreditation Program ([www.amrl.net](http://www.amrl.net)). The Laboratory’s accreditation must include AASHTO T 166 and AASHTO T 209.

The Laboratory Technician who performs the quality assurance sampling shall be certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Plant Technologist, Level 1.

The Laboratory will determine air voids from 5 (Five) 6 inch diameter cores taken from each lot in random locations within the traveled way and at least one core in each travel lane. The Laboratory will determine air voids of cores from the values for the maximum specific gravity of the mix and the bulk specific gravity of the core. The Laboratory will determine the maximum specific gravity of the mix according to NJDOT B-3 and AASHTO T 209, except that minimum sample size may be waived in order to use a 6-inch diameter core sample. The Laboratory will determine the bulk specific gravity of the compacted mixture by testing each core according to AASHTO T 166.

The Laboratory will calculate the in-place air voids of each completed lot outside the acceptable range of 2 percent air voids to 8 percent air voids.

The RE will assess a reduction in lot due to nonconformance to air voids according to the Table 401.03.03-3.

<b>Table 401.03.03-3 Reduction for Nonconformance to Air Voids Requirements</b>	
<b>Lot Average Air Void Value (Five Samples)</b>	<b>Reduction Per Lot (Percent of Lot)</b>
0.0 to 1.9	10
2.0 to 8.0	0
8.1 to 9.0	5
9.1 to 10.0	15
10.1 to 12.0	30
Over 12.0	Remove & Replace

If the average air voids for the lot is greater than 12.0 percent, remove and replace the lot. The replacement work is subject to the same requirements as the initial work.

**401.03.03 I THICKNESS REQUIREMENTS**

\*\*\*\*\*  
**ADD THE FOLLOWING FOR RESURFACING PROJECTS.**  
\*\*\*\*\*

THIS SUBSECTION IS DELETED. IN NO INSTANCE WILL A COMPACTED AVERAGE THICKNESS OF LESS THAN 1.25 INCHES BE ACCEPTABLE.

\*\*\*\*\*  
**ADD THE FOLLOWING FOR NEW CONSTRUCTION, COMPLETE RECONSTRUCTION OR WIDENINGS  
 GREATER THAN EIGHT FEET.**  
 \*\*\*\*\*

THIS SUBSECTION IS REPLACED BY THE FOLLOWING:

**I. Thickness Requirements.**

Thickness requirements will apply when full-depth, uniform-thickness HMA pavement construction is shown.

Pavement lots are defined as approximately 15,000 square yards of pavement area. The Engineer will not include areas consisting of different HMA mixtures or thicknesses in the same lot. If thickness lot area is less than 5000 square yards, the Regional District Local Aid Office may waive the thickness requirements.

The RE will designate an independent testing agency (Laboratory) to perform the quality assurance sampling, testing and analysis. The Laboratory is required to be accredited by the AASHTO Accreditation Program ([www.amrl.net](http://www.amrl.net)). The Laboratory’s accreditation must include AASHTO T 166 and AASHTO T 209.

The Laboratory Technician who performs the quality assurance sampling shall be certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Plant Technologist, Level 1.

The Laboratory will test for thickness using the full-depth cores taken for surface course air voids, evaluated according to NJDOT B-4. The Laboratory will base acceptance on total thickness and thickness of the surface course.

1. **Total Thickness.** The Laboratory will calculate the percent defective (PD) as the percentage of the lot that is less than the design thickness. The Department will base total thickness acceptance on the percentage of the lot estimated to fall below the specified thickness as follows:

- a. **Sample Mean ( $\bar{X}$ ) and Standard Deviation (S) of the N Test Results ( $X_1, X_2, \dots, X_N$ ).**

$$\bar{X} = \frac{(X_1 + X_2 + \dots + X_N)}{N}$$

$$S = \sqrt{\frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 + \dots + (X_N - \bar{X})^2}{N - 1}}$$

- b. **Quality Index ( $Q_L$ ).**

$Q_L = (\bar{X} - T_{des})/S$ , and  $T_{des}$  is the design thickness.

- c. **Percent Defective (PD).** Using NJDOT ST - Statistical Tables (NJDOT Standard Specs for Roads and Bridges 2007-NJDOT TEST METHODS) for the appropriate sample size, determine the percentage of material (PD) falling below the design thickness associated with  $Q_L$  (lower limit).

- d. **Reduction in Payment.** The Department will determine the reduction in payment based on the quantity of the surface course multiplied by the percent reduction in payment from Table 401.03.03-5.

**Table 401.03.03-5 Reduction in Payment for Nonconformance to Requirements for Total Thickness**

Percent Defective	Percent Reduction
0 to 25.0	0
25.1 to 30.0	2
30.1 to 35.0	5

35.1 to 40.0	10
40.1 to 45.0	20
Over 45.0	Remove & Replace

- e. **Removal and Replacement.** If the lot PD  $\geq 45$ , remove and replace, or mill and overlay, the lot. The replacement work is subject to the same requirements as the initial work.
2. **Surface Course Thickness.** The Laboratory will evaluate the surface course solely to determine whether a remove-and-replace or an overlay condition exists, not for pay adjustment. The Laboratory will calculate the percent defective (PD) as the percentage of the lot that is less than the allowable thickness for the nominal maximum aggregate used in the surface course. The Laboratory will accept pavement lots with PD  $\leq 25$  and will reject pavement lots with PD  $> 25$ .

The Laboratory will base surface thickness acceptance on the percentage of the lot estimated to fall below the allowable thickness as follows:

- a. **Sample Mean ( $\bar{X}$ ) and Standard Deviation (S) of the N Test Results ( $X_1, X_2, \dots, X_N$ ).** Calculate using the formula as specified in 401.03.03.I.1.
- b. **Quality Index (Q).**

$$Q_L = (\bar{X} - T_{all})/S, \text{ where } T_{all} \text{ is the minimum allowable thickness from Table 401.03.03-6.}$$

**Table 401.03.03-6 Surface Course Thickness Requirements**

HMA Mix Design Size Designation	Minimum Allowable Compacted Lift Thickness ( $T_{all}$ )
4.75 MM	0.75 inch
9.5 MM	1.00 inch
12.5 MM	1.25 inches
19 MM	2.00 inches

- c. **Percent Defective.** Using NJDOT ST - Statistical Tables (NJDOT Standard Specs for Roads and Bridges 2007-NJDOT TEST METHODS) for the appropriate sample size, determine the percentage of material (PD) falling below the allowable thickness associated with  $Q_L$  (lower limit).
- d. **Removal and Replacement.** If the surface course fails to meet the acceptance requirement with a PD  $\leq 25$ , the Department will require removal and replacement of the lot. The replacement work is subject to the same requirements as the initial work.

**REPLACE 401.03.03.J WITH THE FOLLOWING:**

- J. **Ride Quality Requirements.** The Department may evaluate the HMA surface course placed in travel lanes using the International Roughness Index (IRI) according to ASTM E 1926. Other areas will be tested with a ten foot straight edge. The Department will use the measured IRI and straight edge to compute pay adjustment (PA). The PA will be negative for defective work.

The RE will designate an independent testing agency to perform the ride quality testing and analysis. The testing agency is required to comply with certification requirements according to NJDOT R-1.

The Department will calculate the Pay Adjustment (PA) as specified in Table 401.03.03-7 and will base PA on lots of 0.01 mile length for each travel lane.

1. Smoothness Measurement.

The testing agency will test the longitudinal profile of the HMA surface course for ride quality with a Class 1 Inertial Profiling System according to AASHTO MP 11 approved according to AASHTO PP 49.

The testing agency will test the full extent of the pavement in the direction of travel in each wheel path. The single IRI value reported for each 0.01-mile lot of pavement is the average of 3 runs.

2. Other Areas.

In addition to the above, a 10-foot straightedge shall be used for the following areas: transverse profile of the finished riding surface, longitudinal and transverse profile of shoulders and ramps, utility hardware, drainage inlets and manholes, and any other areas so designated in the Special Provisions. Any areas that have more than a 1/4-inch deviation between any two contact points of the straightedge shall be corrected by the Contractor using infrared heating to rework the material in a manner approved by the Engineer. Following correction, the area will be retested to verify compliance, each individual non-complying location will be assessed \$250 negative PA.

3. Control Testing.

Perform control testing during HMA placement to ensure compliance with the ride quality requirements specified in Table 401.03.03-7.

4. Preparation for IRI Testing.

Provide the necessary traffic control when the testing agency performs IRI testing. Perform required mechanical sweeping of the surface course before IRI testing. To facilitate auto triggering on laser profilers, place a single line of preformed traffic marking tape perpendicular to the roadway baseline 300 feet before the beginning of each lane to be tested.

5. Acceptance.

The Engineer will determine acceptance and make payment adjustments based on the following:

i. Pay Adjustment.

The pay equations in Table 401.03.03-7 express the pay adjustment in dollars per lot of 0.01 mile. For lots of any other length, the Engineer will scale the pay adjustment up or down in proportion to the actual length of the lot. IRI numbers are in inches per mile.

Local Roadways with Posted Speed ≥ 45 MPH	IRI ≤ 100	PA = \$0
	100 < IRI ≤ 170	PA = (IRI - 100) × (- \$1.43)
	IRI > 170	Remove & Replace
Local Roadways with Posted Speed < 45 MPH	IRI ≤ 120	PA = \$0
	120 < IRI ≤ 220	PA = (IRI - 120) × (- \$1.00)
	IRI > 220	Remove & Replace

ii. Retest provision.

After testing, if the IRI exceeds the Remove and Replace value (RRV) in Table 401.03.03-7, the testing agency will retest the lot. The testing agency will average the IRI values from the initial test and the retest to determine the final result.

iii. Removal and Replacement.

If the average IRI is greater than the RRV after a retest is performed, remove and replace the lot. Any replacement work is subject to the same requirements as the initial work. If only a small percentage (less than 8 percent) of paving lots falls under the RRV, the RE may allow the Contractor to submit a plan for corrective action. If the Contractor's plan for corrective action is not approved, the RE may require removal and replacement, or may allow the lot to remain in place and the lot will

be subject to the pay adjustment as computed in Table 401.03.03-7. If the Contractor's plan for corrective action is approved and the lot is reworked, the testing agency will test and evaluate it as a new lot that must meet the same requirements as the initial work.

## SECTION 902 –ASPHALT

### 902.02.03 MIX DESIGN

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

UNLESS OTHERWISE APPROVED BY THE ENGINEER, ONLY ONE SOURCE OF SUPPLY FOR HOT MIX ASPHALT SURFACE COURSE MAY BE USED ON THE PROJECT.

### 902.02.04 SAMPLING AND TESTING

\*\*\*\*\*  
**DETERMINATION OF CONFORMANCE TO THE VOLUMETRIC PROPERTIES BY SAMPLING AND TESTING AT THE HMA PLANT BY AN INDEPENDENT TESTING AGENCY AND/OR LABORATORY IS PREFERRED; HOWEVER, THE FOLLOWING CHANGES TO SUBSECTION 902.02.04 MAY BE USED AS AN ALTERNATE TO THE SAMPLING AND TESTING PROVISIONS LISTED IN SUBSECTION 902.02.04 TO DETERMINE CONFORMANCE TO THE SPECIFICATION REQUIREMENTS.**  
\*\*\*\*\*

### ADD THE FOLLOWING TO 902.02.04:

- F. Acceptance of HMA.** The Department may accept the HMA as specified in 902.02.04.A through 902-02.04,E by employing staff or an independent testing agency at the HMA plant during production. The inspector who performs the quality assurance sampling shall be certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Plant Technologist, Level 2.

Alternatively, the Department may accept the HMA by Certification of Compliance according to 106.07.

## Baseline Document Changes

Baseline Document Change (BDC) Announcements are notices that a Baseline Document has been modified in part or in whole. A Baseline document is defined as any official document that has gone through an initial approval process and was approved for use as intended. Thus a BDC is an alteration to or rewriting of any officially approved document. New documents are also announced with a BDC.

For additional BDC's to the 2007 specs that are not covered in this document :

<http://www.state.nj.us/transportation/eng/documents/BDC/>





TECHNICAL SPECIFICATIONS

FOR THE

W.R. TRACY ROAD BRIDGE  
SUPERSTRUCTURE REPLACEMENT  
UNION COUNTY BRIDGE NO. MO-037

W.R. TRACY ROAD (AKA DRIVE) OVER SURPRISE LAKE  
COUNTY ROUTE 645

BOROUGH OF MOUNTAINSIDE  
(BLOCK 2, LOT 4)

CITY OF SUMMIT  
(BLOCK 5001, LOT 1)

UNION COUNTY, NEW JERSEY

MAY 11, 2018

NEA PROJECT No.: UNIOCTY16.010

NEGLIA ENGINEERING ASSOCIATES  
34 Park Avenue – P.O. Box 426  
Lyndhurst, New Jersey 07071  
Phone: 201.939.8805  
Fax: 201.939.0846

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David Juzmeski, Professional Engineer  
New Jersey License No. 46751

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017123.13	CONSTRUCTION LAYOUT
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312200	SITE GRADING
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## **SECTION 015526 – MAINTENANCE AND PROTECTION OF TRAFFIC**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Under this Contract this item shall mean that the Contractor shall provide for the safe passage of vehicles and pedestrians for safe ingress and egress to properties abutting the right-of-way within the limits of the project, including but not limited to the use of police officer man hours and flagmen.
- B. Traffic Directors shall be Traffic Flaggers or off-duty Police Officers from within the County of where the work is being performed. The Traffic Directors shall be located in a strategic location as determined by the County Traffic Officer and/or Engineer in order to safely and efficiently control traffic during construction hours.
- C. The portion of the project which is opened to traffic shall be kept in such condition that traffic is adequately accommodated. This item also shall include the maintenance and protection of highway traffic and shall include any and all materials necessary to provide for this passage including but not limited to traffic cones, drums, construction signs, detour signs, barricades, etc. and that the Contractor shall abide to all of the rules and regulations as set forth in Section 110 - Traffic Control of the 2007 New Jersey State Highway Department Standard Specifications as amended in the Standard Specifications of this project. The Contractor shall be responsible for implementing a detour, if not shown on the plans, in accordance with Subsection 110.02 – Detours of the Standard Specifications.
- D. The Contractor is responsible for all maintenance, safety and protection of traffic until the project is complete and turned over to the project owner. The Contractor shall hold harmless the County of Union and Neglia Engineering Associates for any safety incidents during the project construction period.
- E. Any damage to construction equipment, materials and vehicles are the sole responsibility of the Contractor.

**PART 2 – PRODUCTS – Not Applicable**

**PART 3 – EXECUTION – Not Applicable**

## PART 4 – QUANTITY AND PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. Payment for Police Traffic Directors shall be made on a reimbursement for an allowance price given for the item **ALLOWANCE FOR POLICE TRAFFIC CONTROL** in the Proposal and for approved man-hours for the item **TRAFFIC FLAGGERS**, which the price shall include the cost of, any and all materials, all labor and equipment and all else necessary and incidental thereto. All bills are to be submitted to the Engineer for review and approval prior to reimbursement for any uniformed police traffic director hours. This item in the bid form item shall be a good faith effort on the part of the contracting unit, to reasonably estimate the total cost of traffic control personnel, vehicles, equipment, administrative or any other costs associated with additional traffic control requirements required by the contracting unit, or any other public entity affected by the project above and beyond the bidder's traffic control personnel, vehicles, equipment and administrative costs. Any inconsistencies between "P.L. 2006, Chapter 9, approved April 11, 2006- Assembly No. 1957" and this technical specification shall be governed by "P.L. 2006, Chapter 9, approved April 11, 2006- Assembly No. 1957."

*\*This item is intended to be utilized to compensate the contractor for the unknown areas of the work or other facilities not specified, but necessary to complete the work not called for or shown on the plans.*

*The Contractor shall allow Fifteen Thousand Dollars (\$15,000) to cover work related to police traffic control. Nothing herein shall constitute a guarantee that the Contractor is entitled to payment of the full allowance. If no work is done under this item, the full amount of \$15,000 shall not be paid by the owner to the Contractor. To qualify for payment, work must be ordered by the Engineer in writing.*

END OF SECTION

## **SECTION 017113 – MOBILIZATION / DEMOBILIZATION**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Mobilization / Demobilization shall consist of the cost of initiating the contract, including preparatory work and operations, necessary for the movement of personnel, equipment, supplies and incidentals to the Project site, and other work performed or costs incurred prior to beginning work and completing work. In any case of inconsistencies with the N.J.A.C. 7:14-2.9, the NJ Administrative Code shall govern.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

### **PART 4 – QUANTITY AND PAYMENT**

#### **4.1 QUANTITY AND PAYMENT**

- A. Payment for mobilization / demobilization will be made on a lump sum basis, which price shall include the cost of initiating the contract, regardless of the fact that the Contractor may have, for any reason, shut down his work on the Project or moved equipment away from the Project and back again, in accordance with Standard Specifications Section.
- B. Payment will be made in accordance with the following schedule:
- When 5% of the work is completed - 25% of the amount bid for mobilization or 2.5% of the Total Contract Price, whichever is less, will be paid
  - When 10% of the work is completed - 50% of the amount bid for mobilization or 5% of the Total Contract Price, whichever is less, will be paid
  - When 15% of the work is completed – 75% of the amount bid for mobilization or 7.5% of the Total Contract Price, whichever is less, will be paid
  - When 20% of the work is completed – 100% of the amount bid for mobilization or 10% of the Total Contract Price, whichever is less, will be paid
  - upon completion of all work on the project, payment for the amount bid for mobilization in excess of 10% of the Total Contract Price will be made.
  - the percentage of work completed shall be the total of payments earned compared to the Total Contract Price. The total of payments earned excludes the amount paid for this item and the amount paid for materials furnished but not incorporated into the work in accordance with Subsection 109.06, as shown on the monthly

estimates of the approximate quantities of work done, prepared in accordance with Subsection 109.05.

(A) The lump sum price bid for mobilization / demobilization is limited to the following maximum amounts:

Original Contract Amount (Including Mobilization)		Max. Amount for Item of <u>Mobilization</u>
<u>For More Than</u>	<u>To and Including</u>	
\$0	100,000	\$3,000
100,000	500,000	15,000
500,000	1,000,000	30,000
1,000,000	2,000,000	60,000
2,000,000	3,000,000	90,000
3,000,000	4,000,000	120,000
4,000,000	5,000,000	125,000
5,000,000	6,000,000	150,000
6,000,000	7,000,000	175,000
7,000,000	10,000,000	200,000
10,000,000		2.5% of amount bid

Payment for Mobilization/Demobilization will be made on a lump sum basis at the price bid for the item **MOBILIZATION** in the Proposal which price shall include the cost of, any and all materials, all labor and equipment and all else necessary and incidental thereto.

END OF SECTION

## **SECTION 017123.13 - CONSTRUCTION LAYOUT**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Under this item, the Contractor shall provide all work required in connection with the layout for construction of the project, using the control points and data furnished by the project Licensed Surveyor.

### **PART 2 – PRODUCTS – Not Applicable**

### **PART 3 – EXECUTION**

#### **3.1 METHOD OF STAKEOUT**

- A. The Contractor shall submit all necessary computations to establish the exact position of all the work from the control points furnished by the project Licensed Surveyor, along with construction grade sheets, prepared by a licensed land surveyor hired by the Contractor, to Neglia Engineering Associates for approval prior to the start of construction.
- B. The Contractor shall maintain the line and grade stakes furnished by the project Surveyor for his use in staking out the work. If such control points are damaged, lost, displaced or removed, they shall be reset or replaced at a charge to the Contractor for the actual cost of the work.
- C. The Contractor shall be responsible for maintaining the points he has established. Any error or apparent discrepancies found in the plans or specifications shall be called to the attention of Neglia Engineering Associates, in writing, for interpretation prior to proceeding with the work.
- D. Should any inconsistencies arise during layout by the Contractor's surveyor, Neglia Engineering Associates must be advised prior to construction. Any downtime costs incurred by the Contractor due to inconsistencies will not be absorbed by the City of Clifton or Neglia Engineering Associates.

PART 4 – QUANTITY AND PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for Construction Layout will be made on a lump sum basis at the price bid for the item **CONSTRUCTION LAYOUT** in the Proposal which price shall include the cost of, any and all materials, all labor and equipment and all else necessary and incidental thereto.

END OF SECTION



## **SECTION 017329 - SAWCUTTING**

### PART 1 – GENERAL

#### 1.1 DESCRIPTION

- A. Sawcutting shall consist of the cutting of sidewalks, concrete, driveways, curbs and pavements of whatever nature in order to maintain a clean finished look when matching into existing areas of concrete and asphalt where directed Neglia Engineering Associates.

### PART 2 – PRODUCTS – Not Applicable.

### PART 3 – EXECUTION

#### 3.1 MATERIALS - METHODS OF CONSTRUCTION

- A. Concrete or bituminous surfaces shall be cut through the entire pavement thickness in a straight neat line using diamond-tipped blades with water, as approved by Neglia Engineering Associates.

**\*PLEASE NOTE THAT JACK-HAMMERED OR BROKEN EDGES WILL NOT BE ACCEPTED UNDER ANY CIRCUMSTANCES.**

### PART 4 – QUANTITY AND PAYMENT

#### 4.1 QUANTITY AND PAYMENT

- A. No specific payment will be made for sawcutting associated with the construction of proposed site improvements. Therefore, the price of sawcutting shall be included in the individual items, as required.

END OF SECTION

## **SECTION 017423 - FINAL CLEANUP / SITE RESTORATION**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Under this item the Contractor shall cleanup or restore the work site and access area to its original condition including, but not limited to, installation of both temporary and permanent striping, removal and reinstallation of street and road signs, removal and disposal of all topsoil, seeding, fences, hedges, re-grading, repair of driveways, (both bituminous and concrete) sidewalks, roadways, curbs, cleaning and removal of stockpiles and equipment, and all else not specifically covered elsewhere in these specifications. All concrete aprons shall be restored. All on-site catch basins and pipes along the fronting streets shall be cleaned of all debris and televised. All sanitary sewers shall be cleaned and televised that are fronting the project site. The existing chain-link fence along the perimeter of the project site may be removed, as necessary to permit construction, and shall be reinstalled prior to project turnover. All pavement shall be restored within the project vicinity, as indicated in the plans. All signage indicated to be removed shall be removed and returned to the County of Union. All signage indicated to be removed and reinstalled or relocated shall be temporarily stored on-site and reinstalled as indicated on the plans, or as directed by the County of Union. Any utilities disconnected shall be restored to their full capacity prior to any disturbance. All utilities to be protected from damage during the duration of the project. Any damage to utilities will be the responsibility of the Contractor to replace and restore.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. NJDOT 2007 Standard Specifications.

### **PART 3 – EXECUTION**

#### **3.1 METHODS OF CONSTRUCTION**

- A. The site shall be returned to its original condition. Lawn areas disturbed by Contractor's activities shall be re-graded, seeded and mulched or topsoil and sod shall be laid as specified by Neglia Engineering Associates.
- B. All pavement and sidewalk where construction fence was previously located shall be repaired. Cleaning shall include hand brooming of sidewalk and pavement areas.

Adjacent structures shall be cleaned, as necessary, by a method approved by Neglia Engineering Associates. Sidewalks shall be replaced with concrete walk in evenly sized slabs, sawcut where necessary, only to the extent damaged by the construction. Both concrete curb and bituminous concrete shall be repaired as specified by Neglia Engineering Associates, sawcut where necessary, only to the extent damaged by the construction. All construction equipment and stockpiles shall be removed from the site and disposed of by the Contractor in a suitable and timely manner.

## PART 4 – QUANTITY AND PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. The quantity of Final Cleanup / Site Restoration for which payment will be made will be on a lump sum basis for the item **FINAL CLEANUP** in the Proposal, which price shall include the cost of any and all materials, labor and equipment and all else necessary and incidental thereto.

END OF SECTION

## **SECTION 312200 - SITE GRADING**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Site Grading shall include grading, excavation, filling, preparing and compacting all material required for construction of the proposed improvements as per the contract documents and to the satisfaction of the Engineer. Site Grading shall include removal of all excess soil, asphalt, concrete, and materials encountered and the importation of certified clean fill with the construction plans and details. Contractor shall review the existing grades and all construction details and the bid shall include all excess soil removal and off-site disposal as necessary to construct the project in accordance with the plans and details.
- B. This work shall consist of excavating, temporary stockpiling, dewatering, testing and disposing of all materials encountered during the grading and construction of the project.
- C. The Contractor shall remove all excavated material from the site to an approved dumping location to be selected / determined by the contractor. The approved dumping location shall be licensed and permitted to receive the material and a copy of such documentation illustrating compliance with all local, state, and federal regulations for acceptance of the material shall be provided to the Engineer. The contractor shall provide the owner with proper documentation as to the final disposition of the material. All necessary permits shall be obtained and paid for by the Contractor, except for the Somerset-Union Soil Conservation District Certification, copies of which shall be provided.
- D. The bid shall include all costs associated with soil removal, equipment, permits, markers, and all labor, equipment and all else necessary therefore and incidental thereto.

### **PART 2 – PRODUCTS – Not Applicable**

### **PART 3 - EXECUTION**

#### **3.1 MATERIAL**

- A. Borrow material required for site grading shall conform to NJDOT Standard Specifications. The Contractor shall provide the Engineer with certification attesting

SITE GRADING

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that the said material is free of contaminants and suitable for this application. The soil shall be smooth, soft and free of depressions, clods, mounds, stones, or other debris as approved by the Engineer.

### 3.2 METHODS OF CONSTRUCTION

- A. The site shall be graded within the limits shown on the Plans or as directed by the Engineer. The Contractor shall grade the sub-grade according to the elevations shown on the Plans, taking into account the thickness of the layers above, and if necessary borrow materials as approved by the Engineer. The soil shall be placed uniformly in layers not to exceed twelve (12") inches loose thickness. Each layer shall be compacted to 95% density in accordance with Section 204 of the NJDOT Standard Specifications.
  
- B. The contractor shall make provisions to implement approved dust control measures while performing this work as not to impact surrounding residences. Should the contractor fail to implement these measures, he will be responsible to power wash all structures at no additional cost to the owner.

## PART 4 - QUANTITY AND PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. No specific payment will be made for Site Grading. The cost thereof shall be distributed among the various items bid in the Proposal under and shall include the cost of any and all materials, labor, and equipment and all else necessary and incidental thereto and in accordance with the Plans and Specifications or as directed by the Engineer.

END OF SECTION

## **SECTION 312500 - EROSION AND SEDIMENT CONTROL**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. The work performed under this item shall include construction of all soil erosion structures, temporary seeding or mulching and general soil stabilization as shown on the site plans.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. Materials shall be in conformance with the Plan and Details, and shall include silt fences, inlet filters, jute matting, stockpiles and soil stabilization. All materials shall be approved by Neglia Engineering Associates or Somerset-Union County Soil Conservation District.

### **PART 3 – EXECUTION**

#### **3.1 METHODS OF CONSTRUCTION**

State Standard Specifications and Somerset-Union County Soil Conservation District Regulations.

- A. All erosion and sedimentation control measures shall be in place prior to any grading operations or construction of proposed improvements and shall be maintained until construction is complete and the construction area is stabilized. After restoration is complete, temporary control measures shall be removed and disposed of properly.
- B. All erosion and sedimentation control measures shall be constructed and maintained in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey," prepared by the New Jersey State Soil Conservation Committee, current edition.
- C. Disturbed areas that will be exposed in excess of 14 days shall be temporarily seeded and/or mulched until proper weather conditions exists for establishment of a permanent vegetative cover except in areas where final restoration is expected to be completed within seven days after the completion of construction, in which case no temporary protective measures will be required. If final restoration is expected to begin more than seven days and completed more than 30 days after the start of

construction, seeding shall be required for temporary protection, except where seasonal conditions are not suitable for growing vegetation. In this case, mulch may be applied until conditions are suitable for establishing vegetative cover or until final restoration is implemented.

#### PART 4 – QUANTITY AND PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. The quantity of Soil Erosion and Sediment Control Measures, for which payment will be made, will be on a linear foot basis for the items **SILT FENCE and FLOATING TURBIDITY BARRIER, TYPE 2**, a unit basis for the item **INLET FILTER**, and a lump sum basis for the item **TEMPORARY CONSTRUCTION ACCESS/WHEEL CLEANING**, in the Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto as required by the local county Soil Conservation District.

END OF SECTION

## **SECTION 320116 – MILLING, 2” AVERAGE DEPTH**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Milling, 2” Average Depth shall consist of the removal, without heat, of all or part of the depth of an in-place bituminous concrete or Portland cement concrete pavement, as necessary to produce the specified profile, cross-section, and grid surface or bonding surface, as required or specified by the Engineer.
- B. The texture produced for finished pavement shall be a grid surface with discontinuous longitudinal grooves.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. The equipment used for milling shall be a power operated planing, grinding, or cutting machine, capable of removing, without heat, and in one pass, the specified layer of pavement to a maximum depth of four inches. The equipment shall be capable of accurately establishing profile grades by referencing from either the existing pavement or from an independent grade control and shall have positive means for controlling cross slope elevations. Additionally, it shall be capable of cutting daylight while maintaining the desired profile. The operating speed of the machine shall be variable and adequate to leave the specified grid surface and to produce milled material approximately 3/4-inch size, if so specified elsewhere, herein. The equipment shall also have an effective means for removing milled material from the surface and for preventing any dust resulting from the operation from escaping into the air.

### **PART 3 – EXECUTION**

#### **3.1 METHODS OF CONSTRUCTION**

- A. The pavement surface shall be milled and removed to the depth, width, grade and cross-section shown on the Plans, specified elsewhere, or as directed by the Engineer.
- B. Milling shall start at the gutter line and progress toward the center of the roadway.
- C. The stringline reference system shall consist of suitable wire supported by approved devices compatible with the type of automatic grade control systems used. The string

MILLING, 2” AVERAGE DEPTH

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line and supports shall be capable of maintaining the line and grade designated by the Plans at the point of support, while withstanding the tensioning necessary to prevent sag in excess of 1/4 inch between supports spaced fifty feet apart. Additional supports shall then be installed to provide a minimum spacing of twenty-five feet between same, or less, if directed by the Engineer, to remove any apparent deviation of the string line from theoretical grade.

- D. The Contractor shall establish the string line reference system. The Contractor shall line reference system as described herein, and shall maintain same until its use is no longer required.
- E. Grade control for other passes of the machine shall be ski type. Automatic grade controls will not be required on sections of the project where intersections or other conditions interfere with their efficient operation.
- F. Pavement to be milled in areas not accessible to the milling machine shall be removed by other equipment, as approved by the Engineer.
- G. The pavement shall be swept clean by mechanical brooming immediately after completion of the milling operation.

#### PART 4 – QUANTITY AND PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. The quantity of Milling, 2” Average Depth, for which payment will be made, will be the area actually milled to an average depth of 2 inches, in accordance with Plans and Specifications, or as directed by the Engineer, without deduction of areas occupied by manholes and similar structures within the pavement area.
- B. Payment for milling will be made for the quantity, as above determined, measured in square yards, at the unit price bid for the item **MILLING, 2” AVERAGE DEPTH** in the Proposals, which price shall include removing the specified depth of pavement, removal and disposal of milled material, sweeping, repair of existing curb and driveway aprons damaged, all material, labor, equipment and all else necessary therefore and incidental thereto.

END OF SECTION

MILLING, 2” AVERAGE DEPTH

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## **SECTION 321217 – HMA SURFACE COURSE, MIX 9.5M64**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Hot Mix Asphalt Surface Course shall be Mix 9.5M64, constructed in a single layer, and conforming to the lines and grades and at the 2 inch thickness after compaction, as shown on the construction drawings. This surface course shall be installed on the existing base after the application of a tack coat, in accordance with these specifications. This surface course shall be used within the project site and on municipal roadways.
  
- B. Bituminous Concrete Surface Leveling Course shall be Mix 9.5M64, constructed in a single layer, and conforming to the lines and grades and at the 2-inch thickness after compaction, as shown on the construction drawings. This surface course shall be installed on the existing base after the application of a tack coat, in accordance with these specifications.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. The bituminous materials for Mix 9.5M64 shall consist of asphalt cement. The penetration grade shall be 85/100, conforming to the requirements specified therefore in the applicable Sections and/or Subsections for bituminous materials of the standard specifications unless otherwise directed by the Laboratory. All other materials shall be as shown in the Standard Specifications. The contractor to procure valve boxes and valve extensions as needed from the local utilities. All valve boxes to be set flush with finished roadway and to be included in the surface course pay item.

### **PART 3 – EXECUTION**

#### **3.1 CONSTRUCTION**

- A. This article shall be as set forth in the NJDOT 2007 Standard Specifications.
  
- B. The Contractor shall be responsible for hiring an independent laboratory, which has been approved by Neglia Engineering Associates, for the purpose of taking pavement cores. These cores shall be tested to determine the conformance of the materials with the Specifications. Tests will be made for composition, air voids, and thickness.

- C. The Contractor shall supply Neglia Engineering Associates with two (2) copies of all results.

#### PART 4 – QUANTITY AND PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. The quantity of HMA Surface Course, Mix 9.5M64, 2” Thick for which payment will be made will be on a per ton basis for the item **HOT MIX ASPHALT SURFACE COURSE, MIX 9.5M64, AVERAGE 2” THICK** in the Proposals, which price shall include the cost of any and all material, labor and equipment and all else necessary and incidental thereto.

END OF SECTION

## **SECTION 321723 – TRAFFIC STRIPES, LONG LIFE THERMOPLASTIC**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. In this item, the Contractor shall be responsible for the applying of yellow median lines having a .015” wet film thickness, the cleaning of surfaces, furnishing and placing of paint, protecting the wet paint against deformation, smear or smudge, maintenance of traffic on the pavement surfaces and in accordance with layout as shown on plans, or as directed by the Engineer.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. Materials shall conform with Section 618.08, Long-Life Thermoplastic Traffic Markings of the 2007 NJDOT Standard Specifications.

### **PART 3 – EXECUTION**

#### **3.1 METHODS OF CONSTRUCTION**

- A. Pavement Linestriping shall be in accordance with Section 618 - Long-Life Thermoplastic Traffic Markings of the 2007 NJDOT Standard Specifications.
- B. Immediately prior to striping, all dirt, loose chalky paint, or other foreign matter shall be removed from the pavement surface by method to be approved by the Engineer.
- C. Striping shall not be applied until the Engineer has approved the degree of cleanliness or condition of the pavement surface. All painted lines laid improperly, whether they have to do with alignment, pattern, or pavement cleanliness shall be removed, to the satisfaction of the Engineer, and properly repainted.
- D. The Contractor shall be responsible for the chalking and/or the layout of lines, in accordance with the Plans, or as directed by the Engineer.
- E. Striping shall not start until one and one half (1 1/2) hours has elapsed after sunrise, nor shall it continue after 3:00 p.m., unless otherwise specified by the Engineer or his Representatives. Striping shall be applied only on a thoroughly dry surface and during period of favorable weather.

## PART 4 – QUANTITY AND PAYMENT

### 4.1 QUANTITY AND PAYMENT

- C. The quantity of striping for which payment will be made will be the area, actually constructed, in accordance with the plans or as directed by the Engineer. Payment for this item shall be made for the quantity as determined above, measured in linear feet, at the price bid for the item shall be included in the cost of **TRAFFIC STRIPES, 4”** and **4” WIDE CONTINUOUS DOUBLE YELLOW CENTERLINE STRIPING, LONG LIFE THERMOPLASTIC** in the Proposals, which will cover the cost of all materials, labor and equipment necessary to install the striping in accordance with the Plans and Specifications, or as directed by the Engineer.

END OF SECTION

## **SECTION 329113 - TOPSOILING & SEEDING**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Topsoiling and seeding shall include preparing topsoil stripped off the site of the project for use as topsoil and placing it, furnishing and placing topsoil required in excess of that obtained from stripping, furnishing and placing seed mixtures and grain seed, fertilizer, ground limestone, and other materials as herein specified.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. Topsoil obtained from stripping within limits of the project, or furnished from outside the project, shall contain no stones, lumps, roots, or similar objects larger than 2 inches in any dimension, and shall have a pH value of not less than 5.8. When the pH value of the topsoil is less than 5.8, it shall be increased by applying ground limestone at a rate necessary to attain a pH value of 6.5.
- B. Material stripped from the following sources shall not be considered suitable for use as topsoil.
- Soils having a pH value less than 4.1
  - Chemically contaminated soils.
  - Areas from which the original surface has been stripped and/or covered over, such as borrow pits, open mines, demolition sites, dumps, and sanitary landfills.
  - Unacceptable wet excavation.
- C. Topsoil furnished from sources outside the limits of the project shall have a minimum organic content of not less than 2.75 percent by weight. When the organic content of the topsoil furnished from sources outside the limits of the project is less than 2.75 percent, it shall be increased by adding peat at a rate necessary to attain this minimum organic content. The organic content of soils shall be determined by the Laboratory using the chromic acid titration method, as described in the United States Department of Agriculture's Circular 757.
- D. The organic content of all topsoil used for planting shall conform to the requirements specified above.

E. The gradation of the topsoil furnished from sources outside the limits of the project shall be determined by the Laboratory, using the Bouyoucos Hydrometer Analysis conforming to the requirements of current A.A.S.H.O. Designation T88. The gradation of the topsoil shall be within the following ranges:

Sand (1.00 MM to 0.25 MM) 70% to 80%  
 Silt and Clay (less than .25 MM) 20% to 30%

F. A percolation rate of 1 inch/Hour to 2 inch/Hour is required after root growth by the sod after establishment.

G. The materials to be used for topsoiling and seeding shall conform to the appropriate articles as follows:

Fertilizer, 5-10-5 Commercial Designation .....	Sec. 909.02
Ground Limestone .....	Sec. 909.03
Mulch, Hay .....	Sec. 909.04
Crown Vetch Seed .....	Sec. 909.06
Grain Seed.....	Sec. 909.06
Topsoil .....	Sec. 909.10
Grass Seed Mixture.....	40% Bluegrass
	40% Creeping and Fescue
	20% Rye

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. The topsoil shall be spread over the surface in a uniform layer that will produce the prescribed compacted thickness. When required, ground limestone which has been protected from moisture and is dry and free flowing shall be evenly spread over the area to be seeded at a rate that will produce a pH value of the soil of 6.5. The area shall then be raked, disked or otherwise worked to incorporate the limestone into the upper 3 to 4 inches of soil to remove stones, roots, debris and other unsuitable material and to form an even surface. Fertilizer shall be applied at the rate of 1200 pounds per acre. The soil shall be in a pliable condition at the time of seeding.

B. The seed mixture shall be sown at a rate of 100 pounds per acre, together with rye or oat grain at the rate of 10 pounds per acre, except that on slopes of 2:1 or steeper, rye or oat grain shall be used at the rate of 25 pounds per acre. When seeding in the spring, oats shall be used, and in the fall, rye.

C. When seeding by hand, by cyclone type seeder, or by the hydraulic method, seeded areas which are not to be mulched shall be raked lightly and rolled to cover the seed.

When a tractor-drawn mechanical pulverizer and seeder is used, hand raking and rolling may be omitted.

- D. The finished seeded areas shall be even and shall conform to the prescribed lines and elevations. All seeded areas shall be mulched as prescribed in Section 811 - Mulching of the Standard Specifications
- E. The Contractor shall complete as much of the seeding as possible from March 1 to May 15, and from August 15 to October 15, when weather and soil conditions are suitable therefore. No seeding shall be done when the soil is wet or frozen. Seeding which cannot be completed during these periods may be performed at other times when, in the opinion of the Engineer, weather and soil conditions are suitable. A satisfactory stand of grass and legumes, practically weed free, shall be established on all acres of topsoiling. All acres of topsoiling and seeding, on which a satisfactory stand of grass and legumes is not produced, shall be refertilized and reseeded by the Contractor, as directed by the Engineer, until a satisfactory stand of grass and legumes is established.
- F. If the quantity of topsoil obtained from stripping, or from storage piles when prescribed, or both, is insufficient for the requirements of the project, the Contractor shall furnish the required additional topsoil from other sources.

#### PART 4 – QUANTITY AND PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. No quantity of topsoiling and seeding, for which payment will be made, will be at the total area of topsoiling and seeding constructed at the price bid per square yard of the bid item **TOPSOILING, 4” THICK** and **FERTILIZING AND SEEDING**. The contractor will be responsible for returning all disturbed grass areas including area adjacent to the right of way (e.g. front-yards) to their original conditions as described above. The cost of the above described work shall be included in the overall price bid on the project.
- B. This shall include the cost of preparing and stripped material for topsoil and placing it; furnishing, cleaning and placing topsoil furnished from sources outside the limits of the project, including furnishing and incorporating additional organic material if required; furnishing and sowing seed mixture and grain seed; furnishing and placing ground limestone, fertilizer, and other materials; raking, rolling, refertilizing and reseeded where required; the repair of previously topsoiled and seeded areas damaged by the Contractor's work; furnishing all labor and equipment; and all else necessary for the topsoil and seeding shown on the Plans or as directed by the Engineer.

END OF SECTION

TOPSOIL AND SEEDING

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## **SECTION 334123 - REINFORCED CONCRETE PIPE**

### **PART 1 GENERAL**

#### **1.1 DESCRIPTION**

- A. This Specification covers reinforced concrete pipe intended to be used for the conveyance of storm water, and shall include the excavation for and the construction of reinforced concrete pipe within the project site and within adjacent roadway, in accordance with the applicable Sections and/or Subsections for Storm Drains of the 2007 NJDOT Standard Specifications, and as shown on the Contract Plans and Specifications, or as directed by Neglia Engineering Associates. This item shall include the required core drill connection into existing storm system, sawcutting, water-tight rubber gaskets, dewatering, pavement replacement and pavement restoration as per Contract Plans. The most conservative (largest quantity) dimension either scaled off the contract documents or labeled on the contract documents shall be applied in the bid. Contractor is responsible for any damage to the existing storm systems encountered during construction.

### **PART 2 PRODUCTS**

#### **2.1 MATERIALS**

- A. Pipe furnished in accordance with this specification shall be designated as Class I, Class II, Class III, Class IV, and Class V, in accordance with ASTM C76. Reinforced concrete storm pipe shall conform to requirements of current AASHTO Designation M170 and ASTM C76, amended as follows:
1. Fine aggregate shall conform to the requirements of the applicable Sections and/or Subsections; Course aggregate shall be broken stone or washed gravel conforming to the requirements of the applicable Sections and/or Subsections within the 2007 NJDOT Standard Specifications. Elliptical reinforcing will not be permitted in circular pipe. Unless otherwise specifically provided, Class III, Wall B, shall be used as a minimum standard and Class IV, Wall B, shall be used as a minimum for extra strength reinforced concrete culvert pipe.
  2. Reinforced concrete pipe within roadways shall be 8-inch in size to match existing pipe sizes and, Class IV, wall B.

## PART 3 EXECUTION

### 3.1 METHODS OF CONSTRUCTION

- A. Construction shall be in accordance with the applicable Sections and/or Subsections and excavation and backfill for all drains shall be governed by the provisions of the applicable Sections and/or Subsections for Subsurface Structure Excavation of the 2007 NJDOT Standard Specifications.

## PART 4 – QUANTITY AND PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. Payment for “Reinforced Concrete Pipe” shall be made on a reimbursement for all approved linear footage within the allowance price given for item **CONTRACT ALLOWANCE FOR RECONSTRUCTION OF DRAINAGE PIPE BENEATH BRIDGE DECK** in the Proposals which price shall include the cost of, any and all materials, all labor and equipment and all else necessary and incidental thereto. All bills are to be submitted to the Engineer for review and approval prior to reimbursement for any adjustment in the unit price for asphalt.

*\*This item is intended to be utilized to compensate the contractor for the unknown areas of the work or other facilities not specified, but necessary to complete the work not called for or shown on the plans.*

*The Contractor will be paid from the allowance based on a mutually agreeable price between the Contractor and the Engineer prior to commencing modifications for those items as ordered by the Engineer, in writing.*

*The Contractor shall allow Three Thousand Dollars (\$3,000) to cover work related to the reconstruction of drainage pipe beneath bridge deck. Nothing herein shall constitute a guarantee that the Contractor is entitled to payment of the full allowance. If no work is done under this item, the full amount of \$3,000 shall not be paid by the owner to the Contractor. To qualify for payment, work must be ordered by the Engineer in writing.*

END OF SECTION

## **SECTION 334913 – STORM STRUCTURES**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Storm Drains, and Reset Castings shall consist of the construction of these structures, stone bedding, backfilling and backfill material, and the furnishing, installing and placing of new heads, grates, and covers.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. Precast concrete inlets (all sizes and types) may be used as approved by the Neglia Engineering Associates.
- B. All materials used in the construction of manholes (all sizes and types), inlets, and catch basins, shall conform to Section 603 - Inlets and Manholes of the 2007 NJDOT Standard Specifications. All structural reinforcing shall be epoxy-coated.

### **PART 3 – EXECUTION**

#### **3.1 METHODS OF CONSTRUCTION**

- A. Construction for inlets, area drains, and catch basins shall be in accordance with applicable Sections and/or Subsections for Inlets and Manholes of the 2007 NJDOT Standard Specifications. Particular attention should be brought to precast concrete inlets, and Reconstruction and Conversion of Existing Structures, of the NJDOT Standard Specifications.
- B. Backfilling shall be in accordance with the applicable Sections and/or Subsections of the 2007 NJDOT Standard Specifications and all soil, stone, and other fill materials imported shall be certified clean material and comply with the Environmental Consultant or Engineer.

### **PART 4 – QUANTITY AND PAYMENT**

#### **4.1 QUANTITY AND PAYMENT**

The quantities of Inlets for which payment will be made, will be the actual number of units constructed in accordance with the Contract Plans, or as directed by the Engineer.

Payment for Inlets of the types and sizes specified will be made for the units actually constructed, measured on a per unit basis, at the prices bid for **PRECAST INLET TYPE 'A' W/ BICYCLE SAFE GRATE** items in the Proposal, which prices shall include, but is not limited to the cost of furnishing, laying, assembling, temporary trenching, backfilling, dewatering, pumping, all materials, labor, equipment, and all else necessary to complete the installation and testing of the Inlets, as shown on the Plans or as directed the Engineer.

END OF SECTION



Subsection 071000      -Damp Proofing and Waterproofing  
Subsection 079000      -Joint Sealers  
Subsection 099000      -Coatings

COFFERDAMS

Subsection 315200      -Temporary Cofferdams and Dewatering

C. DOCUMENTS BOUND SEPARATELY

The Drawings listed below and accompanying these Specifications constitute the Drawing portion of the Contract Documents.

<u>Drawing No.</u>	<u>Title</u>
B0	Key Plan
B1	Estimate of Quantities
B2	Demolition Plan No. 1
B3	Demolition Plan No. 2
B4	Demolition Plan No. 3
B5	Deck Slab and Railing Replacement Plan No. 1
B6	Deck Slab and Railing Replacement Plan No. 2
B7	Deck Slab and Railing Replacement Plan No. 3
B8	Railing System Details
B9	Parapet and Guide Rail Connection Details
B10	Stone Veneer Repairs

END OF SECTION

## **SUBSECTION 024113 – CLEARING SITE, CLEARING BRIDGE SUPERSTRUCTURE**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Site clearing for this project includes the following:
  - 1. Clearing brush within work area.
  - 2. Tree removal where noted on site plan.
  - 3. Clearing of bridge superstructure.
- B. Temporary shielding is required to contain debris within work area and to maintain/protect environmentally sensitive area.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Clearing land: Do not remove trees, shrubs, and other landscape features that do not interfere with the Work or are designated for preservation. Prevent damage or injury to existing trees, plants, and other vegetation that is to remain within or adjacent to the Project Limits.
- B. Clearing of bridge superstructure: Remove the existing structures to the extent shown on the bridge plans.

#### 1.3 SUBMITTALS

- A. Clearing of bridge superstructure: Submit a demolition plan detailing the methods and equipment to be used to the RE for approval 30 days before demolition operations.
- B. Temporary shielding: Include with the working drawings a plan for removing material, dust, or debris that has fallen into active traffic lanes, railroads, and environmentally sensitive areas.

## PART 2 - PRODUCTS

## PART 3 - EXECUTION

### A. Clearing land:

1. Preparation: Construct SESC measures, as specified in civil drawings, before clearing site. Clear the site within the limits of construction. Clear the ground surface of designated trees, brush, weeds, roots, matted leaves, small structures, debris, and other objectionable material, vegetation, and growth.
2. At locations adjacent to operations performed by motorized equipment, erect and maintain a 4-foot high caution fence around trees, shrubs, and areas containing vegetation to be preserved.
3. Backfill and compact depressions in excavation areas that lie below the finished subgrade to finished subgrade using the directed method as specified in 203.03.02.C.
4. Clear slopes of cuts, embankments, ditches, channels, waterbodies, and structures, both old and new, of brush, hedges, weeds, heavy vegetation, and other objectionable material or growth. Clear to a maximum of 8 feet beyond the top of slopes of roadway excavation and 5 feet beyond the top of slopes of ditches and channels, except do not clear outside ROW.
5. Conduct clearing and removal activities in areas identified as containing regulated material according to the pre-excavation plans as specified in 202.03.04.1. Dispose of material and debris as specified in 201.03.09.

### B. Clearing Bridge Superstructure:

1. Pneumatic or Electric Equivalent Hand Operated Hammers.
  - a. When demolishing concrete not closer than 6 inches to structural members: hammers weighing no more than 90 lbs (exclusive of bit), equipped only with chisel point bits.
  - b. When demolishing concrete within 6 inches of structural members: hammers weighing no more than 30 lbs (exclusive of bit).
2. Saw cutters.
  - a. When cutting concrete within 6 inches of structural members:

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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 equipment data to the RE for Department's analysis.
4. **Hydraulic Splitters.** Hydraulic Splitters.
5. **Other Equipment.** Obtain RE approval before use.

C. Temporary Shielding:

1. Submit working drawings for certification for a system to protect vehicular, pedestrian, or railroad traffic or environmentally sensitive areas from falling debris, construction materials, or other objects. Temporary shielding requirements are in addition to forms and falsework required for construction. Design the temporary shielding system to conform to the following:
  - a. Withstands loads of at least 0.8 pounds per square inch, or greater if heavier loads are anticipated or if required by railroads.
  - b. Prevents small particles and dust from escaping the shield.
  - c. Seals the underside of the deck and extends outside of the deck and outside of the fascia stringers to enclose the soffits and parapets.
  - d. If parapet removal or parapet construction is required, provide an outrigging to enclose the soffits and parapets.
  - e. Does not bolt or weld the temporary shielding system to the beams.
  - f. Does not reduce the underclearance of the bridges to less than 14.75 feet over roadways and 22 feet over railroads or as specified in the Contract. If existing underclearance is less than these values, does not further reduce the underclearance. Show elements of the temporary shielding system, including design calculations, and the sequence of operations, and, when applicable, bonding and grounding over electrified rail lines.

2. Install the temporary shielding according to the certified working drawings before performing any construction operations over vehicular, pedestrian, or railroad traffic or ecologically sensitive areas. The RE will not allow the installation of temporary shielding over active traffic lanes and pedestrian areas. When applicable, comply with the railroad's maintenance of traffic requirements, rules and regulations. Remove and reinstall the temporary shielding as required by construction staging. Do not allow dropped materials to accumulate on the temporary shielding, and remove dropped materials promptly. If debris falls from the shielding, promptly clean it up and repair the damage. Do not remove any portion of the shielding without the approval of the RE.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Clearing Bridge Superstructure will be made of a lump sum basis, and the cost thereof shall be bid for the item **CLEARING BRIDGE SUPERSTRUCTURE NO. MO-37** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Clearing Site will be made of a lump sum basis, and the cost thereof shall be bid for the item **CLEARING BRUSH** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- C. Payment for the item Tree Removal will be made of a lump sum basis, and the cost thereof shall be bid for the item **REMOVE TREE 36"** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## SUBSECTION 024119 - SELECTIVE DEMOLITION

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Cutting and removal indicated on the Drawings are general indications only and do not necessarily show the full extent of cutting and removal which may be required by job conditions.
- B. Inspect and assess each space and fulfill the intent of the work required by the Contract Documents. Deviations from the Contract Documents required by field conditions shall be brought to the attention of the Engineer before proceeding.
- C. Verify or establish all existing conditions and dimensions before proceeding with any portion of the work.
- D. Provide and maintain all bracing and shoring required to maintain structural integrity at all times.

#### 1.2 DEFINITIONS

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain on the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Re-install items in the same locations or in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

#### 1.3 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further

disposition at the Contractor's option, subject to legal means.

#### 1.4 SUBMITTALS

- A. Submit a drawing, prepared by a professional engineer, indicating the method and materials proposed to brace and shore existing work during removal operations.
- B. Submit a schedule of removal operations, and the proposed manner of blocking off removal areas.
- C. Submit photographs or videotape, sufficiently detailed, of existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's representative prior to start of work.

#### 1.5 PROJECT CONDITIONS

- A. Provide minimum of 72 hours' advance notice to Owner of demolition activities.
- B. Owner assumes no responsibility for actual condition of items or structures to be demolished. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable.
- C. Items deemed by the Contractor to be salvageable, but not identified herein or on the Drawings to be handed over to the Owner shall be transported from the site as they are removed. Storage or sale of removed items on site will not be permitted.

#### 1.6 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed selective demolition Work similar to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

#### 1.7 STORAGE

- A. Store and protect materials salvaged for reuse in the new construction in a location designated by the Owner's representative.

#### 1.8 PROTECTION

- A. Protect all areas of structure not designated to be removed.

- B. Perform all work required to protect the public and utilities.
- C. Flame Cutting: Do not use cutting torches for removal until work area is cleared of flammable materials. At concealed spaces, such as interior of ducts and pipe spaces, verify condition of hidden space before starting flame-cutting operations. Maintain portable fire suppression devices during flame-cutting operations.

## 1.9 EXISTING SERVICES

- A. Disconnect or reroute existing soil, drain, water service, gas pipes, electrical conduits and wires, telephone conduits and wires, sprinkler lines, and similar utilities in the way of demolition, before proceeding with the work.
- B. Do not remove any of the existing utility services described above until it has been determined that the line is no longer in service. Maintain continuity of service of all utilities in use.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Carefully remove materials indicated for reuse or delivery to the Owner.
- B. Salvageable materials not claimed by the Owner shall be the property of the Contractor. On site sale of materials will not be permitted.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Survey the condition of the structure to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.
- B. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- C. Erect guard rails, dust proof enclosures, chutes, catch platforms, shoring and bracing required for human safety and property protection and to keep dust and dirt to a minimum.
- D. Install soil erosion control measures, cofferdams, stream diversion system,

turbidity barriers, and dewatering measures.

### 3.2 FACILITIES

- A. Existing road must be closed and start of work approved by owner.

### 3.3 DEMOLITION

- A. Do not use explosives in demolition or removal of work.
- B. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
- C. Hold dust and dirt to a minimum by wetting down, as required. Do not allow debris to accumulate. Conduct loading and hauling in a careful manner to keep the route to disposal area free of debris. On-site burning of materials will not be permitted.
- D. Adopt a method for controlling and scheduling loud noises.
- E. Demolish masonry in small sections. Cut masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
- F. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- G. Repair any damage to existing materials, finishes or surfaces caused by demolition work at no additional cost to the Owner. Match finishes in material, color, texture, sheen, and workmanship.

### 3.4 REMOVAL

- A. Supervision of the removal of materials designated for reuse shall be conducted by the trade required to install each material.
- B. Perform all cutting and removal required for alteration work carefully, causing no damage to existing materials left in place.
- C. Perform all removal work in small portions, using bars, chisels, etc.
- D. Lower debris from areas above grade level through hoists or chutes. Do not throw

debris from windows.

- E. Lightly sprinkle all debris as it is being piled and loaded.
- F. Removed equipment and materials not desired by the Owner shall become the property of the Contractor and shall be promptly removed from the site. Equipment and materials desired by the Owner shall be delivered by the Contractor to an on-site location designated by the Owner. Review and coordinate with the Owner and Engineer.

### 3.5 PATCHING AND INSTALLATION

- A. When in-filling existing openings, the in-fill materials shall be finished to match existing adjacent surfaces, unless otherwise noted. Work shall be as specified herein or, if not specified, installation shall be by mechanics who are trained in installation of such materials and materials shall match existing in texture, strength, color, sheen, construction, make-up and all other appearances.
- B. Pipe, duct and conduit holes, either existing or resulting from the work requirements, shall be filled in to match adjacent existing work.

### 3.6 DISPOSAL

- A. Remove all materials as a result of demolition from the site and dispose of by legal means. Debris shall not be permitted to accumulate on the job-site.

### 3.7 CLEANING

- A. At completion of the work, clean the entire area involved, including exterior areas where debris was removed and loaded, and leave it in a neat condition, free of rubbish and debris.
- B. At completion of repair work power wash lower level using a medium-pressure water spray at 400 to 800 psi; 4 to 6 gpm.

## PART 4 – METHOD OF PAYMENT

### 4.1 QUANTITY AND PAYMENT

No specific payment will be made for Selective Demolition, and the cost thereof shall be included in the price for the item **CLEARING BRIDGE SUPERSTRUCTURE NO. MO-37** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary

therefore and incidental thereto.

END OF SECTION

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## **SUBSECTION 031500 – SUPPLEMENTAL CONCRETE ACCESSORIES**

### PART 1 – GENERAL

#### 1.1 SUMMARY

A. Types of work in this section include accessories for concrete as follows:

1. Bridge Bearing Pads
2. Waterstops for construction joints
3. Patching Cement for existing concrete
4. Non-shrink Grout for filling abandoned drill holes.

#### 1.2 SUBMITTALS

A. Submit manufacturer's product data for each type of concrete accessory and other manufactured products, including certifications that each type complies with specific requirements and in compliance with NJDOT. Include material test reports as applicable.

#### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project in undamaged condition.
- B. Store materials off the ground, under cover and in dry locations.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

A. Bridge Bearing Pads

Provide plain elastomeric pads consisting of polychloroprene / neoprene molded or cut to size from larger sheets. Thickness and width to meet the requirements shown on the Plans. Provide pads with standard AASHTO durometer hardness of 60. Ensure that the materials and fabrication of bridge bearing pads conform to Section 18.2 of the *AASHTO LRFD Bridge Construction Specifications*.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

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B. Waterstop

Provide hydrophilic strip waterstop designed to stop water infiltration through construction joints in cast-in-place concrete elements. Waterstop is to consist of an active bentonite/butyl rubber based continuous self-adhering strip, applicable to both vertical and horizontal surfaces.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

Cetco, Inc., Hoffman Estates, IL: Waterstop-RX

C. Patching Cement

Provide Quick Setting Patch, Type 1 cement to repair voids and surface damage to concrete surfaces where required to install bearing pads and waterstop.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

BASF Building Systems, Shakopee, MN: Rapid Mortar 10-60

Euclid Chemical Co., Cleveland, OH: Speedcrete 2028

Five Star Products, Fairfield, CT: Five Star Fast Set Cement

D. Non-shrink grout

Provide non-shrink cementitious grout to fill abandoned drill holes in concrete elements.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

ChemMasters, Madison, OH: Conset Grout

CTS Cement Manufacturing Corp., Manasquan, NJ: Rapid Set Cement-All

Euclid Chemical Co., Cleveland, OH: Euclid NS Grout

H.B. Fuller Construction Products, Aurora, IL: Slab Dowel Grout, Prospec High Strength Precision Grout

Dayton Superior, Dayton, OH: 1107 Advantage Grout

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## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Bearing Pads
  - 1. Repair and patch any damage to existing concrete surfaces. Fill any voids with patching cement and strike level with existing bearing surface. Grind any high spots or uneven areas to provide a smooth flat surface for pads.
- B. Waterstop
  - 1. Fill any voids with patching cement and strike level to provide a smooth flat surface. Grind any high spots or uneven areas. Follow manufacturer's preparation guidelines.
- C. Patching Cement & Non-shrink grout
  - 1. Ensure that substrate is clean and free of any loose debris, dirt or other material that could affect proper bond. Follow manufacturer's preparation guidelines.

### 3.2 INSTALLATION

- A. Bearing Pads: Install bearing pads in accordance with Plans. Provide tapered material where bearing seat slope exceeds 1.4%, notify RE if slope exceeds 5.5%. Provide holes of size noted on Plans and in coordination with anchor locations.
- B. Waterstop: Surfaces should be clean and dry. Remove all dirt, rocks, rust or other debris. Do not install in standing water or on an iced substrate. Apply a continuous bead of CETSEAL (or approved equal) adhesive along the substrate where waterstop will be installed. Assure proper concrete coverage will be provided. Keep the nozzle tip pressed against the concrete at a 45 degree angle during application. After applying a continuous bead of adhesive, remove release paper, then firmly press the entire length of waterstop onto the adhesive within the working time of the adhesive. For vertical and overhead applications, firmly press a minimum of 15 seconds to assure adhesion. Tightly butt coil ends together, do not overlap coil ends. There should not be any air gap between the waterstop and the substrate. Place waterstop inside the outermost reinforcement or as otherwise noted on plans.
- C. Patching Cement & Non-shrink grout
  - 1. Follow manufacturer's installation guidelines.

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PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. No specific payment will be made for SUPPLEMENTAL CONCRETE ACCESSORIES, and the cost thereof shall be included in the price for the items: **CONCRETE BRIDGE DECK, HPC AND CONCRETE BRIDGE PARAPETS & PYLONS, HPC** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## **SUBSECTION 033100 - CAST-IN-PLACE CONCRETE**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The Drawings contain additional specifications. Comply with requirements of both the Drawing Specifications and this Section. Where conflict occurs, notify the Engineer immediately and for bidding purposes, the Drawing Specifications shall apply.
- B. Provide all concrete and related materials for bridge construction.

#### 1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, ground granulated blast- furnace slag, and silica fume.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, curing compounds, and others as requested by Engineer.
- B. Design Mixes: For each concrete mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Indicate amounts of mix water to be withheld for later addition at Project site.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork. Design and engineering of formwork are Contractor's responsibility.
- E. Shoring and Re-shoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing re-shoring.
- F. Welding Certificates: Copies of certificates for welding procedures and personnel.

- G. Submit delivery ticket for each truckload discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, amount of water introduced, and admixtures used. Tickets shall be transmitted to Engineer within 24 hours of concrete delivery. Engineer reserves the right to have the concrete tested and/or reject concrete which does not meet specifications.

#### 1.4 QUALITY ASSURANCE

- A. Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:
  - 1. ACI 301 "Specifications for Structural Concrete for Buildings".
  - 2. ACI 318 "Building Code Requirements for Reinforced Concrete".
  - 3. ACI 347 "Recommended Practice for Concrete Formwork."
  - 4. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
- B. The Contractor shall engage the services of an AASHTO accredited testing laboratory to perform material evaluation test and to design concrete mixes. Fully cooperate with testing agency and allow free access to the job site at all times. Testing laboratory will perform following tests and submit test reports during construction. Test reports shall be submitted to the Engineer and County within 24 hours of actual test:
  - 1. Sampling fresh concrete; ASTM C 172, except modified for slump to comply with ASTM C94.
  - 2. Slump; ASTM C 143; one test for each concrete load at point of discharge and one test for each set of compressive strength test specimens.
  - 3. Air content; ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure for normal weight concrete; one for each set of compressive strength test specimens.
  - 4. Concrete temperature; test hourly when air temperature is 40<sup>0</sup> F and below, and when 80<sup>0</sup>F, and above; and each time a set of compression

test specimens made.

5. Compression test specimen; ASTM C 31; one set of 5 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field cure test specimens are required.
  6. Compressive strength tests; ASTM C 39; one set for each 100 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 5,000 sq. ft. of surface area placed; 2 specimens tested at 7 days and 2 specimens tested at 28 days.
- C. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
  - D. When strength of field cured cylinders is less than 85% of companion laboratory cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
  - E. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
  - F. Test results shall be reported in writing to Engineer and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength and type of break for both 7-day tests and 28-day tests.
  - G. The testing service shall make additional tests of in- place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods, as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

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- H. Materials and installed work may require testing and retesting, as directed by Engineer, at any time during progress of work. Allow free access to materials stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including retesting of rejected materials and installed work, shall be done at Contractor's expense.
- I. All admixtures and coatings shall comply with the requirements of New Jersey Administrative Code; Title 7, Chapter 27, Subchapter 23 Volatile Organic Substances in Consumer Products, including labeling requirements.
- J. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring and reshoring installations that are similar to those indicated for this Project in material, design, and extent.
- K. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment. Manufacturer must be certified according to the National Ready Mixed Concrete Association's Certification of Ready Mixed Concrete Production Facilities.
- L. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- M. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code-Reinforcing Steel."

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.
  - 1. Avoid damaging coatings on steel reinforcement.
  - 2. Repair damaged epoxy coatings on steel reinforcement according to ASTM D 3963/D 3963M.

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## PART 2 - PRODUCTS

### 2.1 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal framed plywood faced or other acceptable panel type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without bow or deflection.
- B. Use overlaid plywood complying with U.S. Product Standard PS-1 "B-B High Density Overlaid Concrete Form", Class I.
- C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- D. Form Release Agent: Provide commercial formulation form coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.
- E. Form ties, unexposed surfaces: adjustable length, removable or snap off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is at least 1-1/2" inside concrete. Unless otherwise shown, provide form ties which will not leave holes larger than 1" diameter in concrete surface.

### 2.2 REINFORCING MATERIALS

- A. Epoxy-Coated Reinforcing Bars: ASTM A 775, and as follows:
  - 1. Steel Reinforcement: ASTM A 615, Grade 60, deformed.
  - 2. Epoxy-Coated Wire: ASTM A 884, Class A coated, deformed-steel wire.
  - 3. Epoxy-Coated Welded Wire Fabric: ASTM A 884, Class A, deformed steel.

## 2.3 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete. For epoxy-coated reinforcement, use epoxy-coated or other dielectric- polymer-coated wire bar supports.
- B. Epoxy-Coated Joint Dowel Bars: ASTM A 775; with ASTM A 615, Grade 60, plain-steel bars.
- C. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775.

## 2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I/II.
- B. Normal-Weight Aggregate: ASTM C 33, uniformly graded, Class 3S.

## 2.5 CHEMICAL ADMIXTURES

- A. Air Entraining Admixture: ASTM C 260 and AASHTO M194, certified by manufacturer to be compatible with other required admixtures. Subject to compliance with requirements, provide one of the following or approved equal:

Air-Mix or Perma-Air; Euclid Chemical Co.  
Sika AER; Sika Chemical Corp.  
MB-VR or Micro-Air; Master Builders.  
Darex AEA; or Daravair; W.R. Grace.

- B. Water Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1% chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

Eucon WR-75; Euclid Chemical Co.  
Pozzolith Normal or Polyheed; Master Builders.  
Plastocrete 161; Sika Chemical Corp.  
Chemtard; ChemMasters Corp.  
WRDA with Hycol; W.R. Grace.

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- C. High Range Water Reducing Admixture (Super Plasticizer): ASTM C 494, Type F or Type G and containing not more than 0.1% chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

WRDA 19 or Daracem; W.R. Grace.  
Super P; Anti-Hydro.  
Sikament 300; Sika Chemical Corp.  
Eucon 37; Euclid Chemical Co.  
Cromix 200; Cromix Construction Chemicals.

- D. Water Reducing, Non-Chloride Accelerator Admixture: ASTM C 494, Type E, and containing not more than 0.1% chloride ions. Subject to compliance with requirements, provide one of the following or approved equal:

Accelguard 80; Euclid Chemical Co.  
Pozzutec 20; Master Builders.  
Daraset; W.R. Grace & Co.

- E. Provide admixture manufacturer's written certification that chloride ion content complies with specified requirements.

- F. Calcium chloride will not be permitted.

## 2.6 MINERAL ADMIXTURES

- A. Fly Ash: Ensure that fly ash for use as a pozzolan in concrete is listed on the QPL and conforms to ASTM C 618, Class C or Class F, except that the loss on ignition shall not exceed 3 percent. Use Class F fly ash to control alkali-silica reactivity. The supplier shall determine conformance to the requirements for loss on ignition and fineness for each truck load of fly ash delivered to the mixing site and shall include the test values on the delivery ticket. Submit certificate of compliance as specified in 106.07.
- B. Slag: Slag for use as a cementitious material is ground, granulated blast furnace slag. Use slag that is listed on the QPL and conforms to the requirements of AASHTO M 302, Grade 120. The Contractor may use Grade 100 with the written permission of the ME. The Contractor may use slag as a replacement for cement as specified in 903.01, up to a maximum replacement level of 50 percent by weight of the total cementitious material. If more than 30 percent of cement is replaced, test the concrete mix design for scaling as specified in ASTM C 672,

and ensure that it complies with a visual rating less than 3. Submit certificate of compliance, as specified in 106.07, indicating that the slag conforms to the requirements of AASHTO M 302, Grade 120.

- C. Silica Fume Admixture: Ensure that silica fume admixture for use in concrete is listed on the QPL and conforms to AASHTO M 307. Use only 1 brand of silica fume admixture for the entire duration of the Contract. The Contractor may supply silica fume admixture either in dry or in slurry form. If the slurry form is used, ensure that it is homogeneous and agitated to prevent separation. Submit certificate of compliance as specified in 106.07.
- D. Use the combined weight of fly ash, slag, silica fume, and cement content to determine compliance with the minimum cement content and water-cement ratio requirements specified in Table 903.03.06-3. Include free water from the aggregates and the water in the admixtures and additives along with the mixing water when calculating the water-cement ratio.

## 2.7 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 4, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.
- B. Moisture-Retaining Cover: ASTM C 171, AASHTO M171 for white opaque polyethylene film or white burlap-polyethylene sheet.
- C. Liquid Membrane-Forming Compound: Use liquid membrane-forming compounds conforming to AASHTO M 148, Type 1-D, clear or translucent with fugitive dye. The ME may sample 1 quart of liquid membrane-forming compound from each lot for testing. If requested by the RE, submit a certification of compliance as specified in 106.07.
- D. Water: Potable.

## 2.8 RELATED MATERIALS

- A. Premolded Filler: In joints without sealant indicated or specified provide premolded, nonextruding, resilient type conforming to ASTM D 1751. In joints with sealant indicated or specified provide sponge rubber or cork conforming to ASTM D 1752. Sealant shall be as specified in Section 07900 - Joint Sealers.

## 2.9 CONCRETE MIXES

- A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases. See Drawings for various requirements.
- B. Admixtures: Use admixtures according to manufacturer's written instructions.
  - 1. Use water-reducing admixture or high-range water- reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
  - 2. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

## 2.10 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## 2.11 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.
- B. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

## PART 3 - EXECUTION

### 3.1 FORMS

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.
- B. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials. Provide crush plates or

wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

- C. Construct forms to sizes, shapes, lines and dimensions required, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages, sleeves, and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back up at joints to prevent leakage of cement paste.
- D. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.
- E. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- F. Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- G. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement if required to eliminate mortar leaks and maintain proper alignment.

### 3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 1. Install anchor bolts, accurately located, to elevations required.

### 3.3 REMOVING AND REUSING FORMS

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the Work, that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete provided concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained.
- B. Leave formwork, for beam soffits, joists, slabs, and other structural elements, that supports weight of concrete in place until concrete has achieved
  1. At least 75 percent of 28-day design compressive strength and at least 14 days.
  2. Determine compressive strength of in-place concrete by testing representative field- or laboratory-cured test specimens according to ACI 301.
  3. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable forexposed surfaces. Apply new form-rele aseagent.
- D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved byEngineer.

### 3.4 SHORES AND RESHORES

- A. Comply with ACI 318, ACI 301, and recommendations in ACI 347R for design, installation, and removal of shoringand reshoring.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

### 3.5 DECK PLACEMENT PLAN

- A. At least 15 days before the start of placing bridge deck concrete, submit to the

RE for approval a plan of operation that includes the following:

1. SIP form cut and fill grade sheets.
  2. A screed and rail erection plan.
  3. Deck grades.
  4. Sequence and rate of placing concrete.
  5. Number and type of personnel performing the work.
  6. Number, type, and model of equipment to be used in handling, placing, and finishing the concrete including the weight of the finishing machine.
  7. Request for a change in the number, location, or configuration of construction joints.
  8. Method of maintaining the evaporation rate below 0.15 pounds per square foot per hour.
  9. Type of fog misting equipment if used.
- B. Meeting. Within 10 days before the start of deck placement, conduct a meeting with the RE, the ME, and the concrete supplier to discuss the plan of operation and to coordinate the deck placement.
- C. Limitations of Placing Concrete. Comply with the limitations of placing specified in 504.03.02.C, except do not place concrete when the ambient temperature is above 85 °F. If within the 12 hours before the concrete placement the National Weather Service <http://www.nws.noaa.gov/> locally forecasts a 40 percent chance or greater of precipitation during the scheduled concrete placement, postpone the placement of bridge decks and pavement.

Do not place concrete when the atmospheric evaporation rate is greater than 0.15 pounds per square foot per hour. The Contractor may use fog misting, wind shields, or other methods approved by the RE to keep the evaporation rate below 0.15 pounds per square foot per hour. If using fog misting, ensure that the fog misting equipment is capable of delivering 2 to 3 gallons of water per minute at 2000 to 2500 pounds per square inch using a 40 degree to 50 degree wide-angle nozzle. Position the fog nozzle 6 feet above the concrete surface. Do not use fog misting to apply water for finishing purposes. Immediately cease fog misting if water accumulates on the surface.

The ME will measure air temperature, relative humidity, and wind speed at the location of the deck placement. The ME will measure concrete temperatures from the sample used for slump and air content tests. The ME will perform measurements and calculations at least once every 2 hours beginning 1 hour before concrete placement.

- D. Performing the Dry Run. Perform a dry run with the finishing machine over the

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full length of the bridge segment. Ensure that the screed rail supports are spaced no more than 3 feet apart. Adjust the screed to its finishing position before performing the dry run. During the dry run, check the height and deflection of screed rails, the cover for reinforcement steel, and forms. Make necessary corrections before notifying the RE for inspection.

If the supports for the rails are located in the deck concrete, ensure that the supports can be removed without disturbing the concrete, or partially removed so that no part remains less than 2 1/2 inches below the finished concrete surface.

The RE will not inspect the dry run until it is evident that the placement and finishing operation can be completed within the scheduled time, that any required weather protective materials are in place, and that all necessary finishing tools and equipment are on hand at the work site.

The RE will check to ensure that elevations are within  $\pm 1/4$  inch of the specified elevations. The RE will check elevations longitudinally every 10 feet and transversely at the edges of breaklines, joint assemblies, gutter grades, and the center of each lane and shoulder. The RE may direct placement of additional grade stakes in areas with rapid changes in grade so that intermediate longitudinal checks can be made.

Once the RE has approved the dry run, do not make adjustments to the operation without RE approval.

- E. Placing Deck Concrete. Provide work bridges or other RE approved means of access to the surface of the deck for the purpose of finishing, straightedging, making corrections, and for other operations requiring access to the surface of the deck after the passing of the screed. Before placing deck concrete, construct bulkheads in the shape of the required deck cross-section.

When multiple concrete placements are required within a deck structure, follow the numbered sequence shown on the Plans, beginning with the lowest number. The Contractor may submit a written request to the RE for approval to have this requirement waived if the succeeding sections can be completed within 4 hours after the start of the initial section placement. The RE will not allow these requirements to be waived for deck slabs on prestressed concrete beams that are continuous for live load.

Do not place a deck section until the previously placed concrete within the unit has cured for 72 hours.

Coordinate concrete placement and initial strike-off by a transverse finishing machine so that initial strike-off is between 6 and 8 feet behind the concrete placement.

Deliver, place, and consolidate the concrete, as specified in 504.03.02.D, at a uniform rate in a continuous operation. Ensure that stoppages of concrete placement do not exceed 30 minutes. If there is a stoppage of more than 30 minutes, the RE may direct the deck segment be removed and replaced. When placing concrete, maintain a minimum rate of 30 cubic yards per hour for deck slabs of 180 cubic yards or less. Maintain a minimum rate of 40 cubic yards per hour for deck slabs of more than 180 cubic yards of concrete.

Make as few passes of the machine as are necessary to obtain a smooth, dense surface of the required contour. Maintain a small uniform quantity of concrete ahead of the screed on each pass. Ensure that the quantity of concrete carried ahead of the screed is not great enough to cause slipping or lifting of the finishing machine on the rails at any time.

If improper adjustment or operation of the finishing machine results in unsatisfactory consolidation, reinforcement cover, or surface requirement, immediately correct the unsatisfactory condition.

If the supports for the rails are located in the deck concrete, remove them before initial set has taken. Fill the resulting holes with deck concrete. If the concrete has hardened, fill the holes with non-shrink grout.

Ensure that all deck concrete is placed before placing sidewalks, curb, and parapet.

### 3.6 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum

concrete cover. Do not tack weld crossing reinforcing bars.

- D. Shop- or field-weld reinforcement according to AWS D1.4, where indicated.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- F. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.
- G. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963.
- H. Handling. Store reinforcement steel above ground level. When unloading coated reinforcement steel, minimize scraping of the bundles, bar-to-bar abrasion, and sags in the bundles. For coated reinforcement steel, do not skid the bundles from the truck bed to the ground. Ensure that equipment used for handling the bars is equipped with nylon slings. Do not use wire rope slings or chains. Lift bundles of bars to ensure that sagging does not occur. Ensure that coated bars or bundles of coated bars are not dropped or dragged during handling.
- I. Storing. Coordinate deliveries of coated reinforcement bars to the work site with the placing of the bars in the structure. Store reinforcement steel as close as possible to the area where it will be placed to minimize handling. Store the bars above the ground on timbers or other suitable protective cribbing and space the dunnage to prevent sags in the bundles. When storing a large quantity of bars in a small area, stack bundles of straight bars with adequate blocking placed between the layers of bundles to provide stability and prevent sagging.

Do not store reinforcement bars at the work site for more than 60 days unless approved by the RE. If long term storage is approved, protect non-metallic tags on the bundles or attach additional galvanized metal tags on all bundles of bars to maintain identification. If long term storage is approved, cover the bars with white polyethylene sheeting or other suitable protective material. For stacked bundles, drape the white polyethylene sheeting over the sides of the bundles around the perimeter of the stack. Secure the covering and provide air

circulation around the bars to prevent condensation under the polyethylene sheeting.

- J. Field Cutting. Obtain RE approval before field cutting reinforcement steel. Do not flame cut epoxy-coated reinforcement steel. If coated reinforcement bars are cut in the field, coat the cut ends and repair damage to the coating as specified in 504.03.01.G.
- K. Field Bending. Obtain RE approval before field bending reinforcement steel. Use the cold method to make minor adjustments to reinforcement steel bars in the field. Do not bend galvanized reinforcement steel more than 10 degrees. With the approval of the RE, the Contractor may use the heat method to perform minor adjustments to uncoated bars. Preheat the bar to between 1000 and 1200 °F, and then gently bend in a gradual arc. For bars partially embedded in concrete, ensure that the concrete is not damaged by heating the bars.
- L. Placing and Fastening. When placing, ensure that reinforcement steel is free of dirt, detrimental scale, paint, oil, or other foreign substances. Tie bars at all intersections except where spacing is less than 12 inches in each direction, in which case tie alternate intersections. Use stays, blocks, ties, hangers or chairs, to maintain the specified concrete cover. If using blocks, ensure that the blocks are precast concrete. Ensure that blocks are not used where they are exposed in a finished surface.

When using galvanized reinforcement steel, ensure that all miscellaneous hardware that comes in contact with or is used to support, position, or fasten the reinforcement steel are also galvanized according to AASHTO M 232. When using epoxy-coated reinforcement steel, use only plastic-coated or epoxy-coated tie wires and ensure that all miscellaneous hardware used to support, position, or fasten the reinforcement are dielectric, plastic-coated, or epoxy-coated.

If using welded wire reinforcement, overlap sheets at least 1 grid in width. Fasten overlaps securely at the ends and edges.

Repair damage to epoxy-coating or galvanized coating as specified in 504.03.01.G. Do not place concrete before inspection and approval of the reinforcement steel.

- M. Splices. When splicing is not specified, submit a plan for splicing to the RE for approval. Include size, location, and splicing method. The Contractor may use mechanical coupling devices listed on the QPL. When using galvanized

reinforcement steel, ensure that mechanical coupling devices are galvanized according to AASHTO M 232. When using epoxy coated reinforcement steel, ensure that mechanical coupling devices are epoxy coated according to AASHTO M 284.

### 3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Engineer.
  - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated.

### 3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement, unless approved by Engineer.
- C. Before placing concrete, water may be added at Project site, subject to limitations of ACI301.
- D. Do not add water to concrete after adding high-range water-reducing admixtures to mix.
- E. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- F. Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.
  - 1. Consolidate placed concrete with mechanical vibrating equipment. Use

equipment and procedures for consolidating concrete recommended by ACI309R.

2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix constituents to segregate.
- G. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleed water appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- H. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.

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2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- I. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot- weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
  3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### 3.9 FINISHING FORMED SURFACES

- A. Finish the surface of the concrete immediately after removing the forms. Apply a Class 1 finish to surfaces not exposed to view. Apply a Class 2 finish to all surfaces exposed to view. Do not begin finishing a surface until the entire face of the structure is completed to ensure a uniform texture and color. For barrier curb and parapet, apply a Class 2 finish within 48 hours of placing concrete. The classes of concrete finish are as follows:
1. Class 1, Surface Finish. Remove projecting wire or metal devices that have been used for holding the forms in place. If the wire or metal device cannot be removed, cut the wire or metal device at least 1 inch below the surface of the concrete. Remove lips of mortar and irregularities caused by form joints. Ensure that all construction and expansion joints are tooled and free of mortar and concrete.

Patch holes, depressions, voids, and honeycombs by chipping away coarse or broken material until a dense uniform surface of concrete exposing solid coarse aggregate is obtained. Cut away feathered edges to form faces perpendicular to the surface. Saturate the surfaces of the deficient area with water, then fill the deficient area with stiff mortar. Finish the surface of the mortar with a wooden float before initial set takes place.

When patching large or deep areas as determined by the RE, patch the area using the same mix design concrete as the surrounding concrete. Chip away coarse or broken material until a dense uniform surface of concrete exposing solid coarse aggregate is obtained. Cut away feathered edges to form faces perpendicular to the surface. Saturate the surface of the area with water, then apply a layer of bonding compound to the area. Fill the area with the concrete. Finish the surface of the concrete with a wooden float before initial set takes place.

The Department may reject a structure for having areas of excessive honeycombs as directed by the RE.

2. Class 2, Rubbed Finish. "Structural concrete: Finishing concrete surface: Class 2, rubbed finish" After performing a Class 1 finish, rub surfaces with a wetted wooden block or a medium coarse carborundum stone, using a small amount of mortar on its face. Do not use the carborundum stone until the concrete has hardened to the state where the sand grinds rather than ravel or rolls. Continue rubbing until form marks, projections, and irregularities have been removed, voids are filled, and a uniform surface has been obtained. Leave the paste produced by this rubbing in place. After the entire surface of the structure has been rubbed and the paste has dried, obtain the final finish by rubbing with a fine carborundum stone and water until the entire surface is of a smooth texture and uniform color.

### 3.10 FINISHING SLABS

- A. Deck Slab Surface Texture Finish. Texture concrete bridge deck slabs using a broom or burlap drag immediately after final strike-off. When using burlap drag, attach a single, full width strip to the finishing machine. Texture the concrete deck slab in a transverse direction. Clean the broom or burlap as necessary to provide a uniform texture. Provide a smooth finish within 1 foot of curbs and drainage structures. Provide a final finish on sidewalks and top of



curbs with a fine-bristle broom.

- B. Curing. Within 30 minutes of texturing, apply wet burlap and white polyethylene sheeting as specified in 504.03.02.F, and maintain for at least 14 days. Ensure that the water used for curing does not leave the bridge deck. Do not allow anything on the deck during the 14-day curing period except for personnel necessary to maintain curing materials and protective measures. Post warning tape around flatwork during the curing period

### 3.11 CONCRETE PROTECTION AND CURING

- A. Post warning tape around flatwork such as bridge decks, pavement, sidewalks, driveways, and islands during the curing period. Provide wet burlap or polyethylene sheeting to protect the edges and surface of the plastic concrete from precipitation. Do not drive piles within 200 feet of concrete that is being placed or has been placed within the previous 24 hours unless approved by the RE. Ensure that salt or brackish water does not come in contact with the concrete for a period of 28 days after being placed.
- B. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing by one or a combination of the following methods:
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet.

Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
  - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
  - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
  - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.
  
- E. Do not allow anything other than the curing materials on concrete surfaces for 24 hours after placing the concrete. The Contractor may begin constructing forms for subsequent concrete placements after the forms from the underlying concrete can be removed as specified in 504.03.02.G. After the forms have been constructed and at least 3 days after the underlying concrete has been placed, the Contractor may perform subsequent concrete placements. The Contractor may begin storing materials, backfilling, or other loading on the concrete surface 3 days after the concrete has been placed if the forms can be removed as specified in 504.03.02.G.

### 3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Engineer. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.
  
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
  
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities,

cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Engineer.

### 3.13 MISCELLANEOUS CONCRETE ITEMS

- A. Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.
- B. Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.

### 3.14 REDESIGNS

- A. If the Contractor makes, or causes to be made, any substantial change in the type, form system or details of construction from those shown or indicated on the project documents, he shall pay for all costs arising from such changes.
- B. The Contractor shall pay for all engineering fees required to check and evaluate

the adequacy of such changes on an hourly rate basis.

- C. Any changes or departures from the construction and details shown on the Drawings shall be made only after an approval is obtained in writing from the Engineer.
- D. The Engineer's decisions in these matters shall be final.

### 3.15 BRIDGE DATE PANEL

- A. Submit a sample of the date panel showing the coloring and surface finish to the RE for approval. Ensure that the date panel is cast true and straight in a single unit that includes anchors. Ensure that the material used to color the concrete is nonfading. Ensure that the arrises are clean and accurate. Install the date panel onto the parapet using epoxy grout.

## PART 4 – METHOD OF PAYMENT

### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Cast-in-Place concrete will be made on a cubic yard basis and the cost thereof shall be bid for the items: **CONCRETE BRIDGE DECK, HPC AND CONCRETE BRIDGE PARAPETS & PYLON, HPC**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Bridge Date Plate will be made on a unit basis and the cost thereof shall be bid for the items: **DATE PLATE**, in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## SUBSECTION 036300– EPOXY GROUTING

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Work includes doweling of rebar in existing concrete walls as indicated on the Drawings.

#### 1.2 DEFINITIONS

- A. Post-installed anchor: An anchor installed into a concrete element after the concrete has cured a required amount of time.

#### 1.3 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
- American Association of State Highway and Transportation Officials (AASHTO): *T237, Standard Method of Test for Testing Epoxy Resin Adhesive.*
  - ASTM International (ASTM): *E 488, Standard Test Methods for Strength of Anchors in Concrete Elements*
  - International Code Council Evaluation Service: *ICC-ES AC308 Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.*
  - American Concrete Institute: *ACI 355.4-11 Qualification of Post-installed Adhesive Anchors in Concrete.*
  - American Concrete Institute: *ACI 318-08 Building Code Requirements for Structural Concrete, Appendix D.*
  - International Building Code: *IBC 2015.*

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## 1.4 SUBMITTALS

### A. Action Submittals:

- ICC-ES Reports for epoxy adhesive to be used on project. The epoxy system shall be tested in accordance with the ICC-ES Acceptance Criteria for Post-installed Epoxy Anchors in Concrete Elements (AC308), Table 3.8. Technical Data shall be published in an ICC-ES Evaluation Service Report showing compliance with IBC 2015.

### B. Informational Submittals:

- Manufacturer's written recommended preparation procedures and application instructions for epoxy adhesives.
- Statements of Qualification for Epoxy Adhesive:
  - a. Manufacturer's Site representative.
  - b. Injection applicator.

## 1.5 QUALITY ASSURANCE

### A. Qualifications for Epoxy Anchoring Staff:

- Manufacturer's Site Representative:
  - a. Understands and is capable of explaining technical aspects of preparation and installation procedures.
  - b. Experienced in the operation, maintenance, and troubleshooting of application equipment.
  - c. Provide on-site training for field personnel to ensure compliance

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with manufacturer's printed installation instructions for the system selected.

- Injection crew and job foreman shall provide written and verifiable evidence showing compliance with the following requirements:
  - a. Licensed and certified by epoxy manufacturer.
  - b. Minimum 3 years' experience in successful epoxy anchoring work.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Package adhesive material in new sealed containers and label with following information:
  - Manufacturer's name.
  - Product name and lot number.
  - ANSI Hazard Classification.
  - ANSI recommended precautions for handling.
- B. Packaged with the adhesive material shall be printed material information with manufacturer's installation guidelines.
- C. Storage and Protection: Store adhesive containers at ambient temperatures below 110 degrees F and above 45 degrees F.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal:

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Hilti, Inc., Tulsa, OK: HIT HY 200 Adhesive  
ITW Commercial Construction, Glendale Heights, IL: Redhead  
A7+ Adhesive.  
Simpson Strong Tie, Columbus, OH: AT-XP.

## 2.2 EPOXY ADHESIVE

- A. Two-component A and B structural epoxy adhesive for injection into drilled holes in concrete structures for bonding anchors to concrete. Anchors can include threaded rod, deformed reinforcing bars (rebar), or proprietary anchors, see plans for anchor type.

## 2.3 ANCHORS

- A. Refer to structural plans for anchor sizes, lengths, materials, coating, nut, washers and other requirements.

# PART 3 – EXECUTION

## 3.1 PREPARATION

- A. Demonstrate the standard method of drilling and cleaning holes for the RE's approval.
- B. Plan installation and cure during period of time when weather conditions are favorable and temperatures within acceptable range per epoxy manufacturer's recommendations.
- C. Epoxy anchors are not to be installed in unclean or water filled holes.

## 3.2 APPLICATION

- A. **Contractor shall hire and arrange for a qualified testing company to perform Ground Penetrating Radar (GPR) or other means** to locate existing reinforcement well in advance of drill hole layout for post –installed anchors.

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- B. Drill holes to diameter recommended by epoxy manufacturer to suit given anchor sizes and depth denoted on plans. Use standard rotary drill or hammer drill with carbide tipped drill bits. Core drilling is not allowed unless noted on plans or with approval of RE. Hole roughening may be required if core drilling is allowed.
- C. Clean holes with method directed by epoxy manufacturer based on type of drilling equipment used and type of anchor. Drill hole cleaning is typically done with round steel wire brushing and compressed air nozzle with extension. Other methods may include special dry drill bits with integral vacuum technology. Core holes require water cleaning and vacuuming.
- D. Epoxy Injection and Anchor Installation:
  - 1. Store epoxy at minimum of 70 degrees F.
  - 2. Start injection at bottom of drill hole. Fill hole in accordance with printed directions packaged with epoxy.
  - 3. Install anchors within working time of epoxy.
  - 4. Do not disturb anchors until full cure directed by manufacturer. Do not load anchors within 7 days beyond full cure of epoxy and minimum 28 days cure of concrete element.
- E. Finishing:
  - 1. Remove excess injection adhesive, adhesive runs and spills from concrete surfaces.

### 3.3 EQUIPMENT

- A. Wire brush: round brush with diameter and extension to suit hole size and depth, respectively.
- B. Air nozzle: including hoses, couplers and extensions to suit conditions and

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of sufficient capacity for pressure used.

- C. Dispenser: manual, electric powered or pneumatic, as recommended epoxy manufacturer. Inject with sufficient pressure to fill all voids.
- D. Piston plug to prevent air voids during epoxy injection; drip guard; wedges.

### 3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Site representative: Contractor shall arrange for site visit at first day of epoxy injection with sufficient advance notice.
- B. Contractor to notify RE at least 24 hours in advance of start of epoxy injection and provide schedule to complete.
- C. EOR to provide progress inspections. Special Inspector is required for epoxy anchors. **Contractor to include cost to hire and pay a third party Special Inspection in his bid for full-time monitoring of epoxy anchor installation.**
- D. Drill Hole Repair:
  - a. Correct Work as a result of fouled drill holes.
  - b. Refill holes with an epoxy grout tamped and rodded in-place to form a dense fill.
  - c. Finish surface to blend with adjacent concrete.
- E. Testing:
  - a. Perform proof loading on 10 percent of the installed adhesive anchors at each location where the anchors have been placed. Provide calibration certificates for the test equipment before testing. Perform all testing in the presence of the RE. **Contractor shall hire and pay for qualified testing company to perform such testing.**

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- b. Tension test the anchor system according to ASTM E 488 to 90 percent of the yield strength of the anchor. If the location of the anchors precludes the proof loading of anchor bolts according to ASTM E 488, propose an alternate testing method to the RE for approval. Repair all spalls or cracks caused by such testing.
- c. Based on satisfactory performance in proof loading, the RE will approve the adhesive anchor installation. The RE will reject the anchor installation for failure to conform to the proof loading requirements. With the approval of the RE, replace the adhesive anchor installation by using larger size anchors, increasing the embedment depth, or using another anchor bolt system.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. No specific payment will be made for Epoxy Grouting, Special Inspection and Proof Load Testing, and the cost thereof shall be included in the price for the items: **CONCRETE BRIDGE PARAPETS & PYLONS, HPC; AND COMBINATION RAIL: 3 RAIL STEEL** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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## **SUBSECTION 040120 – MAINTENANCE OF UNIT MASONRY**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. This section specifies clay masonry repair, restoration and cleaning.
- B. Related Sections include the following:
  - 1. Section 04 20 00 – Unit Masonry.

#### 1.2 DEFINITIONS

- A. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- B. Medium-Pressure Spray: 400 to 800 psi (2750 to 550 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- C. High-Pressure Spray: 800 to 1200 psi (550 to 8250 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- D. Repointing: The terms repointing and tuck-pointing are interchangeable (per ASTM E2260) and refer to the process of removal of defective mortar from between masonry units and placement of fresh mortar.

#### 1.3 SUBMITTALS

- A. Product Data: Submit complete printed data for each type of product and manufactured material indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.
- B. Samples for Verification: submit samples of the following:
  - 1. Each type of exposed masonry unit to be used for replacing existing units.
    - a. For each brick type, provide straps or panels containing at least four bricks.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of material for masonry restoration (face brick, cement, sand, etc.) from one source with resources to provide materials of consistent quality in physical appearance and physical properties.
- B. Restoration Specialist: On projects of historic significance, masonry contractor shall demonstrate special competency and training in historic restoration.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry units to Project site strapped together in suitable packs or in heavy-duty cartons.
- B. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- C. Store cementitious materials on elevated platforms, under cover and in a dry location. Do not use cementitious materials that have become damp.
- D. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.
- E. Store sand where grading and other required characteristics can be maintained and contamination avoided.

#### 1.6 PROJECT CONDITIONS

- A. Repoint mortar joints and repair masonry only when ambient air temperature and unit temperature are between 40 and 90°F (4 and 32°C) and is predicated to remain so for at least 7 days after completion temperature is between and 40 and 90°F of work
- B. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 90°F (32°C) and above.
- C. Repair masonry only when air and surface temperatures are between and 40 and 90°F (4 and 32°C) and predicted to remain above 40°F (4°C) for at least 7 days

after completion of work. On days when air temperature is predicted to go above 90°F (32°C), schedule repair work to coincide with time that surface being repaired will be in shade or during cooler morning hours.

- D. Clean masonry surfaces only when air temperature is 40°F (4°C) and above and is predicted to remain so for at least 7 days after completion of cleaning.

## 1.7 SEQUENCING AND SCHEDULING

- A. Perform masonry restoration work in the following sequence:

1. Remove plant growth.
2. Repair existing masonry, including replacing existing masonry with new masonry materials.
3. Clean masonry surfaces with detergent solution.
4. Rake out joints that are to be repointed.
5. Point mortar joints.
6. Final clean masonry surfaces with clean water.

## PART 2 - PRODUCTS

### 2.1 MASONRY UNITS

- A. Brick and other modular units: Provide brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
  1. Provide units with colors, surface texture, size, and shape to match existing brickwork and with physical properties pursuant to specification section 04 20 00.
    - a. For existing brickwork that exhibits a range of colors, provide brick that matches that range rather than brick that matches an individual color within that range.

## 2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II.
  - 1. Provide white cement containing not more than 0.60 percent total alkali when tested according to ASTM C114 where required to achieve required mortar color.
- B. Hydrated Lime: ASTM C 207, Type S
- C. Mortar Sand: ASTM C 144, unless otherwise required.
  - 1. Color: Provide natural sand or ground marble, granite, or other sound stone; of color necessary to produced required mortar color.
  - 2. For pointing mortar, provide sand with rounded edges.
  - 3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands, if necessary, to achieve suitable match.
- D. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
- E. Refractory Mortar Mix: Ground fireclay or non-water-soluble, calcium aluminate, medium-duty refractory mortar that passes ASTM C 199 test; or an equivalent product acceptable to authorities having jurisdiction.
- F. Water: Potable.

## 2.3 CLEANING MATERIALS

- A. Product Selection: Provide the following materials and products for exterior wash-down.
- B. Water for Cleaning: Potable.
- C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate (TSP), 5 quarts (5 L) of 5 percent sodium hypochlorite (bleach), and 15 quarts (15 L) of hot water for every 5 gal. (20 L) of solution required.

- D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate (TSPP), 5 quarts (5 L) of 5 percent sodium hypochlorite (bleach), and 15 quarts (15 L) of hot water for every 5 gal. (20 L) of solution required.

## 2.4 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
  - 1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 1 to 1-½ hours. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not re-temper or use partially hardened material.
- B. Colored Mortar: Produce mortar of color required by using selected ingredients. Do not alter specified proportions without Architect's approval.
  - 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- C. Do not use admixtures of any kind in mortar, unless otherwise indicated.
- D. Mortar Proportions: Mix mortar materials in the following proportions:
  - 1. Pointing Mortar for Brick: Type N Cement-Lime mortar consisting of 1 part Portland cement, 1 part lime, and 6 parts sand.
    - a. Add pigments to produce mortar colors required.
  - 2. Rebuilding (Setting) Mortar: comply with ASTM C 270, Proportion Specification, Type N, unless otherwise indicated; with cementitious material content limited to Portland cement and lime.



## 2.5 MIXING CLEANING SOLUTIONS

- A. Provide heated water as required for proper cleaning product performance.
- B. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical cleaner manufacturer.

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
  - 1. Erect temporary protective covers over roof, roof top equipment, staging areas, walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.
- B. Comply with chemical cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical cleaning solution from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
  - 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives.
  - 2. Keep wall wet below area being cleaned to prevent streaking from runoff.
  - 3. Don not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
  - 4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
  - 5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving foundations, damage to landscaping, and water penetration into building interiors.

- C. Prevent mortar from staining face of surrounding masonry and other surfaces.
  - 1. Cover sills, ledges, and projections to protect from mortar droppings
  - 2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
  - 3. Immediately remove mortar in contact with exposed masonry and other surfaces.
  - 4. Clean mortar splatters from scaffolding at end of each day.

### 3.2 CLAY MASONRY REMOVAL AND REPLACEMENT

- A. At locations indicated in contract drawings, remove and replace units that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, full depth, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
  - 1. When removing single bricks, remove material from center of brick and work toward outside edges.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Engineer of unforeseen detrimental conditions including voids, cracks, bulges, and loose masonry units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- D. Remove in an undamaged condition as many whole bricks as possible.
  - 1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
  - 2. Store brick for reuse, as indicated.
  - 3. Deliver cleaned brick not required for reuse to Owner, unless otherwise directed.
- E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.

- F. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
- G. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. (30g/194 sq. cm per min.). Use wetting method that ensure that units are nearly saturated but surface is dry when laid. Maintain joint width for replacement units to match existing joints.
  - 1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.

### 3.3 CLEANING MASONRY, GENERAL

- A. Perform each cleaning operation in accordance with specification requirements including dust control and disposal of waste and water.
- B. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other.
- C. Use only those cleaning methods specified herein.
  - 1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
  - 2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
  - 3. Equip units with pressure gages.
  - 4. For chemical cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
  - 5. For water spray application, use fan-shaped spray tip that disperses water at an angle of at 25 to 50 degrees.

6. For high-pressure water spray application, use fan-shaped spray tip that disperses water at an angle of at least 40 degrees.
  7. For heated water spray application, use equipment capable of maintaining temperature between 140 and 160 deg F (60 and 71 deg C) at flow rates indicated.
- D. Perform each cleaning method indicated in a manner that results in uniform overage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
1. Clean each masonry material in sequences to avoid damage to adjacent differing materials and provide protection as required.
- E. Removing plant growth: Completely remove plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.
- F. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
- G. Water Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6 inches (150 mm) from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.
- H. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

### 3.4 CLEANING MASONRY

- A. Detergent Cleaning:
1. Wet masonry with water applied by low-pressure spray.
  2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in

solution often to ensure that adequate fresh detergent is used and that masonry surface remains wet.

3. Rinse with water applied by pressure spray to remove detergent solution and soil.

B. Mold, Mildew, and Algae Removal if applicable:

1. Wet masonry with water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
4. Rinse with water applied by pressure spray to remove mold, mildew, and algae remover and soil.

### 3.5 REPOINTING MASONRY

A. Joint Raking:

1. Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than 1/2" (from face of original mortar) nor less than that required to expose sound, unweathered mortar.
2. Remove mortar from masonry surfaces within rakes-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt or loose debris.
3. Do not spall edges of masonry units or widen joints. Replace any masonry units which become damaged.
4. Power operated rotary hand saws and grinders will be permitted based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damage to masonry. Saws and grinders shall be fitted with dust extraction system to prevent dust from being released in accordance with governing agency requirements. Quality control program shall include provisions for

supervising performance and preventing damage due to worker fatigue and dust emissions.

a. Where “soft” mortar is encountered, contractor is to use a vacuum recovery system attached to the grinders. Its low strength and high particulate release define soft mortar during grinding. Recovery system must collect at least 95% of the grinding particle and associated dust, and collect them in a closed drum. Closed drums with appropriate covers before disposal.

5. Upon completion of joint raking, Contractor must obtain approval from Engineer before joint pointing commences.

B. Joint Pointing:

1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water (saturated surface dry condition).
2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8” until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess final layer slightly from face. Take care not to spread mortar over edges onto exposed masonry surfaces, or to feather edge mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
6. Where repointing work proceeds detergent cleaning of existing masonry allow mortar to harden not less than 30 days before beginning cleaning work.

### 3.6 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean (new) (and) (repointed) exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water spray applied at low pressure.
1. Do not use metal scrapers or brushes.
  2. Do not use acidic or alkaline cleaners.

### 3.7 FIELD QUALITY CONTROL

- A. Inspectors: Owner may engage independent inspectors to perform inspections and prepare reports. Allow inspectors use of lift devices and scaffolding, as needed, to perform inspections.

## PART 4 – METHOD OF PAYMENT

### 4.1 QUANTITY AND PAYMENT

No specific payment will be made for Maintenance of Unit Masonry, and the cost thereof shall be included in the price for the item **STONE VENEER RE-POINTING** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

## **SUBSECTION 044300 – STONE MASONRY**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. This Section includes stone masonry repairs consisting of the following:
  - 1. Stone Veneer at Bridge Abutments and Wing Walls.

#### 1.2 SUBMITTALS

- A. Submit manufacturer's product data for each type of masonry accessory and other manufactured products, including certifications that each type complies with specific requirements.
- B. Samples for Verification: For the following:
  - 1. Full-size units for replacement stone, showing the full range of exposed colors, textures, and dimensions to be expected in the completed construction.
- C. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
  - 1. Each cement product required for mortar and grout, including name of manufacturer, brand, type, and weight slips at time of delivery.

#### 1.3 QUALITY ASSURANCE

- A. Single-Source Responsibility for Stone Material: Obtain unused material of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one supplier.
- B. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

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#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle stone material to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
- C. Store cementitious materials off the ground, under cover and in dry locations.
- D. Store aggregates where grading and other required characteristics can be maintained.
- E. Store masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

#### 1.5 PROJECT CONDITIONS

- A. During erection, cover work with waterproof sheeting at end of each day's work. Extend cover a minimum of 24" (600 mm) beyond work area and hold cover securely in place.
- B. Prevent grout or mortar from staining the face of masonry to be left exposed or painted. Remove immediately grout or mortar in contact with such masonry.
- C. Protect sills, ledges and projections from droppings of mortar.

#### 1.6 COLD WEATHER PROTECTION

- A. Do not lay stone which are wet or frozen.
- B. Remove ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch
- C. Remove all masonry determined to be damaged by freezing conditions.
- D. For stone material with initial rates of absorption (suction) which require them to be wetted before laying, comply with the following requirements:
  - 1. For stone with surface temperatures above 32°F, (0°C) wet with water heated to above 70°F. (21°C).
  - 2. For stone with surface temperatures below 32°F, (0°C) wet with water heated to above 130°F. (54°C).

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- E. Perform the following construction procedures while masonry work is progressing. Temperature ranges indicated below apply to air temperatures existing at time of installation except for grout. For grout, temperature ranges apply to anticipated minimum night temperatures. In heating mortar and grout materials, maintain mixing temperature selected within 10°F. (5.5°C).
1. 40°F to 32°F (4.4°C to 0°C) :
    - a. Mortar; heat mixing water to produce mortar temperature between 40°F and 120°F. (4.4°C and 49°C).
  2. 32°F to 25°F (0°C to -4°C) :
    - a. Mortar; heat mixing water and sand to produce mortar temperature between 40°F and 120°F. (4.4°C and 49°C); maintain temperature of mortar on boards above freezing.
  3. Below 25°F (-4°C), discontinue masonry work.
- F. Protect completed masonry and masonry not being worked on in the following manner. Temperature ranges indicated apply to mean daily air temperatures except for grouted masonry. For grouted masonry temperature ranges apply to anticipated minimum night temperatures.
1. 40°F to 32°F (4.4°C to 0°C): Protect masonry from rain or snow for at least 24 hours by covering with weather resistive membrane.
  2. 32°F (0°C) and below: Maintain masonry temperature above 40°F (4.4°C) for 24 hours using enclosures and supplementary heat, electric heating blankets, infrared lamps or other methods proven to be satisfactory. For grouted masonry maintain heated enclosure to 40°F (4.4°C) for 48 hours.
- G. Provide and clearly display thermometer at the jobsite when masonry work is performed at temperatures below 45°F. (7°C).

## 1.7 HOT WEATHER REQUIREMENTS

- A. Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required.
- B. When ambient temperature exceeds 100°F (38°C), or 90°F (32°C) with a wind

### BRIDGE SUPERSTRUCTURE REPLACEMENT

velocity greater than 8 mph (13 km/h), set masonry units within one minute of spreading mortar.

## PART 2 - PRODUCTS

### 2.1 STONE

A. Veneer:

### 2.2 MASONRY MATERIALS

A. Face Stone and Accessories: Provide face stone and accessories, including specially dressed, ground, cut, or sawed shapes where required to complete masonry restoration work.

1. Provide stone with colors, surface texture, size, and shape to match existing masonry and with physical properties not less than those determined from preconstruction testing of selected existing units.

a. For existing stonework that exhibits a range of colors, provide stone that matches that range rather than stone that matches an individual color within that range.

### 2.3 MORTAR MATERIALS

A. Type N Mortar consisting of Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207.

B. Aggregate for Mortar: ASTM C 144; except for joints less than ¼ inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.

C. Aggregate for Grout: ASTM C 404

D. Cold-Weather Admixture: Non-chloride, noncorrosive, accelerating admixture complying with ASTM C 494, Type C, and recommended by the manufacturer for use in masonry mortar of composition indicated. Subject to compliance with requirements, provide cold-weather admixture of one of the following or approved equal:

Accelguard 80; Euclid Chemical Co.

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Morseled; W. R. Grace & Co., Construction Products Division.  
Trimix-NCA; Donneborn, Div. of ChemRex, Inc.

E. Water: Potable

## 2.4 MORTAR MIXES

A. Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents. Antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Add cold-weather admixture (if used) at the same rate for all mortar, regardless of weather conditions, to ensure that mortar color is consistent.

B. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specifications, for types of mortar required, unless otherwise indicated. Air entraining is prohibited. Total air content shall not exceed 8%.

1. Limit cementitious materials in mortar to Portland cement and lime. Masonry cements are not permitted.
2. Use Type N mortar for new and repair work; and for other applications where another type is not indicated.

## 2.5 MASONRY CLEANERS

A. Job-Mixed Detergent Solution: Solution of 1/2 cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2 cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4L) of water.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine conditions for compliance with requirements for installation tolerance and other conditions affecting performance.

## BRIDGE SUPERSTRUCTURE REPLACEMENT

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3.2 INSTALLATION, GENERAL

- A. Stonework is to be performed only by craftspersons experienced with same type of work

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Stone Veneer Repair will be made of a lump sum basis, and the cost thereof shall be bid for the item **STONE VENEER REPAIR** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

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WR TRACY ROAD BRIDGE

## SUBSECTION 055000 – METAL FABRICATIONS

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Metal Fabrications include items made from structural steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of reinforcing steel or other metal systems specified elsewhere.
- B. Types of work in this section include metal fabrications for:
  - 1. Bridge Railings and Anchorage

#### 1.2 SUBMITTALS AND TESTING

- A. Certifications of Compliance: Submit certifications of compliance, as specified in 106.07.
- B. Submit mill test reports for materials.
- C. At least 30 days before beginning the work, submit working drawings for certification. Indicate material specifications for adhesive, anchors, washers, and nuts on the working drawings.
- D. Sampling and Certification: Before using, submit a sample of each manufacturer's lot, size of bolt, anchor, washer and nut to the RE for testing and approval. Provide a mill certificate for each heat.
- E. Tensile, Proof Load, Hardness, and Coating Thickness Tests: For each lot, the manufacturer shall perform tensile, proof load, and hardness tests and shall measure galvanized coating according to ASTM A 153.
  - Proof load test bolts according to ASTM F 606, Method 1. Perform wedge tension testing of full size bolts according to ASTM F 606. If bolts are to be galvanized, test after galvanizing.
  - Proof load test nuts according to ASTM F 606; if galvanized, test after galvanizing, overtapping, and lubricating.
  - If galvanized washers are supplied, perform hardness testing after galvanizing; however, remove galvanized coating before taking hardness measurements.

### BRIDGE SUPERSTRUCTURE REPLACEMENT

Report the results of all tests and submit with certifications. Also report the location and date of testing.

- F. Rotational-Capacity Test: Perform the rotational-capacity test on each lot of bolt, nut, and washer assemblies by the manufacturer or distributor before shipping and by the Contractor within the Project Limits before installation. Test high-strength steel bolt assemblies for the rotational capacity requirements according to NJDOT S-1 or NJDOT S-2 and the following:

1. Test a minimum of 2 assemblies per rotational-capacity lot.
2. Test each combination of bolt production lot, nut lot, and washer lot as an assembly. Where washers are not required by the installation procedures, they need not be included in the lot identification.
3. Assign a rotational-capacity lot number to each combination of lots tested.
4. Assemble the bolt, nut, and washer assembly in a Skidmore-Wilhelm calibrator or an acceptable equivalent device for testing as specified in NJDOT S-1.

For bolts that are too short to be assembled in the Skidmore-Wilhelm calibrator, use a steel joint and test according to NJDOT S-2.

5. After testing according to NJDOT S-1 or NJDOT S-2, loosen and remove the nut and examine the threads on the nut and bolt. If, for either assembly tested, there are any signs in the nut or bolt of thread shear failure, stripping, or torsional failure, the lot fails and is to be replaced.

- G. Test Reports and Certification:

Record the results of all tests. Also report the date and location of testing.

1. Mill Certifications. Provide mill certifications for each heat of steel used in the manufacture of the bolts, nuts, or washers. Indicate the place where the material was melted and manufactured.
2. Manufacturer Certified Test Reports. Provide manufacturer certified test reports from the manufacturer of the bolts, nuts, and washers. Include the following:
  1. The lot number of each of the items tested.
  2. The rotational-capacity lot number and test results, as specified in 908.02.02.C, if performed by the manufacturer.
  3. The results of all tests required in 908.02.02.B.
  4. The date and location of testing.
  5. The location where the bolt assembly components were manufactured.

BRIDGE SUPERSTRUCTURE REPLACEMENT

3. Distributor Certified Test Reports. If the rotational-capacity test is performed by a distributor instead of a manufacturer, provide the test results on the distributor certified test reports. Report the rotational capacity lot number and test results as specified in 908.02.02.C and attach the manufacturer certified test reports.

H. Shipping and Handling:

Ship bolts, nuts, and washers from each rotational-capacity lot in the same container. If there is only one production lot number for each size of nut and washer, the manufacturer or distributor may ship the nuts and washers in separate containers. Permanently mark each container with the rotational-capacity lot number to allow identification at any stage before installation.

Treat galvanized bolts and nuts as an assembly and ship together.

Supply mill certifications, manufacturer certified test reports, and distributor certified test reports for each rotational- capacity lot to the RE.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing metal fabrications similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

1.4 PROJECT CONDITIONS

- A. Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress.

PART 2 - PRODUCTS

2.1 STEEL BRIDGE RAILINGS AND HARDWARE

- A. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.

BRIDGE SUPERSTRUCTURE REPLACEMENT



- B. Steel Bridge Railing: Fabricate steel railing from structural steel as noted on plans and as specified in Table 906.01-1. Construct welds according to the requirements of ANSI/AWS D1.1 Structural Welding Code. Use bolts and bolting materials as specified herein. Submit certifications of compliance and mill certifications.

<b>Product</b>	<b>Test Method</b>	<b>Type/Grade/Class</b>
Structural Steel Plate for Bridges <sup>1</sup>	ASTM A 709	Grade 36, 50, 50W, or HPS70W <sup>2</sup>
Structural Steel Shapes and Plates for Railings: Series W, M, S, C, MC, L	ASTM A36	
	or	
Structural Steel Shapes and Plates for Railings: Series W, M, S, C, MC, L	ASTM A 572	Grade 50
Structural Steel Tubing for Rails: Series HSS	ASTM A 500	Grade B (A618 OR A501)
Tie rods, plate washers, tie backs, turnbuckles, plates, shapes, and shims	ASTM A 709	Grade 36
	ASTM A 53	Type S, Grade B or Type E, Grade B
Steel tube and pipe for Sign Structures <sup>3, 4, 5</sup>	or	
	ASTM A 500	Grade B or C
Steel Piles		
Steel H-piles	ASTM A 572	Grade 50
Steel sheet piles	ASTM A 572	Grade 50
Steel pipe piles	ASTM A 252	Grade 2
Casings for Drilled Shafts <sup>6</sup>	ASTM A 252	Grade 2
Flooring		
Grid Flooring	ASTM A 709	Grade 36
Formed Steel Flooring	ASTM A 1011	Grade 30
Steel Forgings	ASTM A 668	Class C
Shear Connector Studs <sup>7</sup>	ASTM A 108	Grades G1015, 1018, or 1020
Stay-In-Place (SIP) Forms <sup>8</sup>	ASTM A 653	Grades 33, 37, 40, 49, or 80

1. For steel used in tension zones, ensure that the steel conforms to Zone 2 impact testing requirements.
2. For the manufacture of Grade HPS70W, the Department will allow the use of the Thermo-Mechanical Controlled Process.
3. For sizes less than or equal to 24 inches in diameter, only use electric resistance welded single seam pipe.
4. For pipe with wall thickness greater than 1/2 inch, the fabricator may substitute API Specification 5L, Grade B.
5. ASTM A 500 Grade B or C is approved for use only with equivalent tensile and yield strengths as that specified for ASTM A 53 Grade B, Type E or S, with additional CVN testing for materials with wall thickness 1/2 inch or greater. Provide mill certs for approval by the ME prior to fabrication.
6. For casings, use smooth, non-corrugated steel pipe.
7. For shear connector studs, use cold-drawn bars that are killed or semi-killed.
8. For SIP, use a galvanized coating designation G235 or Z700.

- C. Bolts: Use steel bolts conforming to ASTM A 307, Grade 36 (or ASTM F1554 – Gr. 36) as directed on plans. If galvanizing is specified, use hot-dipped method according to ASTM A 153.

- D. High Strength Bolts: use steel bolts, including nuts and plain hardened washers

#### BRIDGE SUPERSTRUCTURE REPLACEMENT

conforming to ASTM A325 or A490 as directed on plans. Treat galvanized bolts, washers, and nuts as an assembly. Store and ship the assembly in plastic bags placed inside wood or metal containers.

- E. Nuts and Washers: Use nuts and washers according to ASTM A 194 or ASTM A 563. Ensure that plain nuts are Grade 2H, DH, DH3, 2, C, D, or C3. Ensure that galvanized nuts are Grade 2H, DH, or DH3. Use washers with high-strength steel bolts conforming to ASTM F 436. If galvanizing is specified, use the hot-dipped method according to ASTM A 153.
- F. High Strength Anchor Bolts: For anchor bolts intended for anchoring structural supports to concrete foundations such as Rail Posts, Seismic Anchorage at Bearings, piers, columns, column supports for sign support structures, lighting fixtures, traffic signals, steel bearing plates, and similar applications, use ASTM F 1554, Grade 36, 55, or 105, anchor bolts, as shown on the Plans. If galvanizing is specified, use the hot-dipped method according to ASTM A 153.
- G. Touch-up Galvanized Coating: Damage to galvanized coating on structural elements or hardware shall be repaired by applying zinc rich inorganic coating system.

Materials, equipment, and accessories specified in this section shall be products of one of the following or approved equal with NJDOT approval:

Carboline Co., Maple Shade, NJ: IEU-25 Carboline System  
Sherwin Williams Co., Zelienople, PA: IEU-23 Sherwin Williams

- H. Masonry Veneer and Capstone: Refer to Specification section 044300 – STONE MASONRY

## 2.2 FABRICATION

- A. Construct railing conforming to the horizontal and vertical alignment of the structure in accordance with plans. Install posts normal to grade in longitudinal direction and vertical in transverse direction.
- B. Fabricate and assemble railings in shop to greatest extent possible according to specifications referenced in this section and in shop drawings.
  - 1. Weld end caps to the rails where applicable.

### BRIDGE SUPERSTRUCTURE REPLACEMENT

2. Mark and match-mark materials for field assembly. Fabricate for delivery in a sequence that will expedite finishing.
  3. Complete steel assemblies including welded connections before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs and other defects.
- C. Fabricate all railing components square and free of surface blemishes, including pitting, rust and scale, seam marks, roller marks, rolled trade names and roughness.
1. Remove blemishes by filling, grinding, or by welding and grinding, prior to cleaning, treating, and shop priming.
  2. Comply with fabrication requirements, including tolerance limits for architecturally exposed structural steel.
- D. Ensure that all anchor bolt holes and spaces between base plates and concrete are thoroughly caulked with cold-poured joint sealer conforming to subsection 914.02 of NJDOT standard specifications, joint material ASTM D 5893, type NS.

### 2.3 BRIDGE RAILING ANCHORS

Base the design embedment of the post-installed anchor bolts on a concrete compressive strength of 4000 pounds per square inch. Ensure that the embedment depth of the anchors shown on the working drawings is sufficient to obtain the required pullout strength as required for the proof load testing as specified in 908.01.04.

Ensure that the railing is fabricated to allow for minor adjustments in both horizontal and vertical directions.

- A. Cast-in-Place Type. Set anchor bolts before placing concrete using a rigid template for each anchor assembly. When placing concrete, ensure that bolts do not move and spacing is maintained between the rigid templates. Ensure that exposed threaded ends of the anchor bolts remain clean and protected from concrete. Clean the anchor bolts before installing the specified hardware.
- B. Post-Installed - Expansion Type. Do not drill for installation until the concrete has cured for at least 14 days. Install expanded coil concrete inserts with closed-back ferrule threaded to receive bolts in accordance with manufacturer's recommendations. When drilling, ensure that spalling does not occur and existing

#### BRIDGE SUPERSTRUCTURE REPLACEMENT

utilities are not damaged. Repair damage to the existing concrete, utilities, and reinforcement steel as a result of drilling. Clean drill holes before and during installation of the anchors as required.

- C. Repair damage to galvanized coating as specified in 912.02.01.

## PART 3 - EXECUTION

### 3.1 PREPARATION

#### A. Quality Control and Acceptance

1. Notify the RE, in writing, at least 15 days before beginning work at the fabrication shop. The RE may reject any work done in his absence if proper notification was not received.
2. Perform at least the minimum specified number of quality control inspections according to the applicable ANSI/AASHTO/AWS specification and any other tests and inspections necessary to control the quality of the work. The RE will perform non-destructive testing quality assurance inspections following the non-destructive testing quality control (QC) inspection performed by the fabricator.
3. Ensure that all quality control inspectors are AWS Certified Welding Inspectors, qualified according to the provisions of AWS QC1.
4. Inspect and test structural steel bridge members according to ANSI/AASHTO/ AWS D1.5 Bridge Welding Code, as modified by the following:
  - a. Assembly and fabrication may not continue until completed work has been inspected and accepted by the RE.
  - b. Grind flush complete-penetration butt welds scheduled for ultrasonic testing.
  - c. Test 100 percent of complete joint penetration groove and butt welds, including butt welds in longitudinal stiffeners.
5. Proof load test the post-installed bridge railing anchors at pylons. **Contractor to engage the services of a 3<sup>rd</sup> party testing company to proof load 10% of the anchors.**

### 3.2 INSTALLATION

#### BRIDGE SUPERSTRUCTURE REPLACEMENT

- A. Install railings in accordance with approved Working Drawings. Working Drawings must be present on site at all times that installation is being performed.

#### PART 4 – METHOD OF PAYMENT

##### 4.1 QUANTITY AND PAYMENT

- A. Payment for the item Metal Fabrications will be made of a lump sum basis, and the cost thereof shall be bid for the item **COMBINATION RAIL: 3 RAIL STEEL** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

## **SUBSECTION 071000 – DAMP PROOFING & WATERPROOFING**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Sheet waterproofing for this project includes:
  - 1. Application to seal vertical joint at abutment to wingwall intersections (soil side).
- B. Fluid-applied waterproofing includes:
  - 1. Application to seal top of bridge deck.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Provide waterproofing measures that establish and maintain watertight condition.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product specifications, handling, installation and curing instructions, and performance tested data sheets for each product required.
- B. Submit certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an installer who has successfully completed within the last 3 years at least 3 waterproofing applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original unopened containers or bundles with labels indicating manufacturer, product name, and expiration date as applicable.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

BRIDGE SUPERSTRUCTURE REPLACEMENT

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## 1.6 JOB CONDITIONS

- A. Do not proceed with installation of products under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40°F.
  - 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Substrate Conditions: Do not proceed with installation of products until contaminants capable of interfering with adhesion are removed from substrates.

## PART 2 - PRODUCTS

### 2.1 SHEET WATERPROOFING

- A. Self-adhering waterproof membrane for substructures: Provide cold-applied, flexible, preformed waterproof membrane conforming to ASTM D624. Use Bituthene 3000/3000 HC or approved equal.

### 2.2 FLUID APPLIED WATERPROOFING

- A. Fluid applied waterproofing for below grade deck waterproofing: Provide hot-poured liquid asphalt conforming to ASTM D449, Type I.

### 2.3 MISCELLANEOUS MATERIALS

- A. Protection board for vertical waterproofing applications. Use Bituthene Protection Board or approved equal.
- B. Protection board for horizontal waterproofing applications. Use protection course #712 as manufactured by WR Meadows or approved equal.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Installer shall inspect substrate indicated to receive waterproofing for compliance with requirements for surface preparation. Do not allow joint work to proceed until unsatisfactory conditions have been corrected.

## 3.2 SURFACE PREPARATION

- A. Clean surfaces immediately before installation to comply with recommendations of manufacturers and the following requirements:
  - 1. Remove all foreign materials from joint substrates which could interfere with adhesion of joint sealer, including rust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease; waterproofing; water repellents; water; surface dirt; and frost.
  - 2. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond. Remove loose particles remaining from above cleaning operations by vacuuming or blowing with oil-free compressed air.
  - 3. Remove laitance and form release agents from concrete.
- B. Prime surfaces where indicated, and where recommended by manufacturer. Confine primer/sealer to areas of work; do not allow spillage or migration onto adjoining surfaces.

## 3.3 INSTALLATION

- A. Sheet Waterproofing
  - 1. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
  - 2. Sheet waterproofing: surfaces must be smooth, regular and dry. Prime surfaces with one coat of Bituthene Primer (or approved equal) using brush or roller. Allow to dry completely before application of self-adhering sheets.
  - 3. Where vertical surface meets footing install fillet of Bituthene Liquid Membrane (or approved equal) along joint.
  - 4. Application of sheet to start at bottom of wall and proceed to top. Lap any joints a minimum of 6".
  - 5. Install protection board with joints butted tight. Spot bond with Pak Adhesive (or approved equal) as needed to hold in place.

BRIDGE SUPERSTRUCTURE REPLACEMENT

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B. Liquid Applied Membrane

1. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
2. Install liquid applied membrane to depths as shown, or, if not shown, as recommended by manufacturer.
3. Install protection board with joints butted tight. Spot bond with Pak Adhesive (or approved equal) as needed to hold in place.

3.4 PROTECTION

- A. Install protection board at the end of each days waterproofing to both horizontal and vertical surfaces.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Bridge Deck Sealer will be made on a square yard (SY) basis, and the cost thereof shall be included in the price for the item **DECK SURFACE SEALER** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. Payment for the item Sheet Waterproofing will be made on a lineal foot (LF) basis, and the cost thereof shall be included in the price for the item **FOUNDATION - VERTICAL JOINT REPAIR** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

340000.071000-4

## **SUBSECTION 079000 - JOINT SEALERS**

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The applications for joint sealers as work of this section include exterior joints in the following vertical surfaces:
  - 1. Control, expansion, and deflection joints in cast-in-place concrete structures and stone masonry veneer.
  - 2. Other joints as indicated.
- B. The applications for joint sealers as work of this section also include exterior joints in the following horizontal surfaces:
  - 1. Bridge Parapet Joints.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Provide joint sealants that establish and maintain watertight and airtight continuous jointseals without staining or deteriorating jointsubstrates.

#### 1.3 SUBMITTALS

- A. Submit manufacturer's product specifications, handling, installation and curing instructions, and performance tested data sheets for each product required.
- B. With product data, submit certified test reports for sealants on aged performances as specified, including hardness, stain resistance, adhesion, cohesion or tensile strength, elongation, low temperature flexibility, compression set, modulus of elasticity, water absorption, and resistance (aging, weight loss, deterioration) to heat and exposures to ozone and ultraviolet.
- C. Submit color charts for each product exposed to view showing full range of colors available for color selection.
- D. Submit certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an installer who has successfully completed within the last 3 years at least 3 joint sealer applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original unopened containers or bundles with labels indicating manufacturer, product name, color, expiration date, pot life, curing time and mixing instructions.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

#### 1.6 JOB CONDITIONS

- A. Do not proceed with installation of liquid sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40<sup>0</sup>F.
  - 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Joint Width Conditions: Do not proceed with installation of joint sealers when joint widths are less than allowed by joint sealer manufacturer for application indicated.
- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

#### 1.7 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties

made by Contractor under requirements of the Contract Documents.

- B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
- C. Warranty Period: Ten years from date of Substantial Completion.
- D. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
  - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
  - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
  - 3. Mechanical damage caused by individuals, tools, or other outside agents.
  - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

## PART 2 - PRODUCTS

### 2.1 SEALANTS

- A. Elastomeric Sealant for Exterior Use: Provide one-part formulation silicone sealant conforming to ASTM C 920, Type S, Grade NS, Class 25, Dow 790, or approved equal. Colors will be selected by Engineer from manufacturer's standard colors.
- B. Paving Sealant: Shall be a 2-component self-leveling polyurethane, meeting Federal Specification TT-S-00227E, THC-900 by Tremco, NR-200 by Pecora, or approved equal. Colors will be selected by Engineer from standard colors available with "Multi-Systems Color-Pak".
- C. Hot-Poured Joint Sealer for Bridge Deck Joints: Provide sealer conforming to ASTM D 6690. Use Type II Sealer in accordance with AASHTO.

## 2.2 CELLULAR FOAM JOINT FILLERS AND SEALANT BACKERS

- A. Expanded Polyethylene Joint Filler (Backup): Provide flexible, compressible, closed cell, polyethylene of not less than 10 psi compression deflection, 25%; except provide higher compression deflection strength as may be necessary to withstand installation forces and provide proper support for sealants; surface water absorption of not more than 0.1 lbs. per sq. ft.

## 2.3 MISCELLANEOUS MATERIALS

- A. Bond Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer to be applied to sealant contact surfaces where bond to substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape where applicable.
- B. Preformed Joint Filler: Use preformed joint fillers conforming to AASHTO M 33 or AASHTO M 213. Provide the filler for each joint in a single piece for the full depth and width required for the joint. If the RE approves the use of more than 1 piece for a joint, fasten the abutting ends securely, and hold to shape or other means of means of positive fastening.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Installer shall inspect joints indicated to receive joint sealers or assemblies for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint performance. Do not allow joint sealer or assembly installation to proceed until unsatisfactory conditions have been corrected.

### 3.2 JOINT PREPARATION

- A. Clean joint surfaces immediately before installation of sealant compounds to comply with recommendations of joint sealer manufacturers and the following requirements:
  - 1. Remove all foreign materials from joint substrates which could interfere with adhesion of joint sealer, including rust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease;

waterproofing; water repellents; water; surface dirt; and frost.

2. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
  3. Remove laitance and form release agents from concrete.
  4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- B. Prime or seal joint surfaces where indicated, and where recommended by sealant manufacturer. Confine primer/sealer to areas of sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION

- A. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
- B. Set joint filler units at proper depth or position in joint to coordinate with other work, including installation of bond breakers, backer rods and sealants. Do not leave voids or gaps between ends of joint filler units. Do not stretch, twist, puncture or tear joint fillers. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry materials.
- C. Install sealant backer rod for liquid applied sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for application indicated.
- D. Install bond breaker tape where indicated and where required by manufacturer's recommendations to ensure that liquid applied sealants will perform properly.

- E. Employ only proven installation techniques, which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with complete wetting of joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
- F. Install liquid applied sealant to depths as shown, or, if not shown, as recommended by sealant manufacturer but within the following general limitations, measured at center (thin) section of bead; (not applicable to sealants in lapped joints):
  - 1. For sidewalks, pavements and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/8" deep nor less than 3/8" deep.
  - 2. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
- G. Do not allow sealants or compounds to overflow from confines of joints, or to spill onto adjoining work, or to migrate into voids of exposed finishes. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

### 3.4 CURE AND PROTECTION

- A. Cure sealant compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Advise Contractor of procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage, other than normal wear and weathering, at time of substantial completion. Cure and protect sealants in a manner which will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants which are damaged or deteriorated during construction period.
- B. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Bridge Deck Joint will be made on a lineal foot (LF) basis, and the cost thereof shall be bid for the item **DECK JOINT FILLER AND SEALER** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.
- B. No specific payment will be made for Sealant Joints, and the cost thereof shall be included in the price for items: **CONCRETE BRIDGE PARAPETS & PYLONS, HPC; STONE VENEER RETROFIT JOINT; STONE VENEER REPAIR** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION



PART 1 – GENERAL

1.1 SUMMARY

- A. The work includes coatings applied to steel plate, pipe, tube, structural shapes and hardware as follows:
  - 1. Items embedded in concrete (other than reinforcing steel and pre-stressing tendon): Galvanize.
  - 2. Exposed items: Duplex Coating System: Galvanize and Powder Coating System.

1.2 DEFINITIONS

- A. "Galvanize" as used herein refers to the Hot-Dip galvanize process produced by the immersion of fabricated products in a bath of molten zinc, as specified in ASTM Specifications A123 "Specification for Zinc Coating (Hot-Dip) on Iron and Steel Products" and A153/A153M "Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- B. "Powder Coating" refers to a protective and decorative coating formed by the application of a dry coating powder to a substrate under controlled conditions. Polyester powders are thermosetting resins that are applied electrostatically to the prepared surface. The powder is then fused into a continuous film by the application of heat or radiant energy and then cured in an oven to set the finish.
- C. "SSPC" refers to The Society for Protective Coatings.
- D. Gloss Ranges: Gloss sheens are specified herein by product name or gloss is stated. The following gloss ranges are acceptable for each gloss sheen specified. Substitute materials must fall within the same gloss range as the product specified.

Name	Test Method (ASTM D 523)	Gloss Range
Flat	85 <sup>0</sup> Meter	Below 15
Eggshell	60 <sup>0</sup> Meter	5 to 20
Satin	60 <sup>0</sup> Meter	15 to 35
Semi-Gloss	60 <sup>0</sup> Meter	30 to 65
Gloss	60 <sup>0</sup> Meter	30 to 65

- E. DFT: Dry Film Thickness. The thickness of the dry film of a coating measured either in mils or microns.

### 1.3 SUBMITTALS

- A. Submit material safety data sheets (MSDS) and product data sheets (PDS) for each product.
- B. Galvanizer shall provide the Engineer (RE) with all galvanizing process-related Quality Control documents which demonstrate compliance to this specification and referenced specifications prior to shipment of the galvanized product.

### 1.4 QUALITY ASSURANCE

- A. It is the Galvanizer's responsibility to provide the Engineer (RE) with advanced notification of at least 5 working days of intent to galvanize so that the Engineer can perform a QA audit.
- B. At least 30 calendar days before starting the Powder Coating work, submit a Quality Control Procedure, meeting the minimum requirements of this provision to the Engineer (RE), which outlines the program, procedures, and processes for assuring conformance to this provision.
- C. Perform Quality Control (QC) inspections at the Powder Coating Facility in accordance with the Quality Control Procedure.
- D. At least 30 calendar days before starting the Powder Coating work, submit to the Quality Assurance Inspector (QAI) and/or the Engineer (RE) documentation showing that the coating manufacturer's technical representative trained the applicators, and Quality Control (QC) personnel how to properly apply the coating materials.

<b>Powder Coating Inspection Requirements</b>		
<b>Requirement</b>	<b>Criteria</b>	<b>Frequency/Extent</b>
Date and time	Each lot of Work	Each lot of work
Compressed air test	ASTM D4285	Daily - When abrasive blasting or blow down operation are occurring
Final Coat Dry Film Thickness (DFT)	(4 mils - minimum)	SSPC-PA 2
<b>Surface Preparation</b>		
Abrasive blast clean	SSPC-SP 16/ASTM D7803	Each component to be powder coated
<b>Pre-Bake for Outgassing</b>		
Surface cleanliness	SSPC-PA 1	100% Visual examination prior to coating
Pre-bake oven temperature	Same procedure used to pass qualification in Section "F"	Each lot of work prior to each out-gassing event
Baking procedure	ASTM D7803 in conjunction with the same procedure used to pass qualification in Section "F"	Each lot of work
<b>Prime Coat</b>		
Powder product number	Track for each lot	Each batch of powder
Surface cleanliness inspection	SSPC-PA 1	Visual examination prior to coating (within 1 hr of coating)
Prime coat oven temperature	Same procedure used to pass qualification in Section "F"	Each lot of work
Temperature of component at time of coating	Same procedure used to pass qualification in Section "F"	Each lot of work
Verification of prime coat coverage	100% Coverage of powder	100% Visual Inspection
<b>Top Coat</b>		
Powder product number	Track for each lot	Each batch of powder
Surface cleanliness inspection	SSPC-PA 1	Visual examination prior to coating
Top coat oven temperature	Same procedure used to pass qualification in Section "F"	Each lot of work
Final cure temperature of component	Same procedure used to pass qualification in Section "F"	Each lot of work
Curing time	Pre manufacturer Technical Data Sheet	Each lot of work
Coating evaluation / repair	Visual Inspection Coating shall be smooth and uniform free of runs, drips, sags, pinholes, blisters, and other deleterious conditions. (Pinhole density shall not be greater than 5 pin holes per sq.ft. in any given area)	100% Visual Inspection

BRIDGE SUPERSTRUCTURE REPLACEMENT

1.5 DELIVERY STORAGE AND HANDLING

- A. Deliver coated fabrications and assemblies to job site in an undamaged condition. Store on padded wooden pallets above the ground and protect from weather in a location which will not be disturbed until the items are installed.
- B. Store related materials such as touch-up coatings not in actual use in tightly covered containers, maintain containers used in storage of paint in a clean condition, free of foreign materials and residue. Protect from freezing where necessary. Keep storage area neat and orderly. Remove oily rags and waste daily. Take all precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

1.6 JOB CONDITIONS

- A. Coated items shall be handled with care to avoid any damage to coating. Lifting devices shall be fitted with padded surfaces in contact with coated items.

PART 2 - PRODUCTS

2.1 GALVANIZED COATING MATERIALS

- A. Zinc bath chemistry in accordance with ASTM Specification B6.

2.2 POWDER COATING MATERIALS

- A. Polyester Powder Coating, certified by manufacturer to be compatible with application over galvanized coating. Subject to compliance with requirements, provide one of the following or approved equal:

Powdura RAL series Super Durable TGIC Free Polyester Powder Coating;  
Sherwin Williams, Wallington, NJ.

- B. Provide best quality grade of various types of coatings as regularly manufactured by acceptable coating materials manufacturers. Materials not displaying manufacturer's identification as a standard, best grade product will not be acceptable.
  - 1. Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.

2. Color and Gloss: see Contract Plans.
3. All paint and/or coatings shall comply with the requirements of New Jersey Administrative Code; Title 7, Chapter 27, Subchapter 23 Volatile Organic Substances in Consumer Products, including labeling requirements.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine and confirm receipt of all fabricated and related parts and hardware required for the completed assembly. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Applicator.
- B. Starting of work will be construed as applicator's acceptance of surfaces and conditions within any particular area.
- C. Do not apply any coating over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable bond.

#### 3.2 GALVANIZING

- A. Preparation for Galvanizing:
  1. Calibrate dry film thickness gages in accordance with SSPC-PA 2- Measurement of Dry Coating Thickness with Magnetic Gauges.
  2. Prepare all fabricated material surfaces by abrasive blast cleaning to a minimum of SSPC-SP6/NACE No.3 – “Commercial Blast Cleaning”, prior to galvanizing.
  3. Confirm and identify items which are to be duplex coated and which materials are only to be galvanized. Identify and confirm which materials to be galvanized, if any, are reactive (example: high-strength low-alloy structural steel).
- B. Application of Galvanizing
  1. Railing elements have higher aesthetic expectations than standard galvanized products. Produce the final product to comply with its intended use as an “architectural railing” with heightened aesthetics and/or visual qualities.

2. Process all metal railings to be galvanized utilizing a “dry” kettle. Preflux the metal railing prior to the galvanizing bath using a aqueous tank of zinc chloride/ammonium chloride. Do not use a “top flux” blanket on the molten zinc bath.
3. Air cool the metal railing to ambient temperature before handling for shipment and/or storage. Do not quench the metal railing or apply any post-galvanizing treatments.
4. Lump, projections, globules, high spots, drip lines, heavy deposits, black and bare areas, blisters, flux deposits, thin spots, dross inclusions, etc. are considered unacceptable. Repair unacceptable zinc coatings in accordance with the galvanizer’s approved QCP and powder coating applicator approved method. Remove all drainage spikes.
5. Repair galvanized material that does not meet the requirements of this specification and/or ASTM D 7804 in accordance with the Galvanizer’s QCP.
6. Store galvanized metal railing in a manner that will prevent the formation of “white rust” or wet storage staining. “White rust” or wet storage staining of the galvanized coating is unacceptable.
7. The Galvanizer will ensure the metal railings meet a straightness tolerance of 1/8 inch in 10 feet prior to any subsequent coating applications.

### 3.3 DUPLEX POWDER COATING

#### A. Preparation for Powder Coat

1. Powder coat within 12 hours of galvanizing.
2. Keep the surface clean. Do not transport uncovered loads on truck. Diesel fumes will contaminate the surface.
3. If surface contamination has occurred or is suspected, clean surfaces with proprietary solvent/detergent designed for pre-cleaning prior to powder coating.
4. Prepare galvanized surfaces prior to powder coating in accordance with SSPC Sp16 “Brush-off Blast Cleaning of Non-Ferrous Metals” and ASTM D 7803. Inspect brush-off blasted surfaces for fins or tears. Repair any damaged areas using procedures in accordance with the applicator’s

BRIDGE SUPERSTRUCTURE REPLACEMENT

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Quality Control Procedure.

5. Pre-heat work prior to powder coating as necessary based on thickness of material and oven characteristics.

B. Application of Duplex Powder Coat

1. Railing elements have higher aesthetic expectations than standard galvanized products. Produce the final product to comply with its intended use as an “architectural railing” with heightened aesthetics and/or visual qualities.
2. Match the color and gloss of the finish coat to that specified in Contract Plans.
3. Use degassing grade polyester powder only. Apply the powder coating material in accordance with the manufacturer’s Product Data Sheet (PDS) and application guidelines for the material and system specified.
4. Confirm correct current by solvent testing. Adjust pre-heat and line speed as necessary to ensure full cure.
5. Perform QC inspections of coated products with an observer with normal color vision in a well-lighted area (min 50 foot candles intensity) during each coating phase and prior to final acceptance. Confirm adequacy of lighting with a light meter.
6. Ensure the first coat presents a distinct contrast from other coat(s) as applicable.
7. Any damaged areas of coating identified after application or during handling may cause rejection if non-conforming to the Powder Coating Applicator’s repair procedure.

3.4 PROTECTION

1. Do not handle coated metal railings until the coating has cured as defined by the manufacturer of the powder coating and is cooled to ambient temperature.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. No specific payment will be made for Coatings, and the cost thereof shall be included in the price for the item **COMBINATION RAIL: 3 RAIL SYSTEM** in the Bid Proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT



## SUBSECTION 315200 – TEMPORARY COFFERDAMS

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. This section is provided for temporary cofferdams as required in connection with bridge demolition and construction.

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Construct cofferdams to keep the work area free of water.

#### 1.3 SUBMITTALS

- A. **Working Drawings.** At least 30 days before beginning work, submit working drawings for approval. Include the following:
  - 1. Size, cross-section, section modulus, and physical properties of the cofferdam that will provide the maximum longitudinal bending moment for proper functioning.
  - 2. Bracing design to protect workers, adjoining properties, and the public.
  - 3. 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.
  - 4. The effects of bending stresses in the longitudinal direction and the transverse direction.
  - 5. The maximum forces that the cofferdam is subjected to during construction operations.
  - 6. 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).
  - 7. A complete description of the proposed cofferdam, including brochures or other literature that indicates a proven performance history of the proposed system.

8. Dewatering plan, including method of dewatering and controlling sediment and contaminants from entering adjacent waterbodies, wetlands, and environmentally sensitive areas. Do not use earthen berms as a method of dewatering.
9. Stream diversion plan, including materials and method of providing temporary diversion and staging in coordination with bridgework.

#### 1.4 PROJECT CONDITIONS

- A. Cofferdam must be inspected on a regular basis to confirm condition while in place.

### PART 2 - PRODUCTS

### PART 3 – EXECUTION

#### 3.1 TEMPORARY COFFERDAM CONSTRUCTION

- A. Approval of working drawings must be obtained from engineer.
- B. Construct the cofferdam with interior dimensions that allow clearance for the construction and inspection of forms and for the handling and pumping of water outside of the footing area. Extend the cofferdam below the bottom of the footings and brace cofferdams in all directions and ensure that they are maintained free of water until the subsequent work has been completed. The Contractor may only extend timber or bracing of a cofferdam into or through the proposed substructure with RE approval. Ensure that vertical structural members supported on rock are toed-in to ensure stability.
- C. Continue dewatering operations and stream diversion until the temporary cofferdam is removed or as directed by the RE.
- D. Remove temporary cofferdams and stream diversion system when no longer required. Restore disturbed areas, including watercourse beds, to original conditions. The Contractor may request that the temporary cofferdam be left in place. If approved, the RE will designate the limits of the cofferdam to be left in place.

PART 4 – METHOD OF PAYMENT

4.1 QUANTITY AND PAYMENT

- A. Payment for the item Temporary Cofferdams will be made on a lump sum basis, and the cost thereof shall be bid for the item **TEMPORARY COFFERDAMS & DEWATERING** in the bid proposal, which price shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

END OF SECTION

BRIDGE SUPERSTRUCTURE REPLACEMENT

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## State of New Jersey

PHILIP D. MURPHY  
Governor

SHEILA Y. OLIVER  
Lt. Governor

Thomas Mineo  
County of Union  
2325 South Avenue  
Scotch Plains, New Jersey 07076

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Land Use Regulation  
Mail Code 501-02A  
P.O. Box 420  
Trenton, New Jersey 08625-0420  
[www.nj.gov/dep/landuse](http://www.nj.gov/dep/landuse)

CATHERINE R. McCABE  
Acting Commissioner

MAR 29 2018

RE: Freshwater Wetlands General Permit No. 6: Clarification  
File No.: 2000-17-0001.1, FWW170001  
Applicant: Thomas Mineo, County of Union  
Block(s): N/A; Lot(s): N/A  
City of Summit, Union County  
Mountainside, Union County

Dear Mr. Mineo:

This letter is to correct the Freshwater Wetlands General Permit No. 6 issued November 3, 2017, regarding the above referenced property. Due to a change in the projects source of funding, the applicant is no longer able to comply with the original conditions provided by the Department's Historic Preservation Office (HPO). The original conditions from the HPO are listed below and are no longer valid:

7. The permittee shall use exposed aggregate concrete, tinted with a color similar to the areas of the existing historic railings using a method developed in consultation with the Historic Preservation Office (HPO).
8. The permittee shall continue to consult with the HPO during project plan development to ensure the project meets the Secretary of the Interior's *Standards for the Treatment of Historic Properties-Rehabilitation*.

The following HPO conditions will replace the original conditions amending the permit:

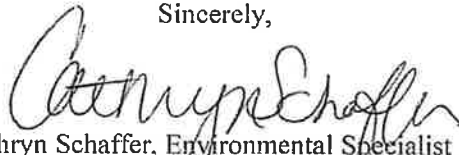
7. Prior to demolition, the permittee shall document the existing conditions and setting of the W.R. Tracy Bridge including views of the railings and bridge deck, as well as the setting of the bridge within the district to the standards of the National Park Service Register Digital Photo Submission Standards. ([https://www.nps.gov/nr/publications/bulletins/photopolicy/Photo\\_Policy\\_update\\_2013\\_05\\_15.pdf](https://www.nps.gov/nr/publications/bulletins/photopolicy/Photo_Policy_update_2013_05_15.pdf)) This will include both archivally stable black and white prints and electronic images on a CD-R. A minimum of ten (10) 4-inch by 6-inch views of the structure will be produced as part of the recordation. Printed copies of the photographs will be submitted to the HPO for review and approval prior to commencement of construction. The permittee shall provide one original copy of the recordation documentation to the HPO.

8. The permittee shall install COR-TEN steel guard rails and powder coat the new bridge railing in a brown color that matches the COR-TEN steel guard rails.

Please be advised that the original expiration date of November 02, 2022, remains.

Please contact Michael Tropiano of our staff by e-mail at [Michael.Tropiano@dep.nj.gov](mailto:Michael.Tropiano@dep.nj.gov) or (609) 777-0454 should you have any questions regarding this letter. Be sure to indicate the Department's file number in all communication.

Sincerely,



Cathryn Schaffer, Environmental Specialist 3  
Division of Land Use Regulation

- c: Borough of Mountainside Municipal Clerk  
Borough of Mountainside Municipal Construction Official  
City of Summit Municipal Clerk  
City of Summit Municipal Construction Official  
Agent: David Juzmeski, Neglia Engineering Associates



**STATE OF NEW JERSEY**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**DIVISION OF LAND USE REGULATION**  
 Mail Code 501-02A, P.O. Box 420, Trenton, New Jersey 08625-0420  
 Telephone: (609) 777-0454 or Fax: (609) 777-3656  
 www.nj.gov/dep/landuse



**PERMIT**

<p>In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.</p>		Approval Date <b>NOV 03 2017</b>
		Expiration Date <b>NOV 02 2022</b>
Permit Number(s): 2000-17-0001.1 FWW170001	Type of Approval(s): Freshwater Wetland General Permit 10A Very Minor Road Crossing Water Quality Certificate	Enabling Statute(s): N.J.S.A. 13:9B-1 et seq. N.J.S.A. 58:10A-1 et seq.
Permittee: Thomas Mineo, County of Union 2325 South Avenue Scotch Plains, New Jersey 07076	Site Location: Project: W.R. Tracy Drive over Surprise Lake Block(s):N/A 645; Lot(s): N/A Municipality: Mountainside Borough County: Union, City of Summit	
<p><b>Description of Authorized Activities:</b></p> <p>This permit authorizes the temporary disturbance of <b>0.056 acres (2,426 square feet)</b> of freshwater wetlands, <b>0.033 acres (1,426 square feet)</b> of freshwater wetland transition area and <b>0.056 acres (2,426 square feet)</b> of state open water for the replacement of an existing bridge under a Freshwater Wetlands General Permit No. 10A as shown on the plans referenced on the last page of this permit. This authorization to conduct activities in freshwater wetlands includes the issuance of a Water Quality Certificate.</p> <p>The Division of Land Use Regulation has reviewed the referenced application for a General Permit authorization pursuant to the requirements of the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A-5. The activities allowed by this authorization shall comply with applicable conditions noted at N.J.A.C. 7:7-4.3, 5.10A and 13.1. Failure to comply with these conditions shall constitute a violation of the Freshwater Wetland Protection Act (N.J.S.A. 13:9B-1 et. seq.).</p> <p>Any additional un-permitted disturbance of freshwater wetlands, State Open Waters and/or transition areas besides that shown on the approved plans shall be considered a violation of the Freshwater Wetlands Protection Act rules unless the activity is exempt or a permit is obtained from the Department prior to the start of the proposed disturbance.</p>		
Prepared by:  Michael Tropiano	Received and/or Recorded by County Clerk:	
<p>If the permittee undertakes any regulated activity authorized under a permit, such action shall constitute the permittee's acceptance of the permit in its entirety as well as the permittee's agreement to abide by the permit and all conditions therein.</p>		
<p><b>This permit is not valid unless authorizing signature appears on the last page.</b></p>		

**FRESHWATER WETLAND SPECIAL CONDITIONS:**

1. The total amount of disturbance associated with this authorization shall not exceed **0.056 acres (2,426 square feet)** of freshwater wetlands, **0.033 acres (1,426 square feet)** of freshwater wetland transition area and **0.056 acres (2,3426 square feet)** of state open water for the replacement of an existing bridge under a Freshwater Wetlands General Permit No. 10A.
2. This authorization to conduct regulated activities in a wetland includes a Water Quality Certificate for these activities.
3. The wetlands affected by this permit authorization are of Intermediate resource value and the standard transition area required adjacent to these wetlands is 50 feet. This general permit includes a transition area waiver, which allows encroachment only in that portion of the transition area, which has been determined by the Department to be necessary to accomplish the regulated activities. Any additional regulated activities conducted within the standard transition area on-site shall require a separate transition area waiver from the Division. Regulated activities within a transition area are defined at N.J.A.C. 7:7A-2.6. Please refer to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and implementing rules (N.J.A.C. 7:7A-1.1 et seq.) for additional information.
4. In order to protect general game fish within Blue Brook, any activity which would likely introduce sediment into the watercourse and/or increase its turbidity is prohibited anytime but especially **May 1 through July 31 of each year**. 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 permittee will be responsible for installing and maintaining a sediment barrier around all soils disturbed by construction which are sufficient to prevent the sedimentation of the stream and any of the tributaries.
6. In order to protect wood turtles from adverse impacts, the proposed work area must be silt fenced and inspected by a certified herpetologist prior to commencement of work.
7. The permittee shall use exposed aggregate concrete, tinted with a color similar to the areas of the existing historic railings using a method developed in consultation with the Historic Preservation Office (HPO).
8. The permittee shall continue to consult with the HPO during project plan development to ensure the project meets the Secretary of the Interior's *Standards for the Treatment of Historic Properties-Rehabilitation*.
9. All debris, wood, trash, and other loose materials shall be discarded and legally disposed of offsite. The applicant shall take special care that no debris enters or remains in the freshwater wetlands or transition area.

10. The Department has determined that the proposed project is within a regulated area of the Flood Hazard Area Control Act Rules. However, it appears that the proposed activities may be accomplished by a permit-by-rule in accordance with N.J.A.C. 7:13-7.42, the reconstruction of a lawfully existing bridge superstructure, provided that the following requirements are met:
  - a) Any portion of the superstructure to be reconstructed that lies below the flood hazard area design flood elevation is replaced in kind; and
  - b) No riparian zone vegetation is cleared, cut, and/or removed, except for vegetation within 20 feet of the structure, where such disturbance is necessary to facilitate its reconstruction.
11. This authorization for a General Permit is valid for a term not to exceed five years from the date of this permit. If the permittee wishes to continue an activity covered by the permit after the expiration date of the permit, the permittee must apply for and obtain a permit extension or a new permit, prior to the permit's expiration. If the term of the authorization exceeds the expiration date of the general permit issued by rule, and the permit upon which the authorization is based is modified by rule to include more stringent standards or conditions, or is not reissued, the applicant must comply with the requirements of the new regulations by applying for a new GP authorization or an Individual permit.

#### **STANDARD CONDITIONS:**

1. The issuance of a permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction or structure(s). Neither the State nor the Department shall, in any way, be liable for any loss of life or property that may occur by virtue of the activity or project conducted as authorized under a permit.
2. The issuance of a permit does not convey any property rights or any exclusive privilege.
3. The permittee shall obtain all applicable Federal, State, and local approvals prior to commencement of regulated activities authorized under a permit.
4. The permittee will be responsible for the installation of a sediment barrier around all disturbed soils, which is sufficient to prevent the sedimentation of the remaining wetlands and transition area. In addition, a permittee conducting an activity involving soil disturbance, the creation of drainage structures, or changes in natural contours shall obtain any required approvals from the Soil Conservation District having jurisdiction over the site.
5. The permittee shall take all reasonable steps to prevent, minimize, or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit.



6. The permittee shall immediately inform the Department by telephone at (877) 927-6337 (Warn DEP Hotline) of any noncompliance that may endanger the public health, safety, and welfare, or the environment. In addition, the permittee shall inform the Division of Land Use Regulation by telephone at (609) 777-0454 of any noncompliance within twelve hours of the time the permittee becomes aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter. The written notice shall include:
  - a. A description of the noncompliance and its cause;
  - b. The period of noncompliance, including exact dates and times;
  - c. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and
  - d. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
7. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the conditions of the permit.
8. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to:
  - a. Enter upon the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of the permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit; and
  - c. Inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. Failure to allow reasonable access under this paragraph shall be considered a violation of this chapter and subject the permittee to enforcement action under.
9. The permittee and its contractors and subcontractors shall comply with all conditions, site plans, and supporting documents approved by the permit. Any noncompliance with a permit constitutes a violation of this chapter and is grounds for enforcement action under, as well as, in the appropriate case, suspension and/or termination of the permit.
10. All conditions, site plans, and supporting documents approved by a permit shall remain in full force and effect so long as the regulated activity or project, or any portion thereof, is in existence, unless the permit is modified.
11. If any condition or permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect public health, safety, and welfare, or the environment.
12. A copy of the permit and all approved site plans and supporting documents shall be maintained at the site at all times and made available to Department representatives or their designated agents immediately upon request.

13. A permit shall be transferred to another person only in accordance with the regulations N.J.A.C. 7:7A-14.2.
14. A permit can be suspended or terminated by the Department for cause as specified at N.J.A.C. 7:7A 14.4 and 14.5.
15. The submittal of a request to modify a permit by the permittee, or a notification of planned changes or anticipated noncompliance, does not stay any condition of a permit.
16. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information.
17. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, P.O. Box 420, Mail Code 401-04C, Trenton, NJ 08625, seven days prior to the commencement of site preparation or of regulated activities, whichever comes first. The notification shall contain proof of recording of a conservation restriction or easement, if one was required as part of the permit.
18. The permittee shall not cause or allow any unreasonable interference with the free flow of a regulated water by placing or dumping any materials, equipment, debris, or structures within or adjacent to the channel while the regulated activity(ies) is being undertaken. Upon completion of the regulated activity(ies), the permittee shall remove and dispose of in a lawful manner, all excess materials, debris, equipment, and silt fences and other temporary soil erosion and sediment control devices from all regulated areas.
19. The regulated activity shall not destroy, jeopardize, or adversely modify a present or documented habitat for threatened or endangered species, and shall not jeopardize the continued existence of any local population of a threatened or endangered species.
20. Best management practices as defined at N.J.A.C. 7:7A-1.4, shall be followed whenever applicable. (N.J.A.C. 7:7A-1.4)
21. If the permittee, before or during the work authorizes, encounters a possible historic property, as described at N.J.A.C. 7:7A-12.2(1), that is or may be eligible for listing in the New Jersey or National Register, the permittee shall preserve the resource and immediately notify the Department and proceed as directed.

**APPROVED PLANS:**

The drawings hereby approved are two (2) sheets prepared by David Juzmeski, P.E. of Neglia Engineering Associates, dated June 9, 2017, unrevised, unless otherwise noted, entitled:

**“W.R. TRACY ROAD BRIDGE IMPROVEMENTS COUNTY BRIDGE No.: MO-37  
CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE UNION COUNTY NEW  
JERSEY”**

**“NJDEP WETLAND PERMITTING PLAN”, sheet No. 5.00**

**and**

**“NJDEP STATE OPEN WATER PERMITTING PLAN”, sheet No. 5.01**

**APPEAL OF DECISION:**

In accordance with the applicable regulations, any person who is aggrieved by this decision or any of the conditions of this permit may request an adjudicatory hearing within 30 calendar days after public notice of the decision is published in the DEP Bulletin. This request must include a completed copy of the Adjudicatory Hearing Request form. The DEP Bulletin is available through the Department's website at <http://www.nj.gov/dep/bulletin> and the form is available through the Division's website at [http://www.nj.gov/dep/landuse/download/lur\\_024.pdf](http://www.nj.gov/dep/landuse/download/lur_024.pdf). In addition to requesting a hearing, a request may be filed with the Department's Office of Dispute Resolution to determine whether the matter is suitable for mediation. Information concerning the dispute resolution process is available at [www.nj.gov/dep/odr](http://www.nj.gov/dep/odr).

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:

  
\_\_\_\_\_  
Cathryn Schaffer, Environmental Specialist 3  
Division of Land Use Regulation

1/13/17  
\_\_\_\_\_  
Date

- cc: Borough of Mountainside Municipal Clerk
- Borough of Mountainside Municipal Construction Official
- Agent – David Juzmeski **w/plan**
- City of Summit Municipal Clerk
- City of Summit Municipal Construction Official



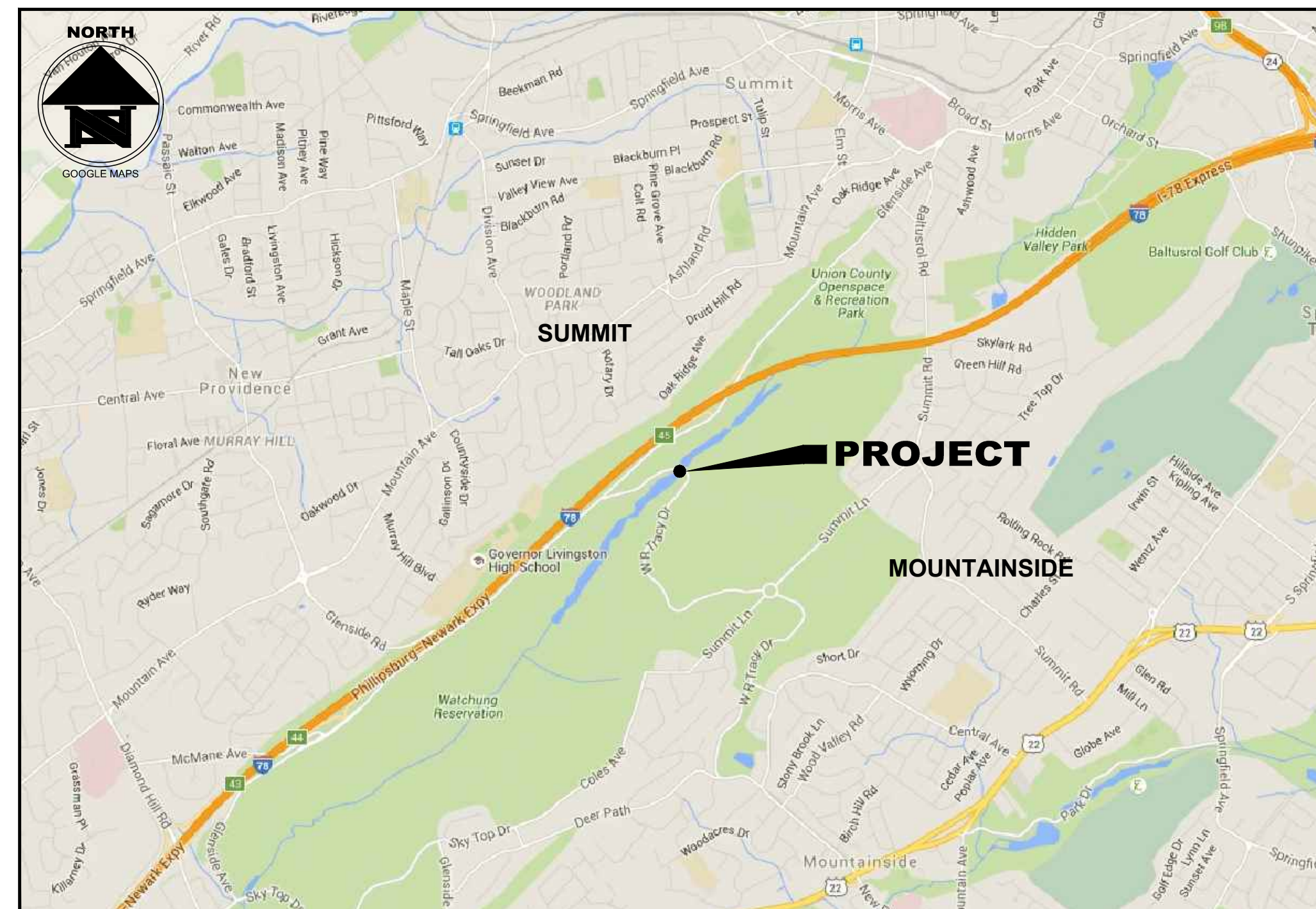
COUNTY OF UNION  
BOARD OF CHOSEN FREEHOLDERS

# W.R. TRACY DRIVE BRIDGE IMPROVEMENTS

CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE  
COUNTY OF UNION, NEW JERSEY

SEPTEMBER 8, 2017 LAST REVISED MAY 2018

UTILITY COMPANY CONTACTS	
COMPANY	ADDRESS
P.S.E. & G. - GAS	472 WESTEN CANAL ROAD SOMERSET, N.J. (732) 764-3067
ELIZABETH GAS COMPANY	520 GREEN LANE UNION, N.J. (908) 662-8321
J.C.P. & L.	P.O. BOX 1911 MORRISTOWN, N.J. (973) 401-8521
P.S.E. & G. - ELECTRIC	80 PARK PLAZA T-12 NEWARK, N.J. (973) 297-2128
NEW JERSEY AMERICAN WATER	1341 NORTH AVENUE PLAINFIELD, N.J. (973) 564-5701
VERIZON	175 WESTMAIN STREET FREEHOLD, N.J. (732) 357-2313
BERKELEY HEIGHTS MUNICIPAL SEWER	29 PARK AVENUE BERKELEY HEIGHTS, N.J. (908) 464-5100
WESTFIELD PUBLIC WORKS	959 NORTH AVENUE WESTFIELD, N.J. (908) 789-4100



**KEY MAP (N.T.S.)**  
SOURCE: REF. GOOGLE MAPS

APPROVALS	
RECOMMENDED FOR APPROVAL BY:	PAUL N. MIRABELLI, MAYOR OF MOUNTAINSIDE
RECOMMENDED FOR APPROVAL BY:	NORA RADEST, MAYOR OF SUMMIT
RECOMMENDED FOR APPROVAL BY:	THOMAS O. MINEO, P.E., COUNTY ENGINEER
APPROVED BY:	EDWARD T. OATMAN, COUNTY MANAGER

LIST OF DRAWINGS	
DRAWING NO.	DRAWING TITLE
1.00	COVER SHEET
1.01	GENERAL NOTES & LEGEND
2.00	ROADWAY IMPROVEMENTS PLAN
3.00	SOIL EROSION AND SEDIMENT CONTROL PLAN
4.00	SOIL EROSION AND SEDIMENT CONTROL DETAILS
4.01	CONSTRUCTION DETAILS
5.00	NJDEP WETLAND PERMITTING PLAN
5.01	NJDEP STATE OPEN WATERS PERMITTING PLAN
5.02	NJDEP RIPARIAN PERMITTING PLAN

LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND IS NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION AND DEPTH OF ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS AS AN AID IN DETERMINING EXACT LOCATIONS.

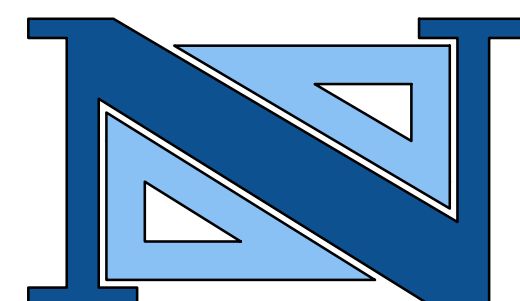
NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF 2007, WITH AMENDMENTS THERETO, TO GOVERN.



CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN THE RAISED IMPRESSION SEAL OF THE PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT AND MAY HAVE BEEN ALTERED. © COPYRIGHT 2018 BY NEGLIA ENGINEERING. ALL RIGHTS RESERVED.

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

REVISIONS			
NO.	DATE	DESCRIPTION	CHECKED
1.	09-09-17	ISSUED FOR NJDOT REVIEW	E.N.S. E.N.S. D.J.
2.	01-12-18	ADDED APPROVAL SIGNATURE BLOCK	E.N.S. E.N.S. D.J.
3.	05-11-18	ISSUED FOR BID	E.N.S. E.N.S. D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4051

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4100

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

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

**COVER SHEET / KEY MAP**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DRAWN BY: E.M.J. CHECKED BY: N.T.S. PROJECT NO: UNIOCTY16.010 SHEET NO: 1.00  
DESIGNED BY: E.M.J. SCALE: N.T.S. DATE: JUNE 7, 2017  
FIELD BOOK NO: PAGE

M:\UNION COUNTY\UNIOCTY16.010\W.R. TRACY ROAD BRIDGE\DWG - PLOT\DWG - COVER SHEET.DWG - Printed: Friday, May 11, 2018 8:31:34 AM



**GENERAL NOTES:**

**A. Legal**

- A1. The most current editions of The Standard Specifications for Road and Bridge Construction, Standard Inputs, and Standard Details, as published by the New Jersey Department of Transportation (NJDOT), the Plans, Technical Specifications, Advertisement, Contractor's Proposal and including but not limited to the amendments contained hereinafter shall comprise the Contract Documents. The Contractor shall read and understand the project specifications prior to construction. The municipality is under the jurisdiction of the state central law and the government.
- A2. The Contractor shall visit the site and familiarize himself with the existing conditions prior to submitting his bid. Any discrepancies between these plans and the actual conditions at the site shall be immediately reported to the Professional Engineer.
- A3. The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to the performance of the work, the protection of adjacent property and the maintenance of passageways.
- A4. The Contractor's attention is directed to the safety requirements as outlined in the General Conditions of the Construction Specifications. Neither the Engineer nor the Owner shall be held responsible and/or liable for the safety of the work site. The Contractor is responsible for maintaining a safe work site at all times.
- A5. The Contractor is responsible to obey all the safety and health regulations. The Owner assumes no responsibility for the health and safety of the work performed.

**B. Site Clearing and Construction**

- B1. The Contractor shall obtain all required local, County, State, Federal opening permits and shall bare the cost of all accompanying fees. All permits must be secured prior to the commencement of work.
- B2. Whenever a question arises regarding the specifications or drawings or any supplementary drawings or instructions of the Field Engineer, same shall be immediately brought to the attention of the Professional Engineer responsible for the design.
- B3. One copy of the approved construction plans and specifications furnished to the Contractor must be kept on the project site. All work and materials necessary for the completion of the work according to the intent and meaning of the Contract Documents, shall be furnished, performed and done in accordance with the specifications and plans. Any conflict or inconsistency between the plans and specifications, or any discrepancy between the figures and scale of drawings shall be submitted by the Contractor to the Engineer, whose decision thereon shall be final. The decision of the Engineer as to which specification will govern will be final.
- B4. The Contractor is responsible to construct the project in accordance with the contract documents. All proposed field changes must be approved in writing by the Professional Engineer existing for the design (Project Manager, PE) prior to the construction of any field changes.
- B5. All information shown or noted for existing facilities, grades, roadways and materials is approximate. The Contractor shall be responsible to verify all information which may affect his work.
- B6. All disturbed shrubs, fencing, walkways, signs, mailboxes, driveways, etc., shall be restored to their original condition and to the satisfaction of the Engineer and/or the Owner. No separate payment shall be made for this restoration work unless same is clearly specified elsewhere in the construction documents. The Contractor shall take prudent measures to protect all existing property evidence (monuments, iron pipe, pins, etc.) during construction.
- B7. All property corners or monuments removed or damaged during construction shall be replaced by a NJ Licensed Land surveyor at no additional cost to the Owner.
- B8. Reconstructed curb shall be installed to match existing curb elevations and alignment unless otherwise specified on grading plans, profiles or cross sections. Separate payment will not be made for removal of existing curb in reconstructed areas. Payment for the removal of existing curb shall be included in the unit price bid for the Curb line item.
- B9. The Contractor shall sawcut and repair the pavement adjacent to newly constructed curb prior to proceeding on to subsequent stages of work. Curb trenches will not be left open overnight in areas where the roadway is to be opened to traffic. No separate payment will be given for such said sawcutting and restoration, the cost of which shall be included in the unit price bid for the Curb line item.
- B10. All asphalt material removed from the project must be transported to an approved recycling center and the tonnage certified to the Owner. No separate payment will be made for this work but shall be included in the various items in the proposal.
- B11. The Contractor shall be responsible for the disposal of all excess materials excavated, whatever nature, at his own expense. The Owner is not obligated to supply a disposal site. The Contractor must not deposit the excess materials within the municipal limits without express permission of the Professional Engineer. Excavated material may not be stored on site and shall be removed at the end of each day.
- B12. All excavated materials are to be disposed of in accordance with approved NJDOT/NJDEP methods and means, or transported at the direction of the Owner.
- B13. All disturbed areas outside the project limits or not intended to be included in this project, shall be restored to their original condition, and to the satisfaction of the Owner. No separate payment shall be made for this restoration, unless specified elsewhere.
- B14. The Contractor must provide a smooth sawcut edge in all cases where proposed pavement of whatever nature, concrete curbs or concrete sidewalks abut existing pavements, curbs or sidewalks. No separate payment will be made for sawcutting. The cost shall be included in the various items in the proposal.
- B15. The Contractor may discover that existing roadway may contain existing concrete base or cobble stone and shall make all necessary requirements for its removal where required. The cost for this work shall be included in the cost of Roadway Excavation, Unclassified.
- B16. The replacement of any sidewalk within the project area may require that sidewalk slabs be sawcut from the surrounding concrete walk. No specific payment for saw cutting will be made and therefore shall be included under prices bid for concrete sidewalk items in the proposal.
- B17. As part of this Contract, the Contractor is required to prepare the existing pavement and seal all cracks and joints per Section 404 of the NJDOT Specifications prior to resurfacing. This work shall include, but is not limited to, all labor, materials and equipment necessary to clean cracks prior to the installation of surface course and apply a sealant as outlined in the NJDOT Specification. Prior to commencement, the Contractor shall obtain approval from the Professional Engineer as to the intended methods and materials that will be used for this project. This item shall not be measured for payment, but the cost thereof shall be included in the unit price bids for the Hot Mix Asphalt Surface Course line item.
- B18. No construction, maintenance or utility work on, under or above the project road that will obstruct, interfere with and/or detour traffic on the road, shall be performed before the hour of 9:00 AM or after 4:00 PM. The Contractor's work hours shall conform to local Ordinance requirements.
- B19. All trenches in the existing pavement shall be saw cut. No separate payment will be made for saw cutting and the cost thereof shall be included under prices bid for various items in the proposal.
- B20. The Contractor shall be responsible for restoration and maintenance of all access driveways at all times during construction at no additional cost to the Owner.
- B21. All sediment and soil erosion control practices are to be installed in conformance with Soil Conservation District standards prior to any major soil disturbances. All work shall be completed in proper sequence and all erosion control devices shall be maintained until permanent protection is established.
- B22. Contractor shall maintain access to all properties at all times during construction.
- B23. The Contractor shall take all necessary measures to maintain dust control as required or directed by the Professional Engineer. All vehicles shall be clean and all roadways shall be maintained as directed by the Field Engineer.
- B24. Contractor shall keep the site clean at all times and sweep the street at the end of each work day.

**B. Site Clearing and Construction/Cont.**

- B25. All material encountered within the work zone area that must be removed to construct the project as directed by the Field Engineer, shall be included in the unit price bid for Clearing Site. This is inclusive of but not limited to the removal of all curbed edging and concrete gutter.
- B26. All trees are to be saved and protected from harm during construction with the exception of the trees marked with an X on the construction plans. If any trees are damaged during construction, the Contractor will be responsible for the removal and replacement as determined by the Municipality.
- B27. All trees to be removed shall be marked by the Contractor and approved by the Owner before any tree removal commences. Each Tree designated for removal shall be completely removed, except for stumps that cannot be removed by grubbing which shall be grinded to twelve (12) inches below the existing ground surface.
- B28. The Contractor shall install protective blocking, bracing or sheeting to support any exposed gas, water, sanitary, telecommunications, or electric utilities in accordance with the respective utility company's regulations.
- B29. The Contractor shall be responsible for tapering proposed work to meet existing conditions in a uniform manner.

**C. Utility Permits**

- C1. Prior to the start of construction, the Contractor shall have all underground utilities located and physically marked out within the limits of the project (call 1-800-272-1000). The Contractor shall provide test holes in areas of possible conflict to verify the depth and location of the utility. No separate payment shall be made for delays that may be necessary to relocate utilities or the proposed location of underground utilities. No separate payment will be made for test pits but the cost shall be included in the various items in the proposal.
- C2. Location and depth of existing utilities are only indicated to bring attention to possible conflicts. Any damage to utilities shall be the sole responsibility of the Contractor and all costs for repairs shall be borne by the Contractor.
- C3. Any damage to utilities shall be the sole responsibility of the Contractor and all costs for repair shall be borne by the Contractor. All disturbed or damaged walkways, signs, curbing, trees, hydrants, utilities, paved surfaces, driveways, building facades, etc. shall be restored to their original condition and to the satisfaction of the Owner. No separate payment will be made for this restoration unless specified elsewhere in the Contract.
- C4. The locations of utilities shown are approximate. The Contractor is responsible for verifying the exact locations of the utilities prior to the start of construction.
- C5. All gas and water valves and various manholes to remain shall be reset to finish grade.
- C6. The Contractor shall coordinate his work with the public utility companies. Electric, telephone, gas & cable utility manhole castings and valve box covers shall be reset by the respective utility companies.
- C7. Private utility companies must be contacted by the Contractor so that privately owned castings will be reset as required.
- C8. Water service valve boxes, gas service valve boxes, junction boxes, electric boxes, basement vault doors and all other appurtenances located in the sidewalk area shall be reset to the new sidewalk elevation. The cost for resetting any and all of these castings shall not be paid separately but shall be included in the various concrete sidewalk line items in the proposal.
- C9. The Contractor is responsible for accurately locating existing traffic signal loop detector and leads. The Contractor will only be compensated for the replacement of loop detectors and leads which have been removed at the direction of the Professional Engineer. The Contractor shall not remove loop detectors and leads unless he is directed to do so by the Professional Engineer.
- C10. Trenches shall be backfilled without delay. Open excavations shall be kept to a minimum and made safe at all times. All trenches shall be adequately compacted by approved methods and with materials approved by the Field Engineer. Any trench settlement shall be immediately brought to grade and temporary paving shall be placed where required. No trench (including curbs) shall be left open overnight.
- C11. The Contractor shall provide and maintain temporary ramps around all exposed utility castings, both public and private which have been uncovered during construction.

**D. Drainage**

- D1. The Contractor is responsible to clean and maintain all existing drainage structures prior to the start of construction within the project limits.
- D2. All existing storm sewer pipes within project limits must be cleaned by the Contractor after completion of construction. The cost for cleaning shall not be paid separately but shall be included in the various drainage items in the proposal.
- D3. All roof leaders and curb drains are to remain free flowing, during construction.
- D4. All roof drain pipes in curb/sidewalk area to be maintained and reconnected, and shall be extended under the sidewalk and through the curb.
- D5. All inlets, manholes and vault castings to be reset shall be reset to the proposed finished grade as directed by the Field Engineer. These castings must be reset flush to the proposed grade and the new pavement shall not be mounded up or feathered down to meet these castings. All castings reset to the improper grade or not to the satisfaction of the Field Engineer shall be reset to the new grade at no additional expense to the Owner.
- D6. Existing grates are the property of the Municipality or utility authority and will be delivered, at no additional cost to the Owner, to the local Department of Public Works or utility authority yard. Payment will not be made for new grates unless the existing grates are returned to the Owner.
- D7. All open drainage excavations shall be backfilled at the end of each day and protected from pedestrian and vehicular traffic.
- D8. The Contractor will be responsible for maintaining positive drainage during and after construction. If a situation arises where water will pond at a particular location, the Professional Engineer responsible for the design must be notified immediately in order to make corrective measures in writing.
- D9. The Contractor is fully responsible for verifying that all proposed storm sewer connections are to the existing storm sewer systems.

**E. Traffic Control**

- E1. The Contractor shall be responsible for coordination of traffic control measures.
- E2. Maintenance and Protection of Pedestrian Traffic Control must conform to NJDOT and MUTCD standards along with the requirements of the municipality. Police Traffic Directors shall be coordinated with the municipality, as needed.
- E3. The Contractor shall be responsible to prepare a detour plan as needed or required by the Owner and/or local Police department for review and approval prior to starting work.

**F. Signs**

- F1. Any signs located within the sidewalk areas should be reset/relocated in accordance with the standard NJDOT Standard Details. Separate payment will not be made for resetting objects located in the sidewalk. The cost shall be included in the unit price bid for the replacement of sidewalks, unless payment for such work is specified in the proposal.
- F2. The Contractor shall relocate/reset signs as shown on the plans or directed by the Professional Engineer. No separate payment will be made for this work but the cost shall be included in the various items in the proposal.
- F3. Signs for parking prohibition must be posted at least 48 hours in advance of construction. Contractor shall coordinate, obtain and place signs as directed by the Owner.

**G. Survey**

- G1. Layout of all work shall be adjusted in the field to meet site conditions as approved in writing by the Professional Engineer responsible for the design.
- G2. The Contractor is responsible to layout all new work prior to construction for Field Engineer's approval. Any locations not approved by the Field Engineer and installed by the Contractor shall be removed and replaced as per the Field Engineer's instructions at no additional cost to the Owner.
- G3. All layout work shall be done by a New Jersey Licensed Land Surveyor.
- G4. All existing locations taken from a survey prepared by Neglia Engineering Associates.

**H. Trees**

- H1. Contractor must retain a certified tree expert for tree evaluation where necessary. No additional payment will be made for tree expert; price to be included in site clearing.
- H2. All trees that have roots that encroach into the proposed curbs or pavement and are to be saved shall be evaluated by the Contractor's certified tree expert. All evaluations shall be in writing and shall accurately identify the tree in question by station and offset (left or right). All evaluations shall be submitted to the Professional Engineer for review and consultation with the Municipalities tree experts prior to cutting any roots. No separate payment will be made for this work but the cost thereof shall be included in the clearing site item.
- H3. Trees that are to be saved, where it is determined that root cutting may severely damage the tree, shall have a curb break and steel curb face plates installed as shown on the details.
- H4. The Contractor is responsible for the timely evaluation of all trees and there will not be change orders for delays resulting from root cutting.
- H5. In areas where the roots encroach into the curb line, the full pavement section shall be removed prior to removing the curb. Then the existing curb shall be removed by pulling it away from the tree towards the roadway to minimize root damage during the removal of the existing curb. No separate payment shall be made for this work but the cost thereof shall be included in the Clearing Site line item.

**J. ADA Requirements**

- J1. The Contractor shall be fully responsible for complying with NJDOT and ADA requirements related to the installation of handicap accessible ramps and the associated slopes. The ramps and alignments illustrated on these plans shall be used for schematic purposes only. The Contractor shall be fully responsible for proper construction and alignment in the field.
- J2. It is the Contractor's responsibility to verify that the proposed drop curb ramps meet current NJDOT and ADA Standards. Those ramps that do not meet standards, once constructed, shall be replaced to meet said standards at no additional cost to the owner.
- J3. The Contractor is responsible for determining the extent of improvements required for those ramp locations identified and completing said work to ensure ramps are in conformance with current NJDOT and ADA Standards.
- J4. Contractor shall not begin site clearing operations on a ramp until he verifies that ramp can be constructed to comply with applicable standards. The Contractor shall be responsible for all corrections to a ramp should he proceed with demolition prior to confirmation of constructability at no additional cost to the owner.

**STANDARD PLAN LEGEND**

**EXISTING CONDITIONS**

	WATER VALVE		INLET
	GAS VALVE		JUNCTION BOX
	CLEAN OUT		UTILITY POLE
	MANHOLE		FIRE HYDRANT
	SANITARY MANHOLE		CURB LINE
	DRAINAGE MANHOLE		DEPRESSED CURB
	TREE		RAILROAD TIE CURB OR WALL
	SHRUB		GAS MAIN
	ROOF DRAIN AT CURB		WATER MAIN
	EDGE OF PAVEMENT		DRAINAGE PIPE
	LANDSCAPED AREA		SANITARY SEWER PIPE
			STORM PIPE

**PROPOSED CONDITIONS**

	RESET VALVES & CLEANOUTS
	PROPOSED VALVES
	PROPOSED CLEAN OUT
	RESET MANHOLE CASTING
	RECONNECT ROOF DRAIN
	RESET INLET
	PROPOSED INLET
	PROPOSED DEPRESSED CURB
	PROPOSED CURB
	LIMIT OF CONSTRUCTION
	FLOW ARROW
	TREE REMOVAL
	LIMIT OF CONSTRUCTION
	TO BE REMOVED

**PAVEMENT MARKING STANDARD**

UNLESS OTHERWISE SHOWN, PAVEMENT MARKINGS SHOULD CONFORM TO THE FOLLOWING:

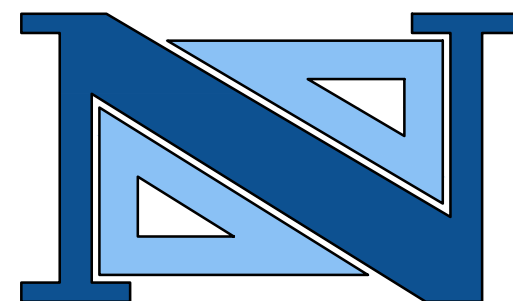
CENTER LINES	_____	4" WIDE DOUBLE YELLOW LINE
LANE LINE	_____	4" WIDE WHITE LINE
CROSSWALK LINES	_____	6" WIDE WHITE LINE
STOP LINE	_____	24" WIDE WHITE LINE
HATCHING	_____	24" WIDE WHITE LINE
PARKING STALL	_____	4" WIDE WHITE LINE
HANDICAP STALL	_____	4" WIDE BLUE LINE

**NOTE:**  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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REVISIONS			
NO.	DATE	DESCRIPTION	CHECKED
1	09-09-17	ISSUED FOR NJDOT REVIEW	E.N.S. D.J.
2	05-11-18	ISSUED FOR BID	E.N.S. D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4051

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

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**

PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

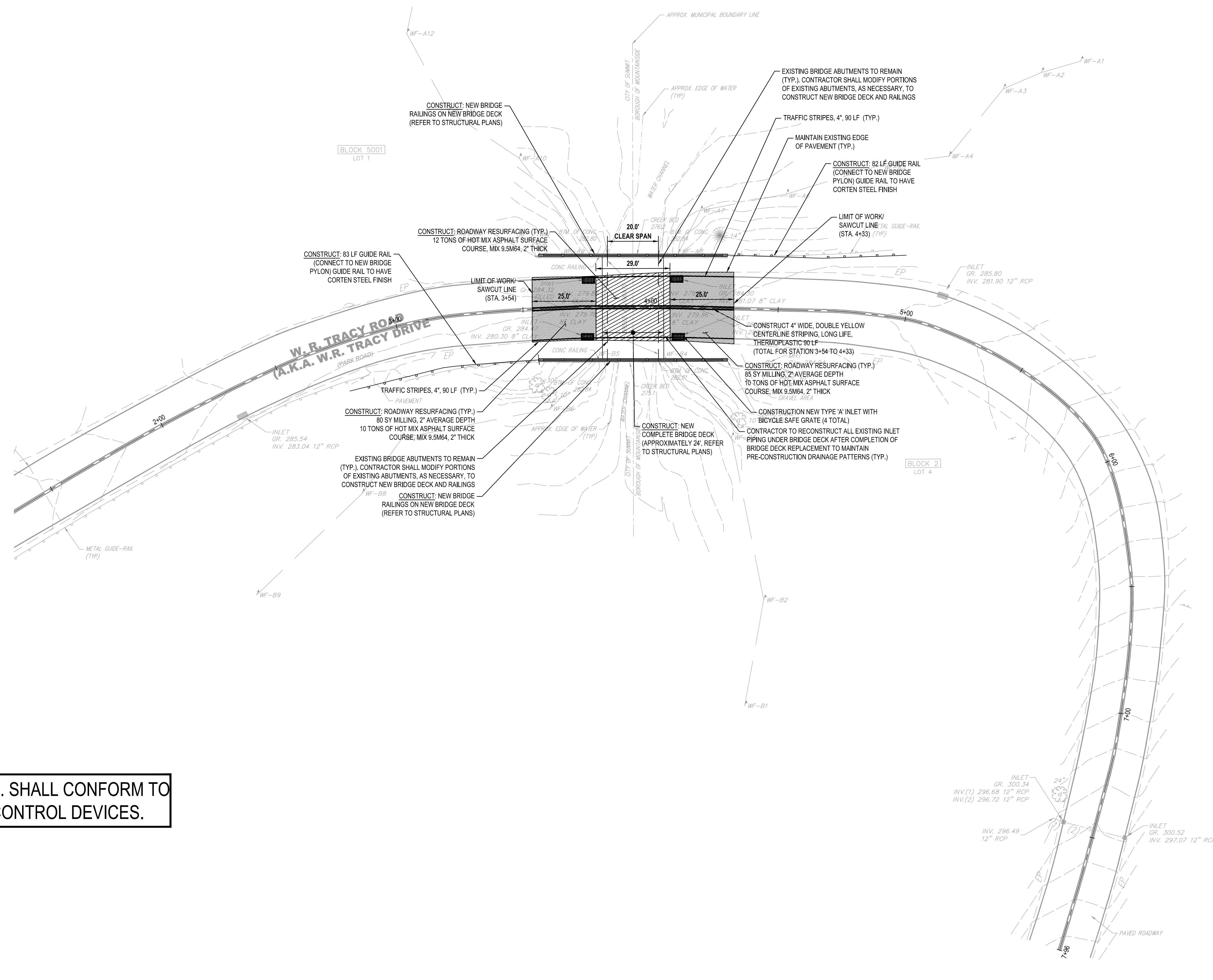
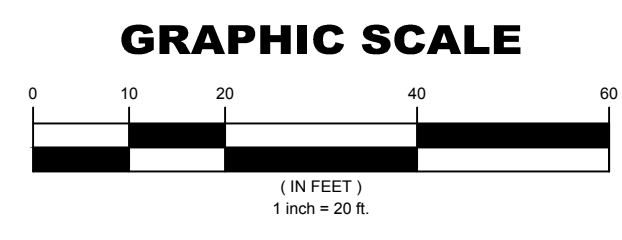
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33L00569800

**GENERAL NOTES AND LEGEND**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY**  
**NEW JERSEY**

DRAWN BY: E.M.J.	CHECKED BY:	PROJECT NO. UNIOCTY16.010	SHEET NO. 1.01
DESIGNED BY: E.M.J.	SCALE: N.T.S.	DATE: JUNE 7, 2017	
FIELD BOOK NO.:	PAGE:		

MUNICIPALITY OF SUMMIT COUNTY UNIOCTY16.010 W.R. TRACY DRIVE BRIDGE/CAO - FINAL DRAWINGS/01 - GENERAL NOTES & LEGEND DWG - Project Friday, May 11, 2018 8:52:06 AM





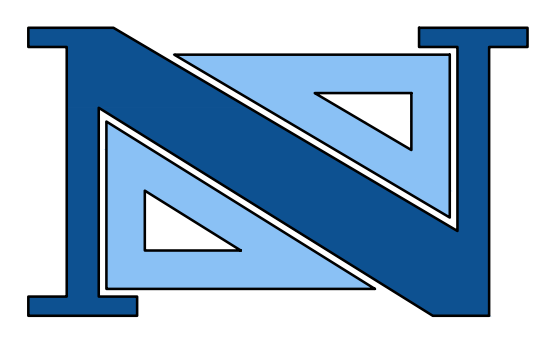
ALL PAVEMENT MARKINGS, SIGNS, ETC. SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - HORIZONTAL DATUM BASED ON NAD'83, VERTICAL DATUM BASED ON NAVD'88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.

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NO.	DATE	DESCRIPTION			
1.	09-05-17	ISSUED FOR NDOT REVIEW	E.N.S.	E.N.S.	D.J.
2.	02-28-18	REVISED PER NDOT COMMENT LETTER	E.N.S.	E.N.S.	D.J.
3.	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4051

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 4100

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

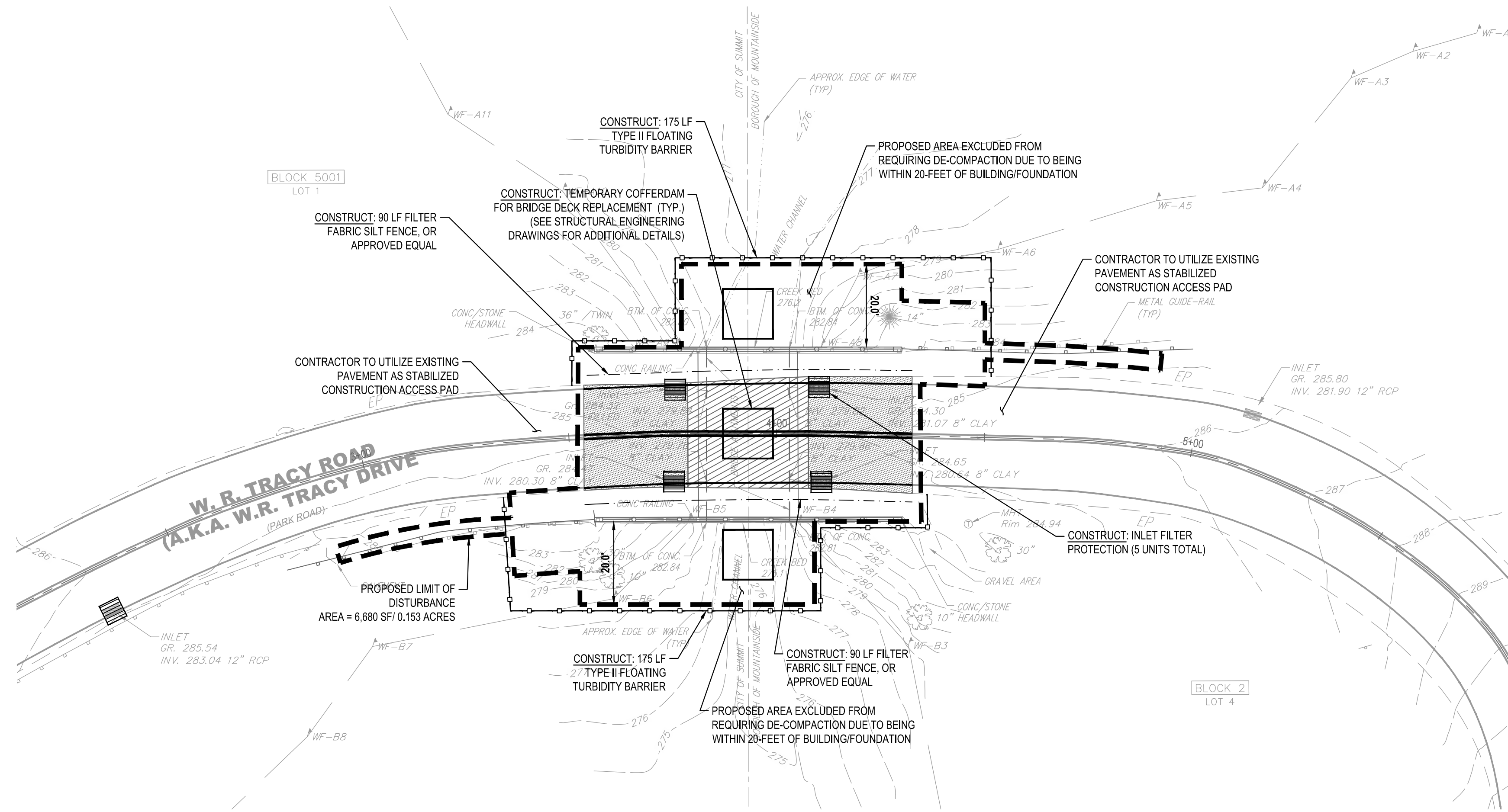
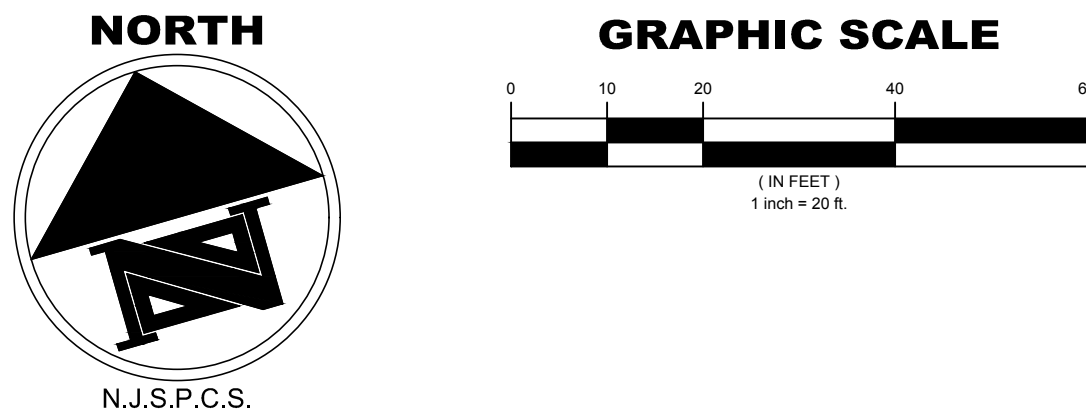
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**ROADWAY IMPROVEMENTS PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY**

PROJECT NO.: UNIOCTY16.010  
SHEET NO.: 2.00  
DATE: JUNE 7, 2017

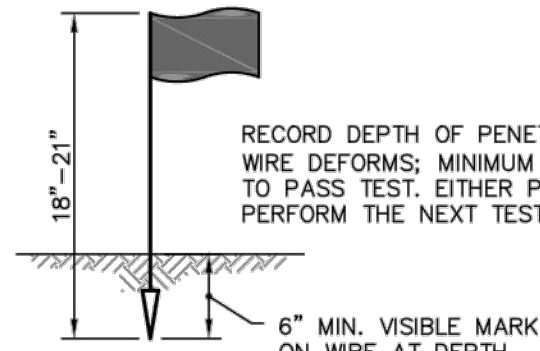
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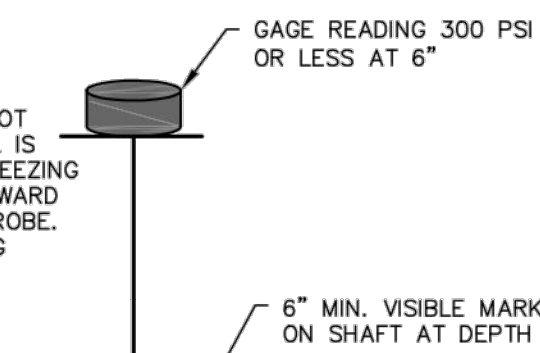
**TOTAL DISTURBANCE AREA: 0.32 ACRES/14,020 SF**

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.



\* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

**PROBING WIRE TEST**  
15.5 GA. STEEL WIRE (SURVEY FLAG)



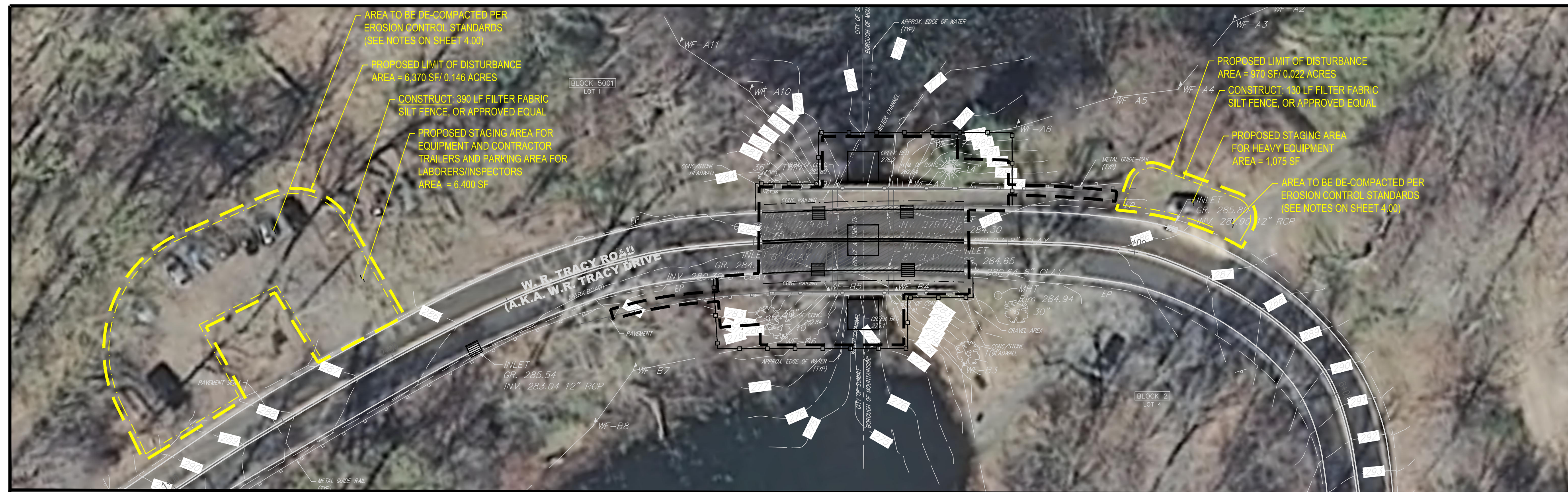
NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6"

\* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

**HANDHELD SOIL PENETROMETER TEST**

**DE-COMPACTION TEST DETAILS**

- GENERAL NOTES:**
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  - HORIZONTAL DATUM BASED ON NAD'83, VERTICAL DATUM BASED ON NAVD'88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.



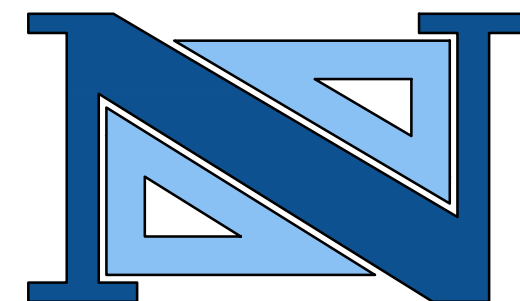
**ANTICIPATED CONTRACTOR STAGING AREAS**

SCALE: 1" = 30'

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**DAVID JUZMESKI, P.E., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4051

**THOMAS R. SOLFARO, P.E., C.M.E.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4100

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER  
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PROFESSIONAL LAND SURVEYOR  
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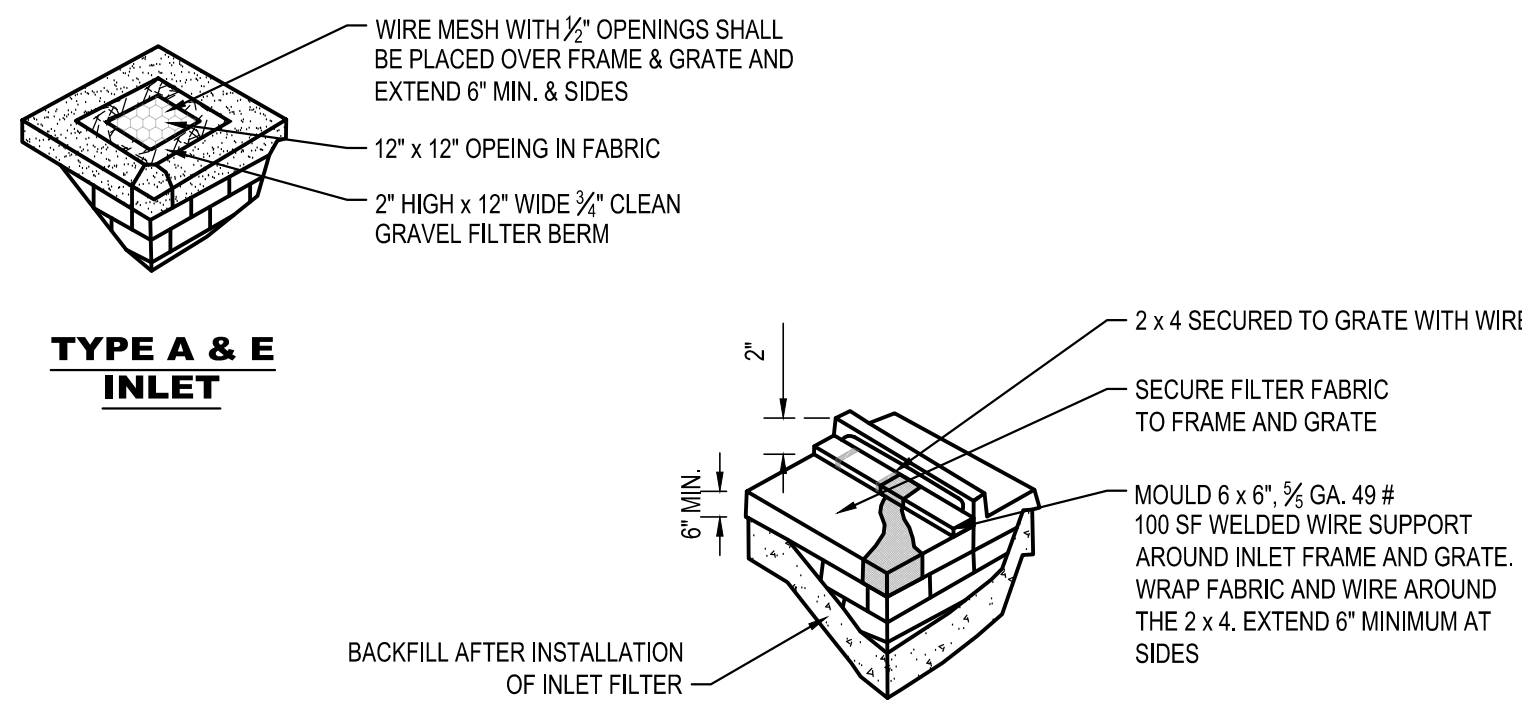
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33L100569800

**SOIL EROSION & SEDIMENT CONTROL PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
COUNTY BRIDGE No.: MO-37  
CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE  
UNION COUNTY

PROJECT NO.: UNIOCTY16.010  
SHEET NO.: 3.00  
DATE: JUNE 9, 2017

MUNICIPALITY OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY

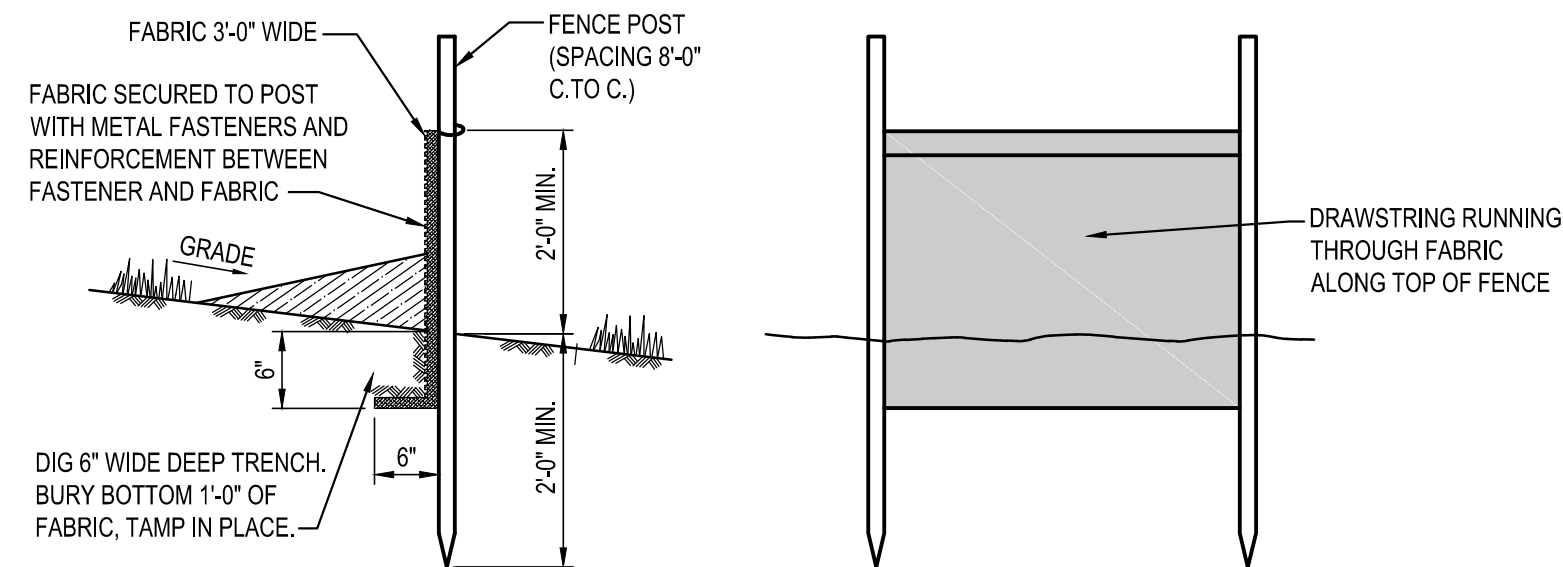




- NOTES:**
- CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM, AND CLEAN OR REPLACE AS REQUIRED.
  - CONTRACTOR IS TO REMOVE FABRIC AND MESH JUST PRIOR TO PAVING.
  - IF BOTTOM OF ROADWAY IS BELOW TOP OF INLET GRATE, CONSTRUCT PROPERLY FILTERED OPENING(S) IN INLET WALL TO ALLOW PASSAGE OF WATER.
  - THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER.

### INLET FILTER & PROTECTION

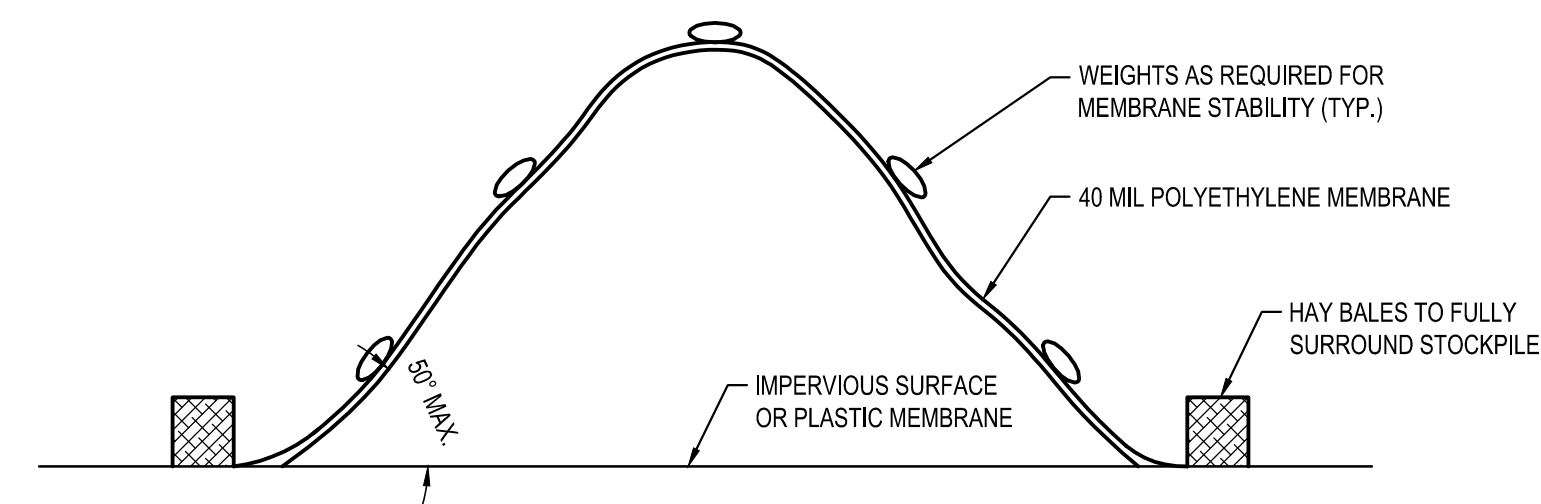
NOT TO SCALE



- FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1 1/2 INCHES.
- A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED. FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
- A GEOTEXTILE FABRIC RECOMMENDED FOR SUCH USE BY THE MANUFACTURE, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS & STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

### SILT FENCE

NOT TO SCALE



- NOTES:**
- FOR NON-CONTAMINATED SOIL, SURROUND STOCKPILE WITH SILT FENCE. NO COVER REQUIRED

### SOIL STOCKPILE

NOT TO SCALE

## SEQUENCE OF CONSTRUCTION

- |  |          |
|--|----------|
| 1. INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, INLET FILTERS, TURBIDITY BARRIERS, AND OTHER SOIL EROSION MEASURES          | 1 WEEK   |
| 2. MOBILIZATION, SITE CLEARING, TEMPORARY UTILITY RELOCATIONS  | 1 WEEK   |
| 3. PAVEMENT REMOVAL, REMOVAL AND REPLACEMENT OF EXISTING BRIDGE DECK   | 14 WEEKS |
| 4. FULL-DEPTH PAVEMENT REPLACE, MILLING AND REPAVING   | 2 WEEKS  |
| 5. PAVEMENT STRIPING & SITE RESTORATION  | 1 WEEK   |
| 6. CONDUCT SOIL COMPACTING TESTING AND REMEDIATE SUBSOIL (SCARIFICATION/TILLAGE TO A MINIMUM DEPTH OF 6") IF NECESSARY)                      | 1 WEEK   |
| 7. LANDSCAPING, REMOVE SOIL EROSION & SEDIMENT CONTROL DEVICES, FINAL SITE CLEANUP (PROVIDE PERMANENT STABILIZATION OF ALL EXPOSED SURFACES) | 1 WEEK   |

TOTAL = 150 DAYS

## SEEDING SPECIFICATIONS

A. SELECT A MIXTURE FROM TABLE 4-3 (PG. 4-7) OR USE MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.

- SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
- WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85° F AND ABOVE. SEE TABLE 4-3 (PG.4-7), MIXTURES 1 TO 7. PLANTING RATES FOR WARM SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
- COOL SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°. MANY GRASSES BECOME ACTIVE AT 65°. SEE TABLE 3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PURE LIVE SEED IS NOT REQUIRED FOR COOL SEASON GRASSES.
- CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER, EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKED SEEDINGS. SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDING PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING BELOW) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
- AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- TEMPORARY SEEDING, TEMPORARY VEGETATIVE COVER SHALL CONSIST OF PERENNIAL RYEGRASS APPLIED UNIFORMLY AT A RATE OF 1.0 POUND PER 1,000 SQ. FT. (40 lbs./Ac.) IN ACCORDANCE WITH TABLE 7-2, PAGE 7-3. LIMESTONE (PULVERIZED DOLOMITIC EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDES) SHALL BE APPLIED AT THE RATE OF 45 LBS./1,000 SQ. FT. (1 TON/ACRE) IN ACCORDANCE WITH TABLE 7-1, PAGE 7.2. FERTILIZER (10-20-10 OR EQUIVALENT) AT THE RATE OF 11 lbs/1,000 SQ. FT. (500 lbs./Ac.) OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN, IN ACCORDANCE WITH PARAGRAPH 2A, PAGE 7-1.
- MULCHING IS REQUIRED ON ALL SEEDING SHALL BE ACCOMPLISHED AS FOLLOWS:
  - MULCH MATERIALS SHOULD BE UNROTTED SALT HAY, HAY, OR SMALL GRAIN STRAW AT A RATE OF 1.5 TO 2.0 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1,000 SQUARE FEET. MULCH BLOWERS SHOULD NOT GRIND OR CHOP THE MATERIAL.
  - SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQUARE-FOOT SECTIONS AND DISTRIBUTE 70 TO 90 LBS. WITHIN EACH SECTION.
  - MULCH ANCHORING SHALL BE ACCOMPLISHED USING EITHER PEG AND TWINE, MULCH NETTING, MULCH-ANCHORING COULTER TOOL OR LIQUID MULCH BINDERS, PER THE ACCOMPANYING "STABILIZATION WITH MULCH ONLY" SPECIFICATION. \* OPTIMUM SEEDING DATES: 03/01 - 05/15 AND 08/15 - 10/01

- G. PERMANENT SEEDING
- TOPSOIL TO BE PLACED TO A DEPTH OF 4 INCHES ON EXPOSED SOILS UPON COMPLETION OF FINAL GRADING.
  - SEED IS TO BE UNIFORMLY APPLIED TO THE NORMAL DEPTH OF 1/4-INCH TO 1/2-INCH (EXCEPT HYDROSEEDING), ZONE 6b SEED MIXTURE 17, AS SHOWN ON PAGE 4-12 IN THE SOIL EROSION STANDARDS. THE SEEDING RATE SHALL BE:

SEED MIXTURE	PLANTING RATE	
	LBS PER ACRE	LBS PER 1,000 SF
HARD FESCUE	120	2.7
CREeping FESCUE	30	0.7
PERENNIAL RYEGRASS	10	0.25

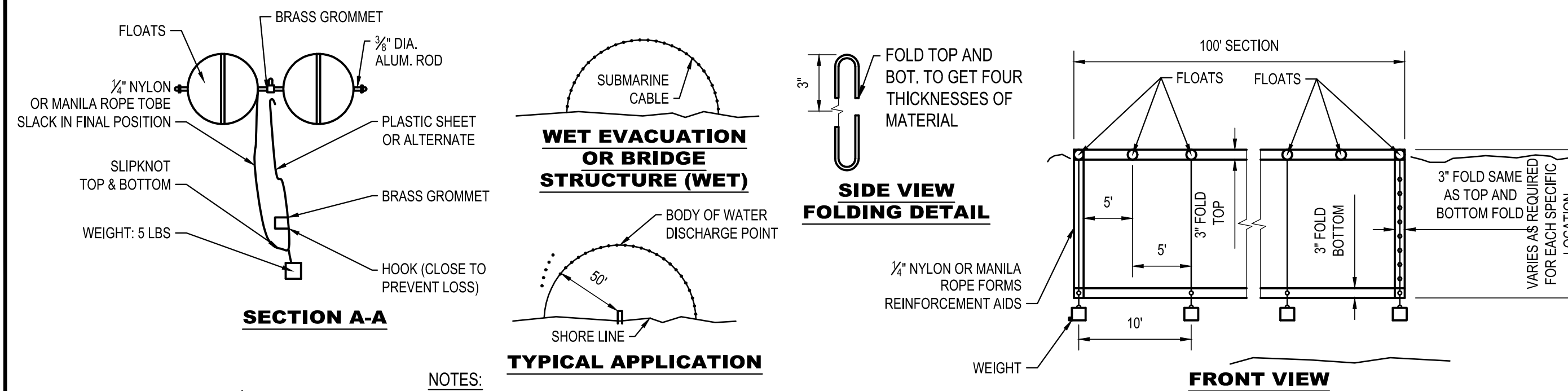
\*OPTIMAL SEEDING DATES: 3/1 - 4/30 AND 8/15 - 10/15

- MULCHING WILL BE ACCOMPLISHED PER THE BELOW TEMPORARY SEEDING SPECIFICATION (MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SOIL CAN BE IRRIGATED).

- H. SOIL PREPARATION
- SUITABLE EQUIPMENT WILL BE USED TO PREPARE A REASONABLE, UNIFORM, FINE SEED BED TO A MINIMUM DEPTH OF 4 INCHES.
  - APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIME SHALL BE PULVERIZED DOLOMITIC LIMESTONE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. THE FOLLOWING TABLE IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES:

## SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- PERMANENT VEGETATION SHALL BE SEEDING OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
- TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 100'X30'X1" PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OR PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- 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.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- 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 STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
- MULCHING IN THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING THE LIFE OF THE CONSTRUCTION PROJECT.
- 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.
- HYDROSEEDING 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 OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.



## FLOATING TURBIDITY BARRIER

NOT TO SCALE

## SOIL DE-COMPACTION AND TESTING REQUIREMENTS

### SOIL COMPACTION TESTING REQUIREMENTS

- SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.**
- AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.**
- COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION MITIGATION VERIFICATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.**
- IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.**

### COMPACTION TESTING METHODS

- PROBING WIRE TEST (SEE DETAIL)
- HAND-HELD PENETROMETER TEST (SEE DETAIL)
- TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
- NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

**NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.**

**SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.**

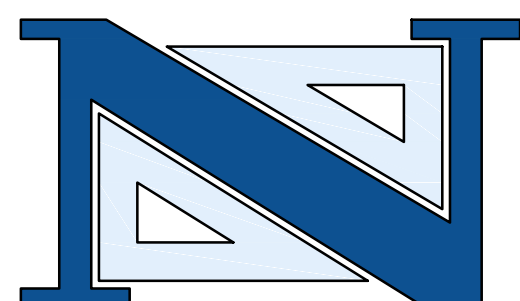
### PROCEDURES FOR SOIL COMPACTION MITIGATION

- PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.**
- RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.**

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2.	09-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 46701

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 41108

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**

PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 38604

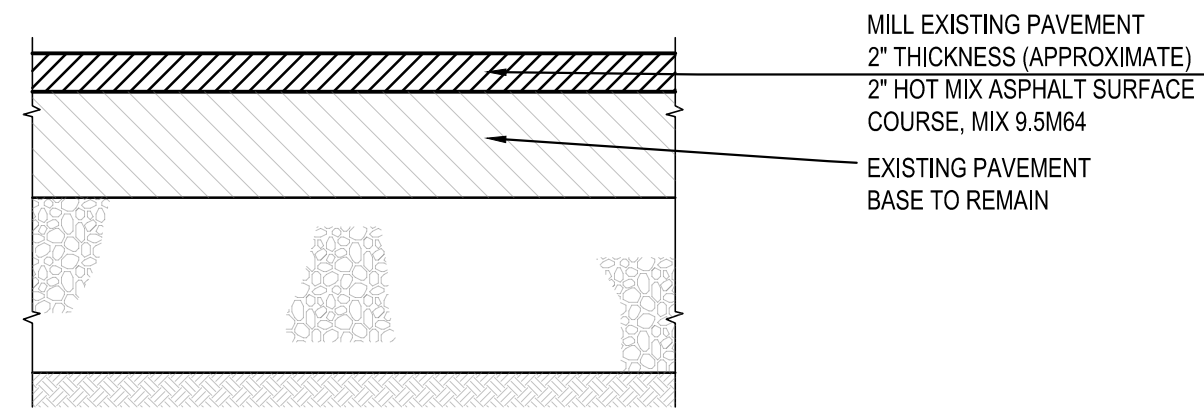
PROFESSIONAL PLANNER  
N.J. LICENSE NO. 33L100569800

**SOIL EROSION & SEDIMENT CONTROL DETAILS**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DRAWN BY: E.M.J.	CHECKED BY: D.J.	PROJECT NO.:	SHEET NO.:
DESIGNED BY: E.M.J.	SCALE: N.T.S.	UNIOCTY16.010	4.00
FIELD BOOK NO.:	PAGE:	DATE: JUNE 9, 2017	

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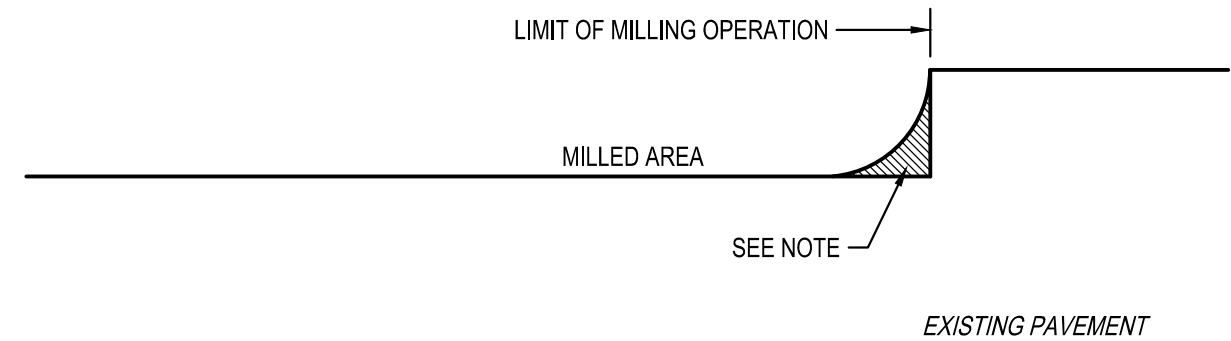




PAVEMENT RESURFACING SECTION

NOT TO SCALE

PAVEMENT RESURFACING SECTIONS

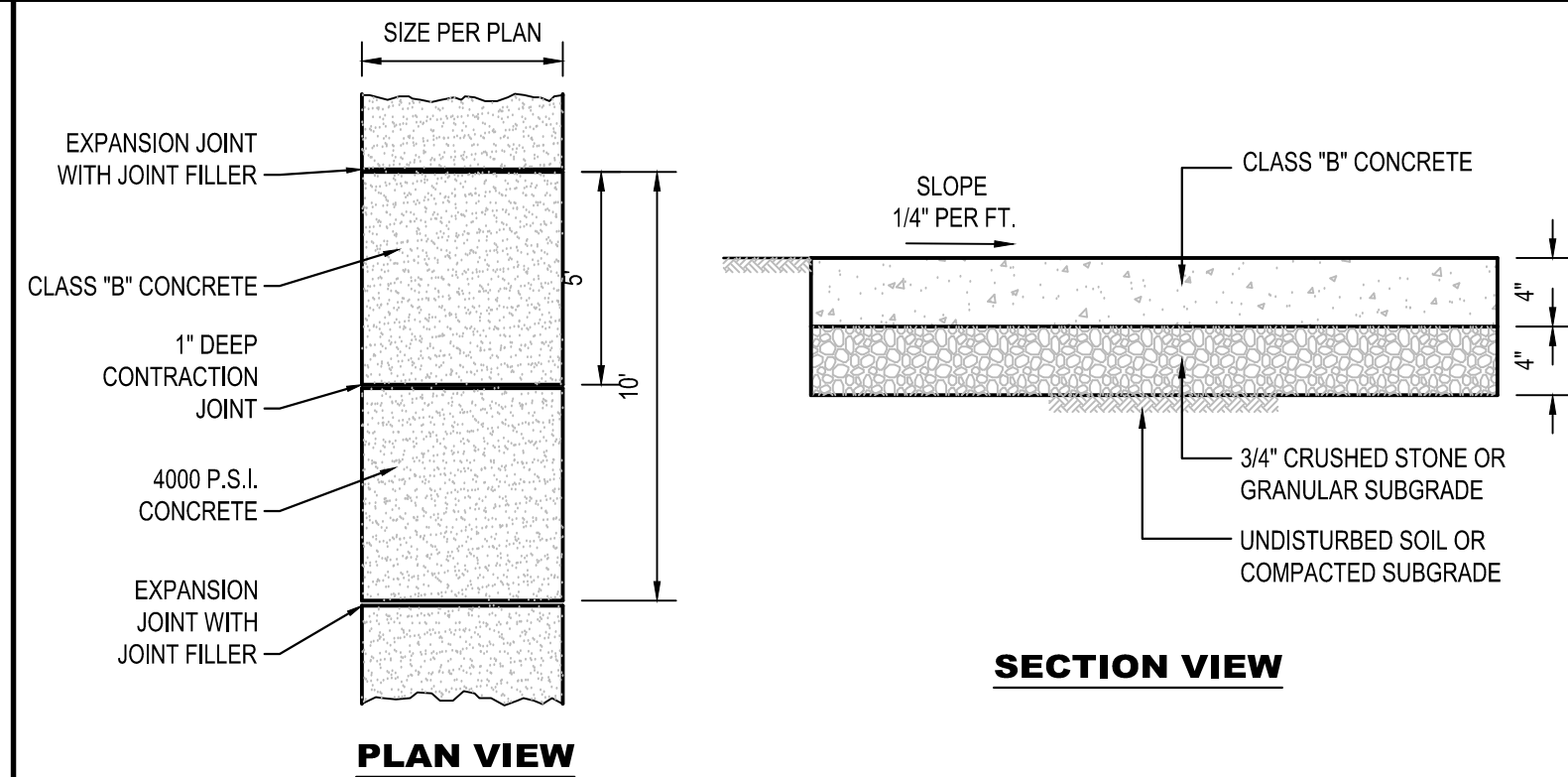


NOTE: REMOVE THE HMA MATERIAL LEFT BY THE DRUM RADIUS AT THE LIMITS OF THE MILLING OPERATION. ENSURE THAT THE FACE IS CLEAN AND VERTICAL BY SAWCUTTING OR TRANSVERSE MILLING. THIS END TREATMENT IS NOT APPLICABLE TO ALL AREAS WHERE THE COMPLETED MILLING OPERATION MATCHES ANY EXISTING PAVEMENT, INCLUDING BRIDGES.

CD-401-2

END TREATMENT FOR MILLING OPERATION

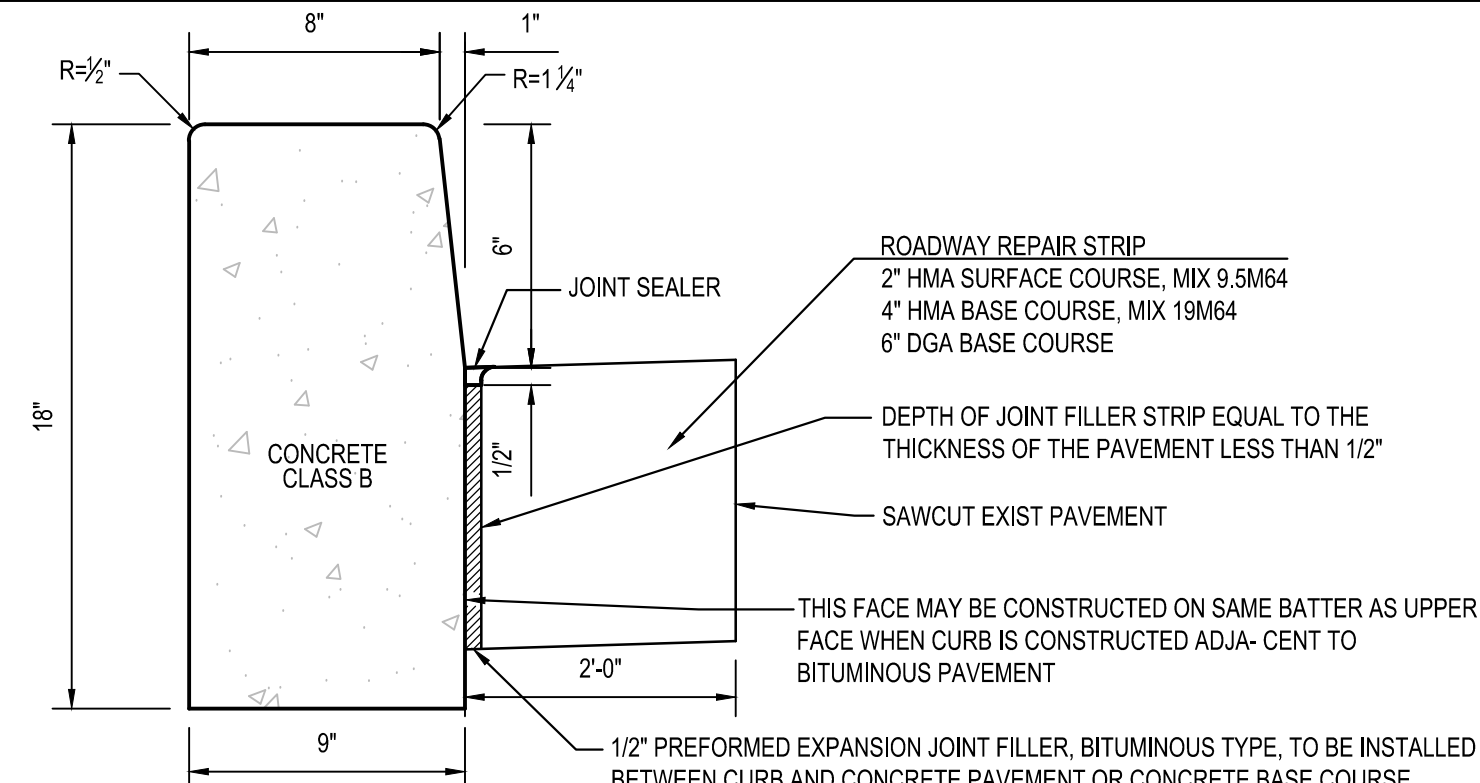
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NOTES:  
 1. UNIT PRICE FOR SIDEWALK INCLUDES EXCAVATION, GRADING, CONCRETE REMOVAL CONC, SAWCUTTING AND DISPOSAL, AND D.G.A.  
 2. EXISTING GREEN BELT MATERIALS (GRASS, BRICK, CONCRETE, ETC.) TO BE REPLACED WITH SAME MATERIAL UNLESS OTHERWISE APPROVED OR DIRECTED BY THE BOROUGH ENGINEER.  
 3. PAY LIMIT FOR TOPSOIL, SEED, & MULCHING IS AS SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.

4" THICK CONCRETE SIDEWALK

NOT TO SCALE



NOTES:  
 TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20 FT. APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER RECESSED 1/4" IN FROM FRONT FACE AND TOP OF CURB.  
 EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

9" X 18" CONCRETE VERTICAL CURB

NOT TO SCALE

GENERAL NOTES FOR SIGNS:

- DIMENSIONS, COLORS AND DETAILS OF VARIOUS SIZE SIGNS, AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGN PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
- (S) REPRESENTS A SPECIAL SIZE SIGN.
- LETTERS AND NUMERALS SHALL CONFORM TO THE CURRENT MANUAL, "STANDARD ALPHABETS FOR HIGHWAY SIGNS" U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
- THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE ENGINEER FOR THE DISTANCE TO BE USED ON THE ADVANCE WARNING SIGNS, AND FOR THE SPEED LIMIT TO BE USED ON THE R2-1 SIGN.
- DISTANCE LEGEND SIGN NUMBER FOLLOWED BY LETTER DISTANCE

BACKING MATERIAL

- ALUMINUM SHALL BE FLAT SHEET OF ALLOY 5052-H38 OR 6061-T6 ALLOY, 0.100" GAUGE.

TEMPORARY SIGN SUPPORTS

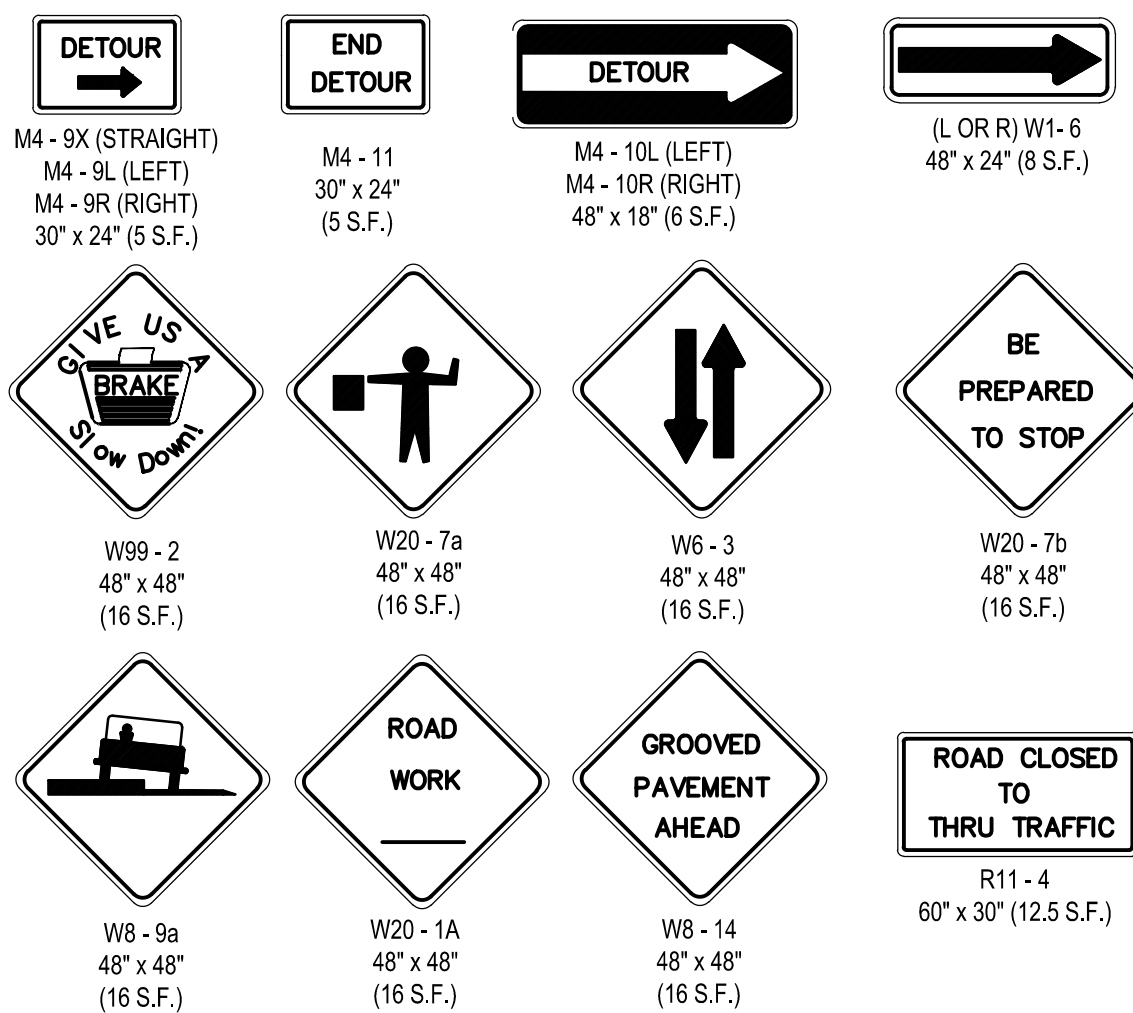
- SIGN SUPPORTS SHALL BE OF WELL SEASONED LUMBER, S4S, FREE OF SPLITS, KNOTS AND WARPS OR, OF STEEL COMPONENTS.
- WOOD POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL NOT EXCEED THE FOLLOWING DIMENSIONS FOR: SINGLE POST = 4" x 6"; TWO POSTS = 3" x 6" OR 4" x 5"; THREE POSTS = 3" x 5" OR 4" x 4" 4" x 6" WOOD POSTS SHALL BE MODIFIED BY DRILLING 1 1/2" DIAMETER HOLES 4" AND 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
- NO BRACING IS PERMITTED. VERTICAL CLEARANCES FOR SIGNS MOUNTED ON WOOD SUPPORTS SHALL BE 7" MINIMUM. EMBEDMENT DEPTH FOR THE WOOD POST SHALL NOT EXCEED 3.5'.
- STEEL POSTS SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL FOR U-POST SIGN SUPPORT.
- TEMPORARY SIGN SUPPORTS NOT MEETING THIS CRITERIA SHALL BE SHIELDED BY A LONGITUDINAL BARRIER OR CRASH CUSHIONS.

SIGN FACES

- SIGN FACES SHALL BE RETROREFLECTIVE SHEETING, TYPE II OR IIIA, EXCEPT FOR THE W20 SERIES AND W4-2 SIGN FACES WHICH SHALL BE TYPE IV-B SHEETING.

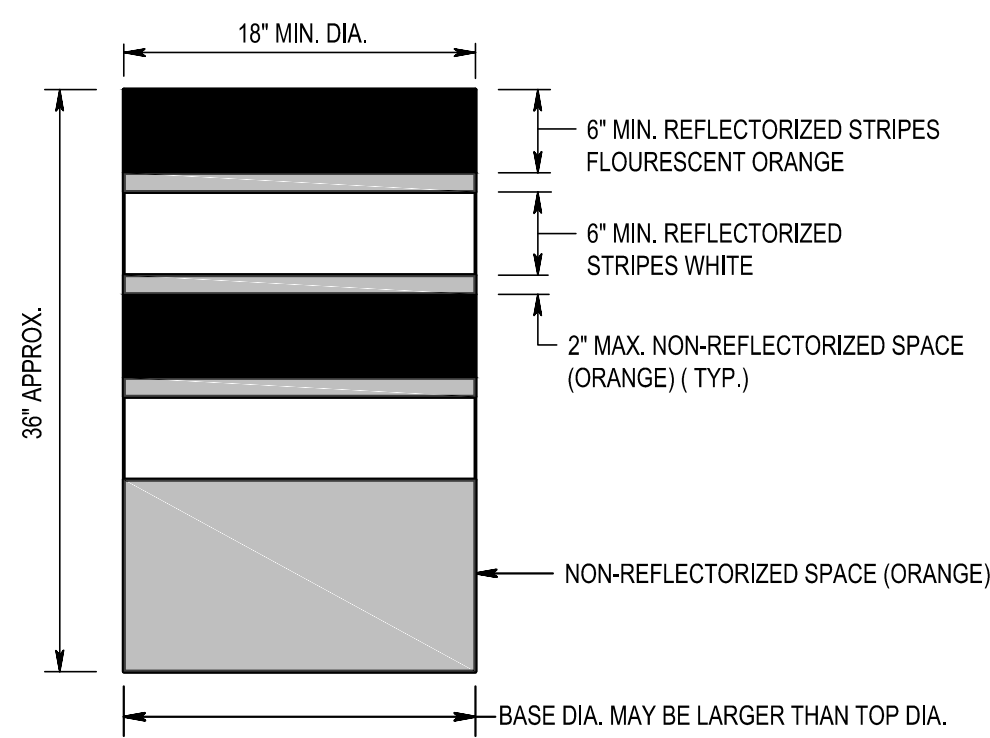
FASTENING

- ALL SIGNS SHALL BE SECURELY FASTENED TO THEIR SUPPORTS WITH BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH THE SPECIFICATIONS.



CONSTRUCTION SIGNS

NOT TO SCALE



DRUMS SHALL BE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE FLOURESCENT ORANGE AND WHITE RETROREFLECTIVE STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY SHALL BE NO MORE THAN 2" WIDE. RETROREFLECTIVE SHEETING FOR STRIPES SHALL CONFORM WITH ASTM D 4956 TYPE VII OR VIII WITH S2 REQUIREMENTS.

THE TOP OF THE DRUM SHALL NOT BE OPEN. DRUMS SHALL BE CONSTRUCTED TO INHIBIT ROLLING IF KNOCKED OVER.

THE REFLECTORIZED AREA OF DRUMS SHALL BE ROUND EXCEPT THAT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS AN 18 INCH DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED.

WHEN BALLAST IS REQUIRED BY THE R.E., SAND SHALL BE USED. THE MAXIMUM WEIGHT OF THE BALLAST SHALL BE 50 LBS. AND BE LOCATED APPROXIMATELY AT GROUND LEVEL. ALTERNATE TYPES OF BALLAST SHALL BE APPROVED BY THE R.E..

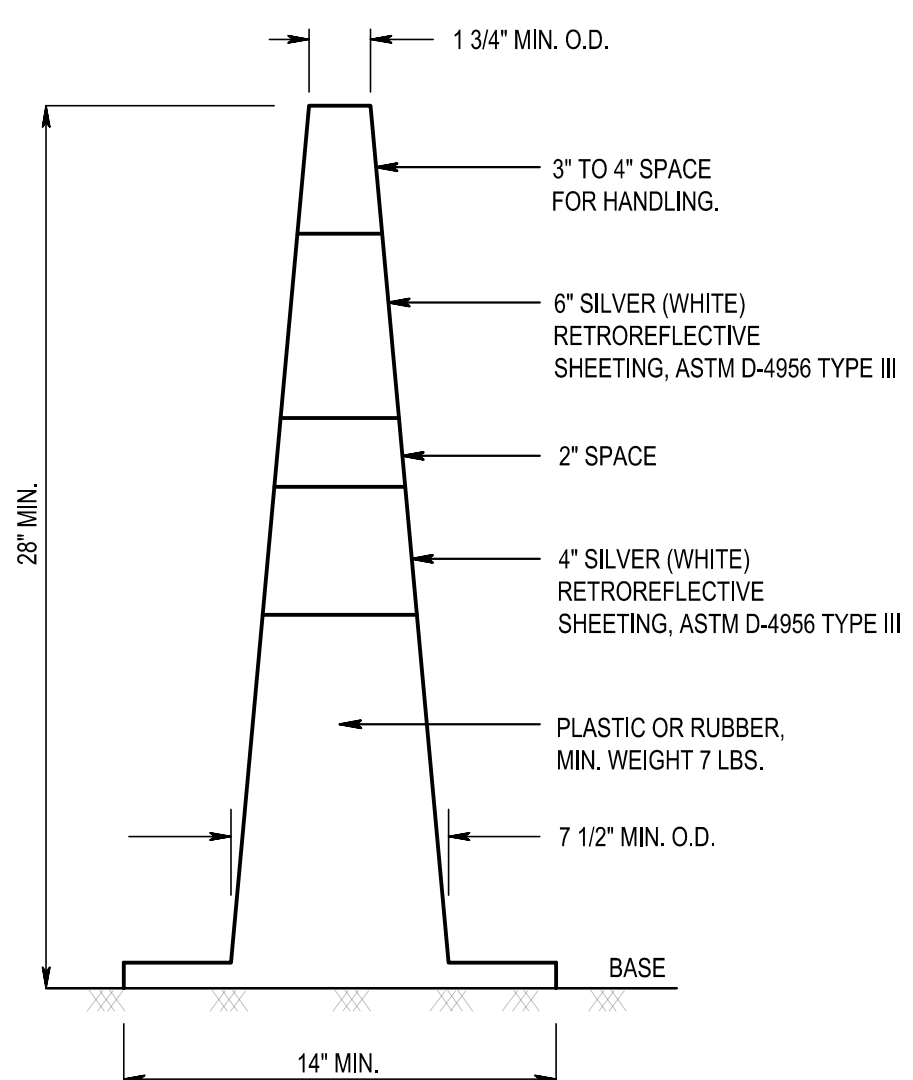
DRUMS

NOT TO SCALE

CD-159-1.1

GENERAL NOTES MAINTENANCE AND PROTECTION OF TRAFFIC

- All devices and procedures for the maintenance and protection of traffic shall be in accordance with the "Manual on Uniform Traffic Control Devices" for streets and highways. The contractor shall plan and carry out his work to provide for the convenient and safe passage of all vehicular and pedestrian traffic.
- Contractor to develop detailed maintenance and protection of traffic plan for review by the engineer prior to construction.
- The contractor shall follow the recommended traffic control procedures. If the contractor desires to change the procedure, he shall present his changes in writing to the engineer for review. There may be utility relocations, adjustments and improvements which are necessitated by the proposed construction. The contractor shall coordinate his work with each of the utility companies located within the project limits.
- The contractor is responsible for providing maintenance and protection of traffic throughout the duration of construction. The costs for the individual devices used to maintain and protect traffic shall be included in the lump sum price bid for maintenance and protection of traffic. No separate payments will be made for relocating the devices as required, or as directed by the municipality, during the course of construction.
- The contractor will not be permitted to close down the entire street. The contractor shall provide means of access at all times for pedestrians and vehicular traffic at all private driveways and occupied buildings affected by the work of this contract. During construction, in the vicinity of a driveway, the access width at the driveway entrance shall be plainly marked by lights, barricades or other such devices approved by the municipality.
- The contractor shall maintain at least one lane of traffic at all times.
- During construction, all roads shall be properly maintained to accommodate emergency vehicles at all times.
- All barricades shall be Type III breakaway barricades.
- Fill material for escape ramps shall be on-site material. All costs for storing, placing, moving and removing fill material shall be included in the price bid for the various items in the proposal.



NOTES:  
 1. TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR.  
 2. BASES MAY BE OF BREAKAWAY BALLASTED TYPE.  
 3. MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.

TRAFFIC CONES

NOT TO SCALE

CD-159-1.2

NOTES:

- THE 9" MIN. x 48" OR 12" MAX. x 48" BARRICADE RAILS SHALL BE FABRICATED FROM 0.125" MAX. PLASTIC SHEETING AND SHALL BE ATTACHED, 4 PER RAIL, WITH 1 INCH NO. 14 PAN HEAD METAL SCREWS OR PLASTIC RIVETS. ALL CORNERS SHALL BE ROUNDED.
- ORANGE AND SILVER (WHITE) STRIPES SHALL BE RETROREFLECTIVE SHEETING, ASTM D 4956 TYPE III, AS SHOWN FOR CONSTRUCTION SIGNS. ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.
- IF NECESSARY, THE SANDBAGS SHALL BE FABRICATED AND PLACED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
- THE FRAMING FOR BARRICADE PANELS SHALL BE NCHRP-350 CRASHED TESTED AND FHWA APPROVED.

BREAKAWAY BARRICADES

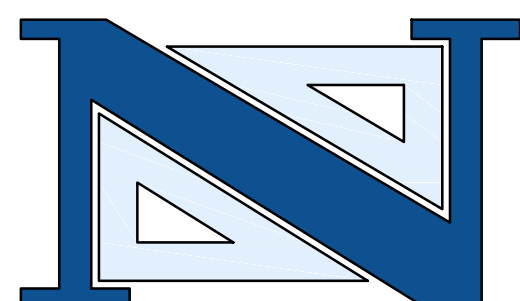
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CD-159-1.3

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2.	09-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



DAVID JUZMESKI,  
 P.E., P.P.  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 46791

THOMAS R. SOLFARO,  
 P.E., C.M.E.  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 41508

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

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
 N.J. LICENSE NO. 38604

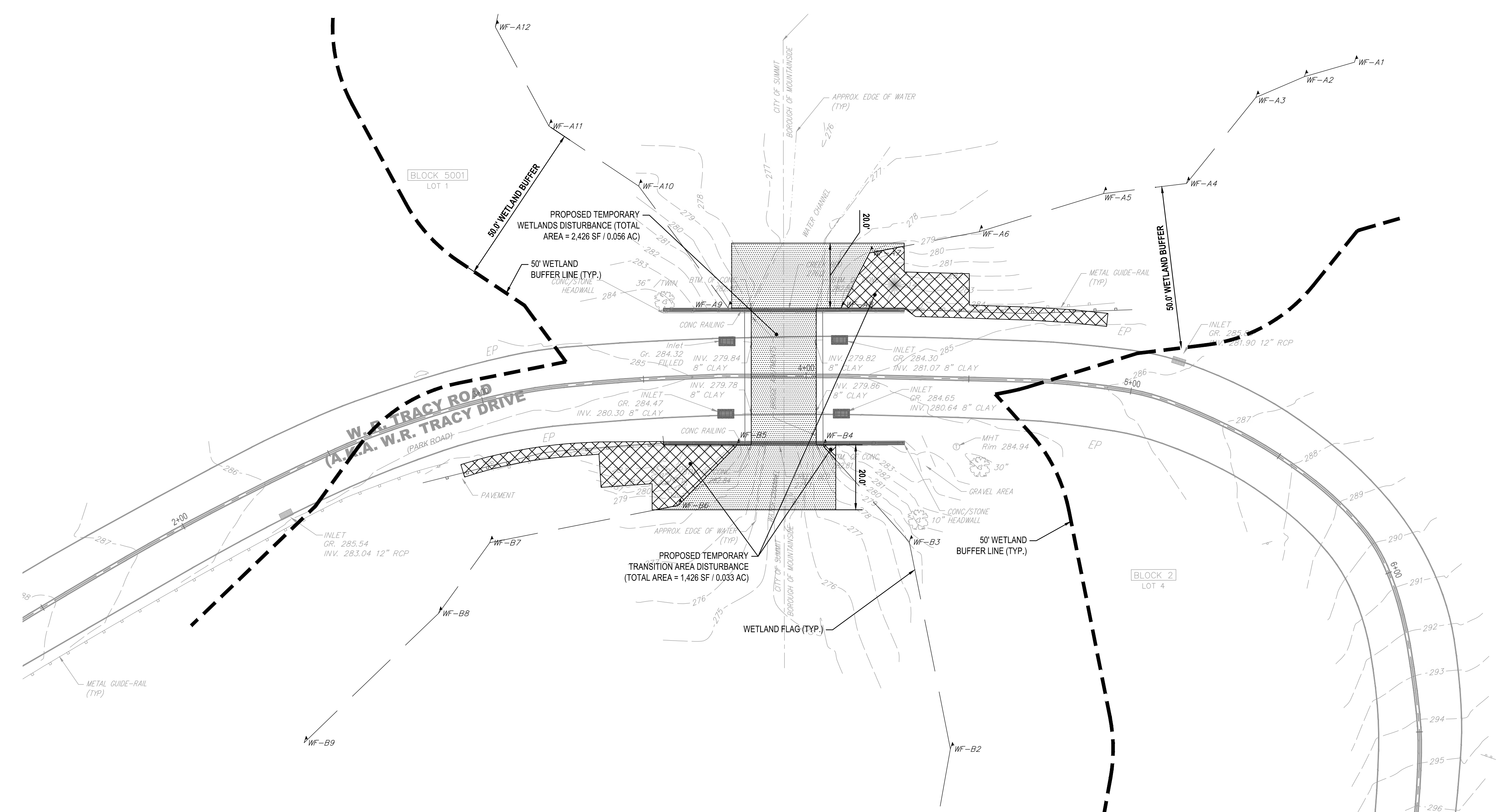
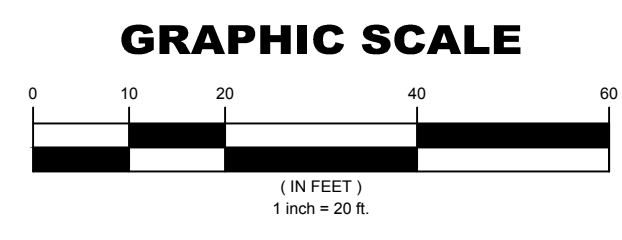
PROFESSIONAL PLANNER  
 N.J. LICENSE NO. 33L100569800

**CONSTRUCTION DETAILS**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY**  
 NEW JERSEY

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MOUNTAIN COUNTY UNIOCTY16.010 (W.R. TRACY ROAD BRIDGE) CAD/ FINAL DRAWINGS \$4,000 CONSTRUCTION DETAILS DWG "Printer" Friday, May 11, 2018 8:32:26 AM





**GENERAL NOTES:**

- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
- CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES INCLUDING BUT NOT LIMITED TO CONSTRUCTION PHASING, TRAFFIC CONTROL SIGNAGE, DETOURING, ETC.
- ALL WORK SHALL BE ACCORDANCE WITH UNION COUNTY AND NJDOT DETAILS AND SPECIFICATIONS.
- HORIZONTAL DATUM BASED ON NAD'83, VERTICAL DATUM BASED ON NAVD'88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.
- CONTRACTOR TO CONTACT ENGINEER UPON THE DISCOVERY OF ANY DISCREPANCIES WITH RESPECT TO FIELD CONDITIONS WHEN COMPARED TO SITE PLANS OR DISCREPANCIES BETWEEN SITE PLANS AND DETAILS/SPECIFICATIONS PRIOR TO ANY CONSTRUCTION.

**FRESHWATER WETLAND TRANSITION AREA DISTURBANCE NOTE:**

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

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

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

SHORT CROSSING SCENARIO:  
 MAXIMUM ALLOWABLE FRESHWATER WETLANDS CROSSING LENGTH = **100 FEET**  
 MAXIMUM PROPOSED FRESHWATER WETLANDS CROSSING LENGTH = **24 FEET**

MAXIMUM ALLOWABLE CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATER = **0.25 ACRES (10,890 SQUARE FEET)**

TOTAL PERMANENT WETLAND DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
 TOTAL TEMPORARY WETLAND DISTURBANCE = **0.056 ACRES (2,426 SQUARE FEET)**

TOTAL PERMANENT TRANSITION AREA DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
 TOTAL TEMPORARY TRANSITION AREA DISTURBANCE = **0.033 ACRES (1,426 SQUARE FEET)**

TOTAL PERMANENT STATE OPEN WATER DISTURBANCE = **0 ACRES (0 SQUARE FEET)**  
 TOTAL TEMPORARY STATE OPEN WATER DISTURBANCE = **0.056 ACRES (2,426 SQUARE FEET)**

TOTAL PROPOSED PERMANENT DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS, AND STATE OPEN WATER = **0 ACRES (0 SQUARE FEET)**

TOTAL PERMITTED DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS, AND STATE OPEN WATERS = **0.250 ACRES (10,890 SQUARE FEET) > 0 ACRES (0 SQUARE FEET)**

\*THIS AREA REPRESENTS TEMPORARY TRANSITION AREA DISTURBANCES BEYOND THAT WHICH ARE INCLUDED UNDER NJAC 7:7A-4.2(c)

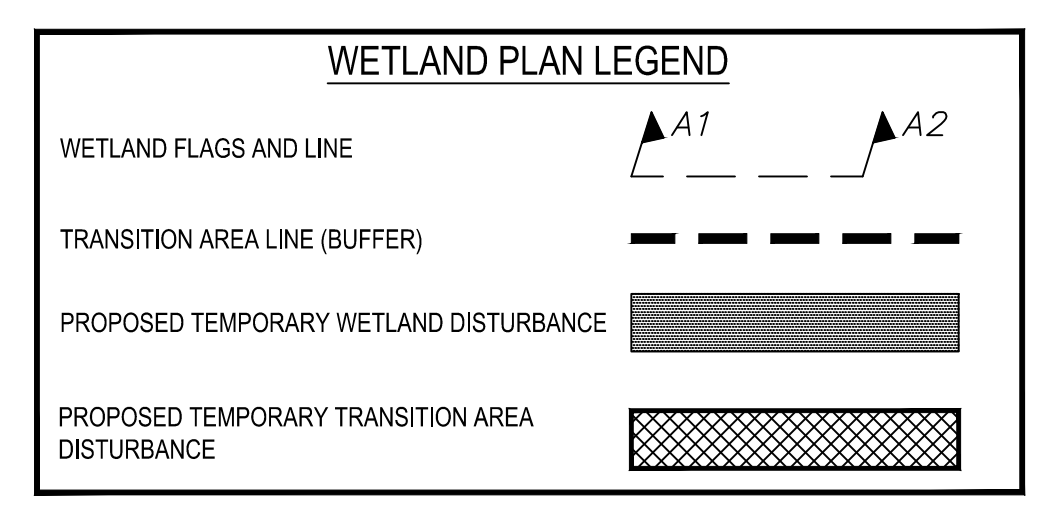
\*\*REFER TO DRAWING 6.01 (NJDEP STATE OPEN WATER PERMITTING PLAN) FOR CALCULATIONS PERTAINING TO STATE OPEN WATER PERMITTING.

REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR CALCULATIONS FOR RIPARIAN PERMITTING.

**FLOOD HAZARD AREA PERMITTING:**

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

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

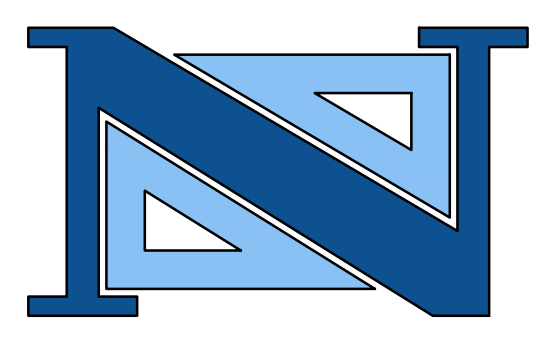


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2	05-11-18	ISSUED FOR BID	E.N.S. E.N.S. D.J.



**DAVID JUZMESKI, P.E., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 4691

**THOMAS R. SOLFARO, P.E., C.M.E.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 4182

A PROJECT OF

**NEGLIA ENGINEERING ASSOCIATES**  
 34 PARK AVENUE  
 TEL: 201-939-8805

LYNDHURST  
 NEW JERSEY  
 FAX: 201-939-0846  
 E-MAIL: NEA@NEGLIAENGINEERING.COM

**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR  
 N.J. LICENSE NO. 38604

PROFESSIONAL PLANNER  
 N.J. LICENSE NO. 33L00569800

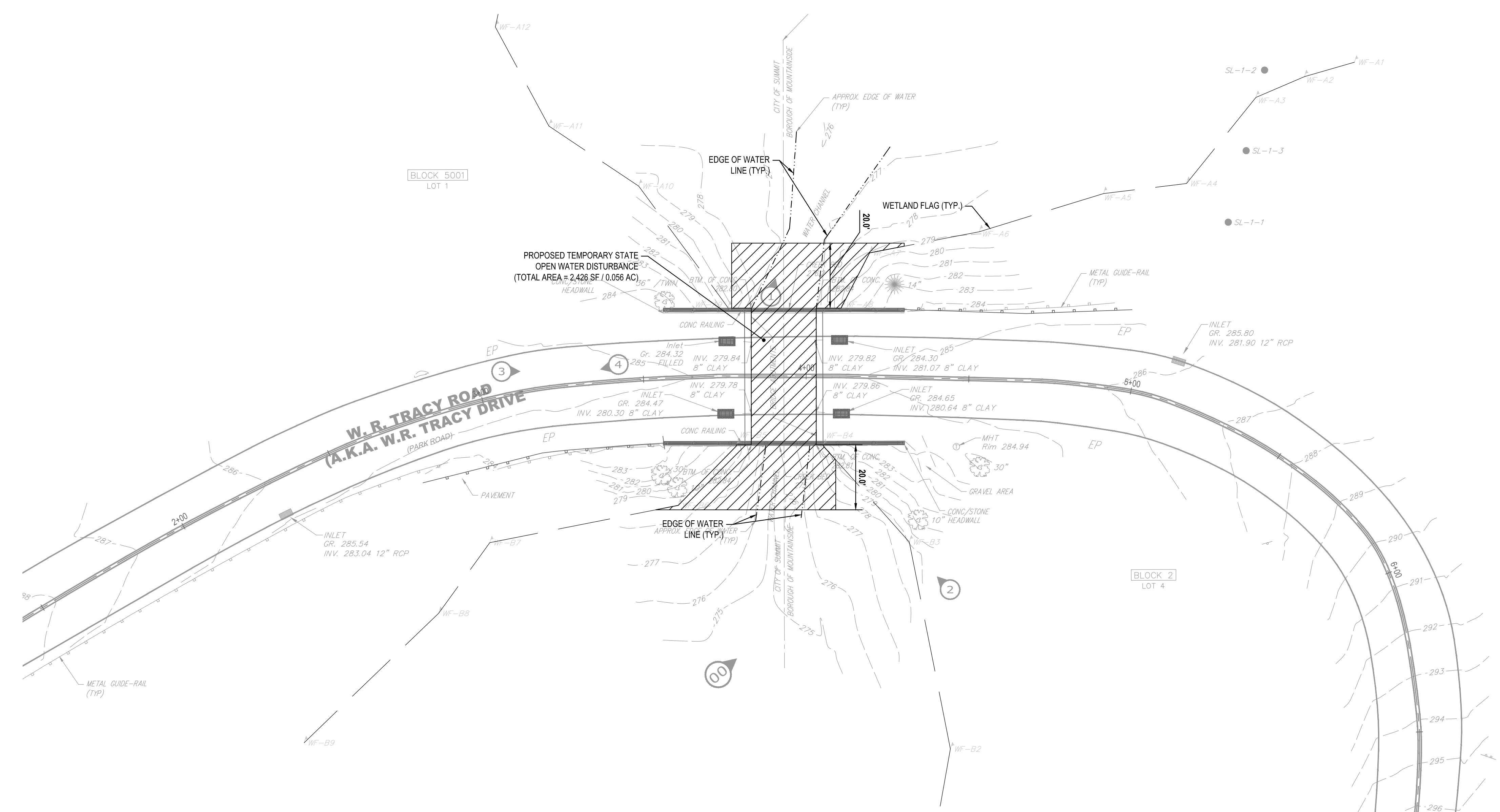
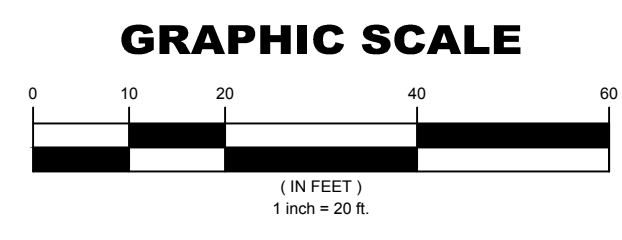
**NJDEP WETLAND PERMITTING PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY**

PROJECT NO.: UNIOCTY16.010  
 SHEET NO.: 5.00  
 DATE: JUNE 7, 2017

DESIGNED BY: E.M.J.  
 CHECKED BY: D.J.  
 SCALE: 1" = 20'  
 FIELD BOOK NO.: PAGE

M:\UNION COUNTY\UNION COUNTY\W.R. TRACY ROAD BRIDGE\ICAD\_FINAL DRAWINGS\05-00 - NJDEP WETLAND PERMITTING PLAN.DWG: Printed: Friday, May 11, 2018 9:35:38 AM





- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
  - CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES INCLUDING BUT NOT LIMITED TO CONSTRUCTION PHASING, TRAFFIC CONTROL SIGNAGE, DETOURING, ETC.
  - ALL WORK SHALL BE ACCORDANCE WITH UNION COUNTY AND NJDOT DETAILS AND SPECIFICATIONS.
  - HORIZONTAL DATUM BASED ON NAVD'83, VERTICAL DATUM BASED ON NAVD'88 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS.
  - CONTRACTOR TO CONTACT ENGINEER UPON THE DISCOVERY OF ANY DISCREPANCIES WITH RESPECT TO FIELD CONDITIONS WHEN COMPARED TO SITE PLANS OR DISCREPANCIES BETWEEN SITE PLANS AND DETAILS/SPECIFICATIONS PRIOR TO ANY CONSTRUCTION.

**STATE OPEN WATER DISTURBANCE CALCULATIONS:**

NJDEP WETLAND GENERAL PERMIT 10A - VERY MINOR ROAD CROSSING

SHORT CROSSING SCENARIO:

MAXIMUM ALLOWABLE FRESHWATER WETLANDS AND/OR STATE OPEN WATER CROSSING LENGTH = **100 FEET**

MAXIMUM PROPOSED FRESHWATER WETLANDS AND/OR STATE OPEN WATER CROSSING LENGTH = **24 FEET**

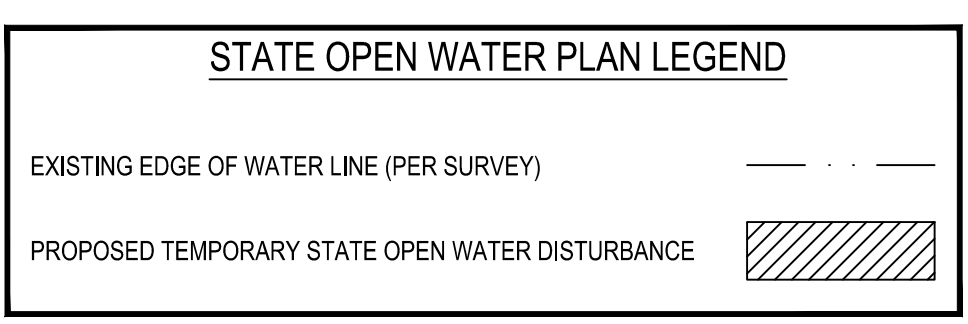
MAXIMUM ALLOWABLE CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATER = **0.25 ACRES (10,890 SQUARE FEET)**

TOTAL PERMANENT STATE OPEN WATER DISTURBANCE = **0 ACRES (0 SQUARE FEET)**

TOTAL TEMPORARY STATE OPEN WATER DISTURBANCE = **0.056 ACRES (2,426 SQUARE FEET)**

TOTAL PROPOSED CUMULATIVE DISTURBANCE OF FRESHWATER WETLANDS, TRANSITION AREAS AND STATE OPEN WATERS = **0 ACRES (0 SQUARE FEET)\*\***

\*\*REFER TO DRAWING 6.00 (NJDEP WETLAND PERMITTING PLAN) FOR ADDITIONAL WETLAND PERMITTING CALCULATIONS AND INFORMATION. REFER TO DRAWING 6.02 (NJDEP RIPARIAN PERMITTING PLAN) FOR ADDITIONAL RIPARIAN CALCULATIONS AND INFORMATION.



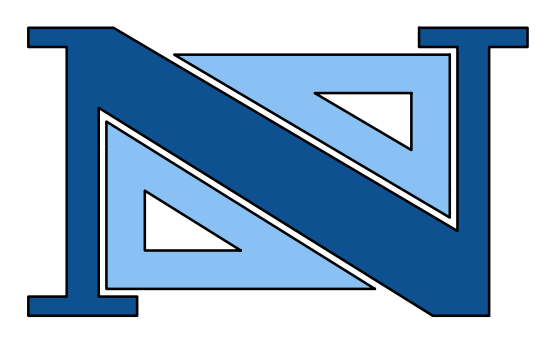
**FLOOD HAZARD AREA PERMITTING:**

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

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

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	E.N.S.	E.N.S.	D.J.
1.	09-05-17	ISSUED FOR NJDOT REVIEW	E.N.S.	E.N.S.	D.J.
2.	02-28-18	REVISED PER NJDOT COMMENT LETTER	E.N.S.	E.N.S.	D.J.
3.	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI, P.E., P.P.**  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4051

**THOMAS R. SOLFARO, P.E., C.M.E.**  
PROFESSIONAL LAND SURVEYOR  
N.J. LICENSE NO. 4182

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

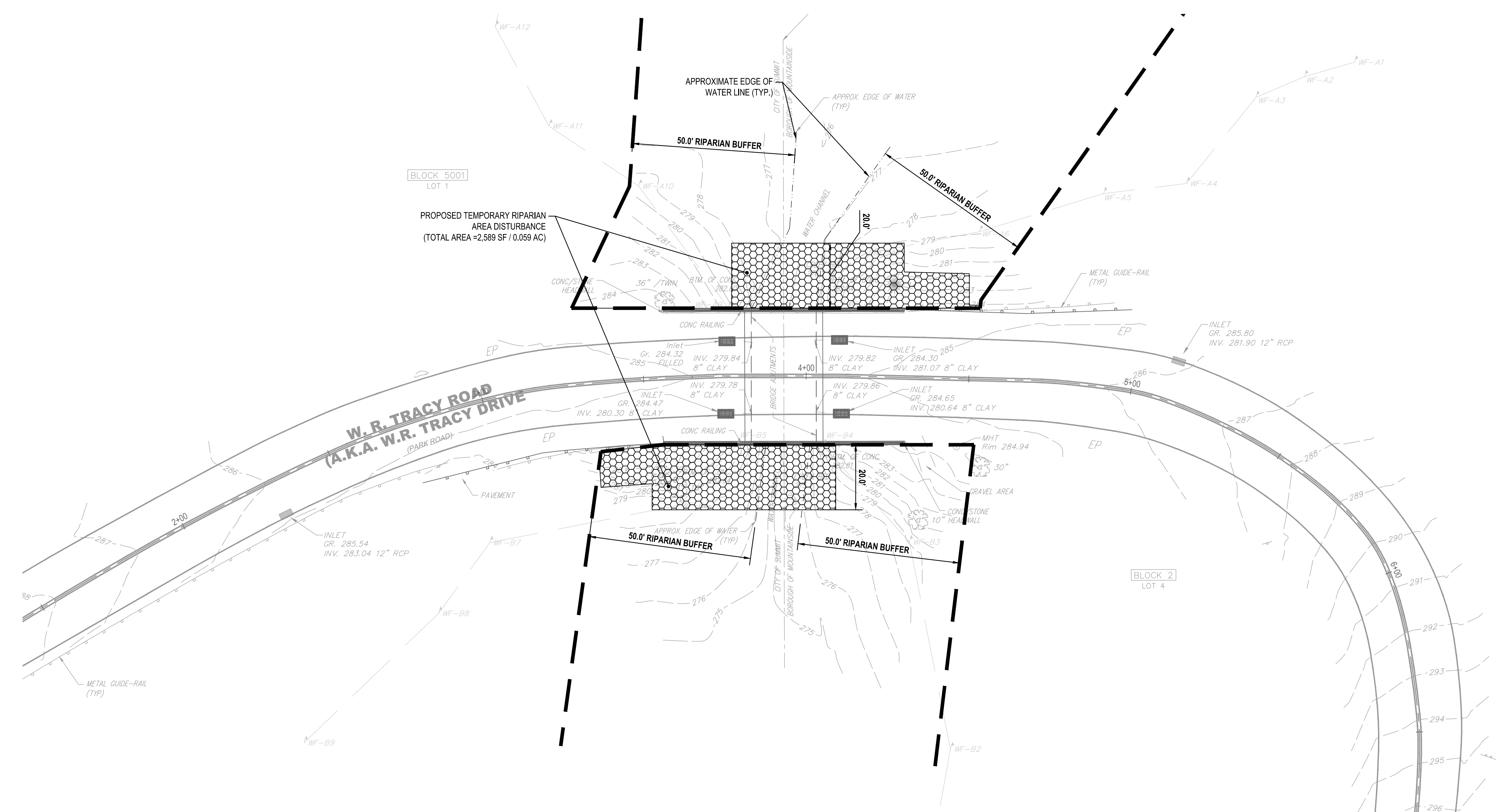
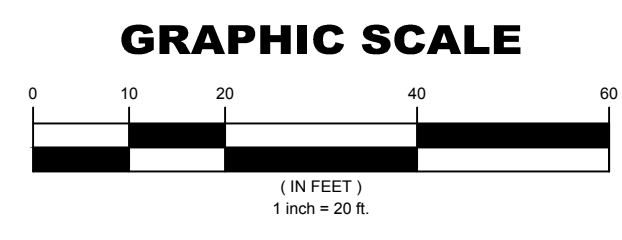
**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
PROFESSIONAL ENGINEER N.J. LICENSE NO. 38604  
PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 38604  
PROFESSIONAL PLANNER N.J. LICENSE NO. 33L00569800

**NJDEP STATE OPEN WATER PERMITTING PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY NEW JERSEY**

DRAWN BY: E.M.J. CHECKED BY: D.J. PROJECT NO.: UNIOCTY16.010 SHEET NO.: 5.01  
DESIGNED BY: E.M.J. SCALE: 1" = 20' DATE: JUNE 7, 2017  
FIELD BOOK NO.: PAGE:

MUNICIPALITY/CITY OF SUMMIT (W.R. TRACY ROAD BRIDGE/CAO) FINAL DRAWINGS/05.01 - NJDEP STATE OPEN WATER PERMITTING PLAN DWG# Project: Friday, May 11, 2018 8:37:24 AM





- GENERAL NOTES:**
- EXISTING TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY W.R. ROAD BRIDGE IMPROVEMENTS, CITY OF SUMMIT AND BOROUGH OF MOUNTAINSIDE, UNION COUNTY, NEW JERSEY" PREPARED BY NEGLIA ENGINEERING ASSOCIATES.
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**RIPARIAN ZONE CALCULATIONS**

TOTAL AREA OF PERMANENT RIPARIAN (BUFFER) ZONE DISTURBANCE = 0 (0 SQUARE FEET)

TOTAL AREA OF TEMPORARY RIPARIAN (BUFFER) ZONE DISTURBANCE = 0.059 ACRES (2,589 SQUARE FEET)

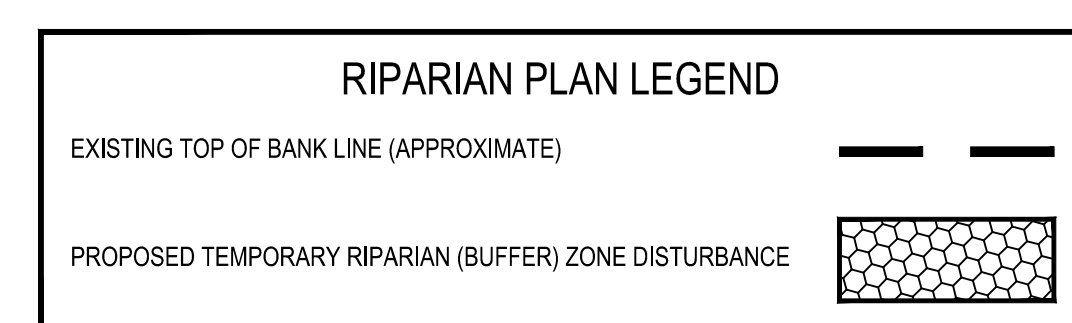
TOTAL ALLOWABLE AREA OF RIPARIAN ZONE DISTURBANCE FOR A PUBLIC RECONSTRUCTED ROADWAY CROSSING A WATER WITH A 50 FOOT RIPARIAN BUFFER = 0.069 ACRES (3,000 SQUARE FEET)

EXISTING IMPERVIOUS COVERAGE = 0.049 ACRES (2,117 SQUARE FEET)

PROPOSED IMPERVIOUS COVERAGE = 0.049 ACRES (2,117 SQUARE FEET)

DECREASE IN IMPERVIOUS COVERAGE = 0 ACRES (0 SQUARE FEET)

TOTAL SITE DISTURBANCE = 0.109 ACRES (4,742 SQUARE FEET)



**FLOOD HAZARD AREA PERMITTING:**

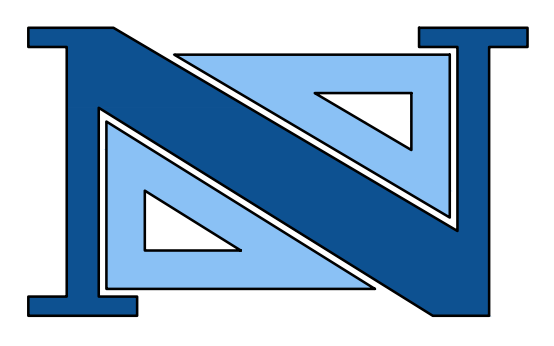
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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276890

REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	E.N.S.	E.N.S.	D.J.
1.	09-09-17	ISSUED FOR NJDOT REVIEW	E.N.S.	E.N.S.	D.J.
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3.	05-11-18	ISSUED FOR BID	E.N.S.	E.N.S.	D.J.



**DAVID JUZMESKI,**  
P.E., P.P.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4651

**THOMAS R. SOLFARO,**  
P.E., C.M.E.  
PROFESSIONAL ENGINEER  
N.J. LICENSE NO. 4100

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

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

**NJDEP RIPARIAN PERMITTING PLAN**  
**W.R. TRACY DRIVE BRIDGE IMPROVEMENTS**  
**COUNTY BRIDGE No.: MO-37**  
**CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE**  
**UNION COUNTY**  
**NEW JERSEY**

PROJECT NO.: UNIOCTY16.010  
SHEET NO.: 5.02  
DATE: JUNE 7, 2017

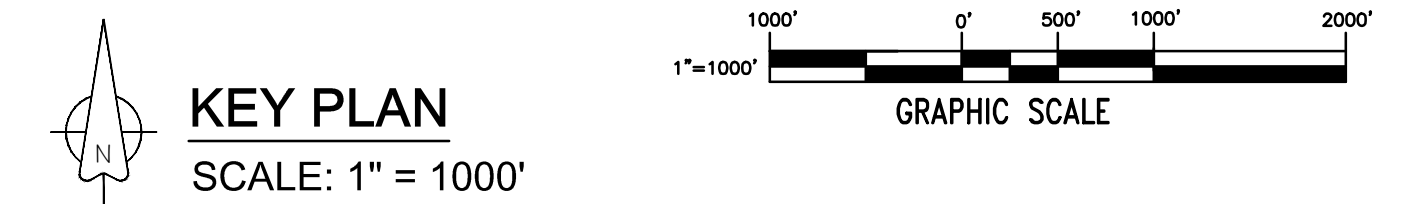
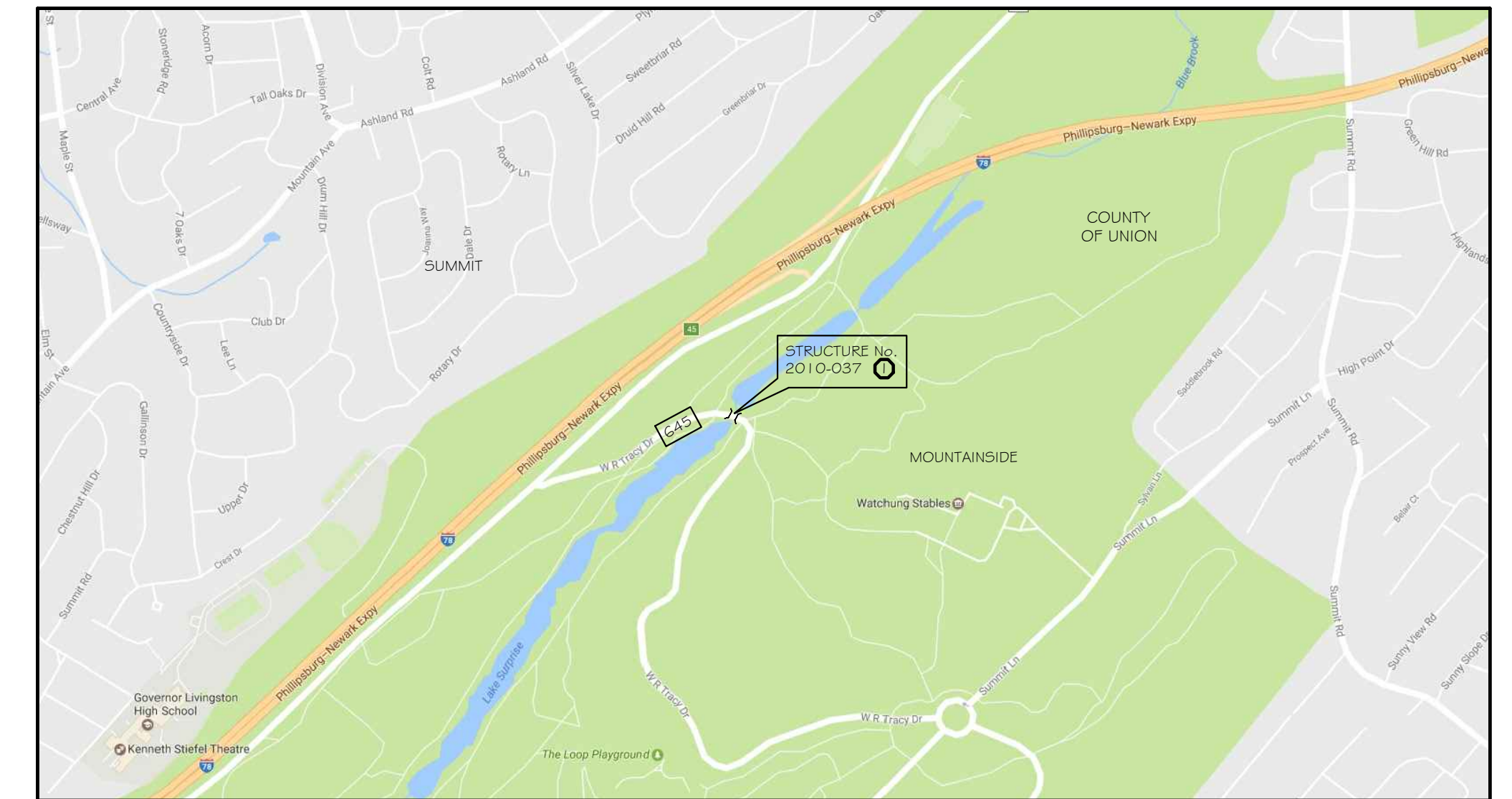
DESIGNED BY: E.M.J.  
CHECKED BY: D.J.  
SCALE: 1" = 20'  
FIELD BOOK NO.:  
PAGE:

MUNICIPALITY OF MOUNTAIN SIDE, NEW JERSEY - W.R. TRACY ROAD BRIDGE IMPROVEMENTS - FINAL DRAWINGS - 05.02 - NJDEP RIPARIAN PERMITTING PLAN - DWG - POISSON, FRISBY, MAY 11, 2018 9:27:34 AM



# W.R. TRACY ROAD BRIDGE SUPERSTRUCTURE REPLACEMENT COUNTY BRIDGE No. MO-37

## W.R. TRACY ROAD ( A.K.A. WR TRACY DRIVE) OVER LAKE SURPRISE CITY OF SUMMIT & BOROUGH OF MOUNTAINSIDE, COUNTY OF UNION, NEW JERSEY



REFERENCE:  
MAP TAKEN FROM WWW.GOOGLE.COM/MAPS

### PROJECT CONTACT INFORMATION

#### PROJECT ADMINISTRATOR:

COUNTY OF UNION DIVISION OF ENGINEERING  
2325 SOUTH AVENUE  
SCOTCH PLAINS, NJ 07076

#### CIVIL ENGINEER / SURVEYOR / PROJECT MANAGER:

NEGLIA ENGINEERING ASSOCIATES  
34 PARK AVENUE  
LYNDHURST, NJ 07071  
DAVID JUZMESKI, P.E.  
PROJECT MANAGER  
201-939-8805

#### STRUCTURAL ENGINEER:

DONLY ENGINEERING GROUP, INC.  
769 CHESTNUT STREET  
NEW MILFORD, NJ 07646  
MICHAEL DONLY, P.E.  
STRUCTURAL PROJECT MANAGER  
201-655-7230



1-800-272-1000

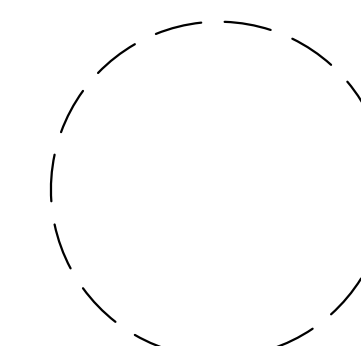
STRUCTURES IN THIS CONTRACT		
MARK	STRUCTURE No.	DESCRIPTION
①	2010-037	BRIDGE: ROUTE 645 OVER LAKE SURPRISE

DRAWING LIST		
SHEET No.	DESCRIPTION	REVISED THRU
B0	KEY PLAN	2/12/2018
B1	ESTIMATE OF QUANTITIES	5/2/2018
B2	DEMOLITION PLAN No. 1	2/12/2018
B3	DEMOLITION PLAN No. 2	9/8/2017
B4	DEMOLITION PLAN No. 3	2/12/2018
B5	DECK SLAB AND RAILING REPLACEMENT PLAN No. 1	2/12/2018
B6	DECK SLAB AND RAILING REPLACEMENT PLAN No. 2	2/12/2018
B7	DECK SLAB AND RAILING REPLACEMENT PLAN No. 3	2/12/2018
B8	RAILING SYSTEM DETAILS	5/2/2018
B9	CURB AND GUIDE RAIL CONNECTION DETAILS	2/12/2018
B10	STONE VENEER REPAIRS	2/12/2018

REVISOR SHEETS B1 & B6

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
△				
△				
△				
△				
△				
△				
△				
△				
△	5/2/18	REVISED PER NJDOT REVIEW COMMENTS	JER	MTD
△	2/12/18	REVISED PER NJDOT REVIEW COMMENTS	JER	MTD
△	9/8/17	ISSUED FOR NJDOT REVIEW	JER	MTD
△	7/3/17	ISSUED FOR COUNTY REVIEW	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT. OF AUTH. 24GA28083900

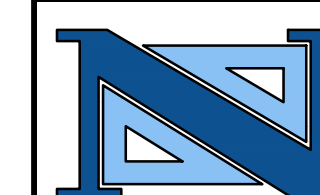


MICHAEL T. DONLY, P.E.  
N.J.P.E. No. GE44224

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

### KEY PLAN

W.R. TRACY ROAD ( COUNTY ROAD 645)  
OVER LAKE SURPRISE  
COUNTY BRIDGE No. MO-37



A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. B0 OF B10



ITEM No.	DESCRIPTION	UNIT	CONTRACT QUANTITY	AS-BUILT QUANTITY	ITEM No.	DESCRIPTION	UNIT	CONTRACT QUANTITY	AS-BUILT QUANTITY
151006M	PERFORMANCE BOND AND PAYMENT BOND	DOLLAR	1						
152004P	OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE	DOLLAR	1						
152015P	POLLUTION LIABILITY INSURANCE	DOLLAR	1						
154003P	MOBILIZATION	LS	1						
158006M	SILT FENCE	LF	180						
155003M	TEMPORARY FIELD OFFICE	LS	1						
57004M	CONSTRUCTION LAYOUT	LS	1						
158063M	CONCRETE WASHOUT SYSTEM	UNIT	1						
15806M	TEMPORARY CONSTRUCTION ACCESS/WHEEL CLEANING	LS	1						
153009P	PROJECT SCHEDULING AND UPDATES	LS	1						
158003M	PROTECTION & SAFETY ( CONSTRUCTION FENCE, BARRICADES )	LS	1						
201039P	TEMPORARY SHIELDING AND SCAFFOLD	LS	1						
501009P	TEMPORARY COFFERDAMS & DEWATERING	LS	1						
201006P	CLEARING SITE, BRIDGE ( BRIDGE NO. MO-37)	LS	1						
801012M	CLEARING BRUSH	LS	1						
802033M	REMOVE TREE 36"	LS	1						
202009P	EXCAVATION, UNCLASSIFIED	CY	82						
603057P	BACKFILLING, UNCLASSIFIED	CY	27						
202009P	BACKFILLING, ROADWAY	CY	90						
161003P	FINAL CLEANUP	LS	1						
507024P	CONCRETE BRIDGE DECK, HPC	CY	55						
507039P	CONCRETE BRIDGE PARAPET & PYLONS, HPC	CY	23						
504006P	REINFORCEMENT STEEL, EPOXY COATED	LB	27,030						
454003M	DRILL DOWEL HOLES & CUT KEYWAY AT WING WALLS	LS	1						
551013P	DECK JOINT SEAL - FILLER & SEAL, HOT APPLIED	LF	85						
551013P	DECK SURFACE SEALER, HOT APPLIED	SY	112						
509011P	COMBINATION RAIL: 3 RAIL STEEL	LF	140						
MMR048M	W BEAM ATTACHMENT TO PYLON - TYPE B	UNIT	2						
609021M	RUBRAIL ATTACHMENT TO PYLON	UNIT	2						
507027M	DATE PLATE	UNIT	2						
555035M	STONE VENEER RE-POINTING	LF	79						
504064P	STONE VENEER REPAIR	SF	17						
555025P	STONE VENEER RETROFIT JOINT	LF	28						
555025P	FOUNDATION - VERTICAL JOINT REPAIR	LF	28						
804006	TOPSOILING, 4" THICK	SY	260						
806003P	FERTILIZING AND SEEDING	SY	260						
809003M	STRAW MULCHING	SY	260						
MMR008M	MILLING, 2" AVERAGE DEPTH	SY	165						
401042M	HOT MIX ASPHALT SURFACE COURSE, MIX 9.5M64, AVERAGE 2" THICK	TON	32						
609004M	BEAM GUIDE RAIL, BRIDGE	LF	165						
609024M	FLARED GUIDE RAIL TERMINAL	UNIT	2						
602210M	PRECAST INTEL TYPE "A" W/BICYCLE SAFE GRATE	EA	4						
610003M	TRAFFIC STRIPES, 4"	LF	180						
MMR081M	4" WIDE CONTINUOUS DOUBLE YELLOW CENTERLINE STRIPING, LONG LIFE, THERMOPLASTIC	LF	90						
158027M	INTER FILTER	EA	4						
158045M	FLOATING TURBIDITY BARRIER, TYPE 2	LF	350						
159004M	ALLOWANCE FOR POLICE TRAFFIC CONTROL	DOLLAR	1						
MMB108M	TRAFFIC FLAGGERS	MH	350						
602216M	ALLOWANCE FOR BEHIND WALL DRAINAGE REPAIRS	DOLLAR	1						
602216M	CONTRACT ALLOWANCE FOR RECONSTRUCTION OF DRAINAGE PIPE BENEATH BRIDGE DECK	DOLLAR	1						

△ UPDATED ITEMS AND QUANTITIES TO MATCH ENGINEER'S ESTIMATE


ESTIMATE OF QUANTITIES

REV.	DATE	REVISION DESCRIPTION	ISSUED FOR COUNTY REVIEW	ISSUED FOR COUNTY REVIEW	ISSUED FOR COUNTY REVIEW	ISSUED FOR COUNTY REVIEW	ISSUED FOR COUNTY REVIEW
1	7/23/17	ISSUED FOR COUNTY REVIEW	JER	MTD			
2	9/9/17	ISSUED FOR COUNTY REVIEW	JER	MTD			
3	2/12/18	REVISED PER NJDOT REVIEW COMMENTS	JER	MTD			
4	5/21/18	REVISED PER NJDOT REVIEW COMMENTS	JER	MTD			

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT. OF AUTH. 24GA28083900

MICHAEL T. DONLY, PE.  
N.J.P.E. No. GE44224

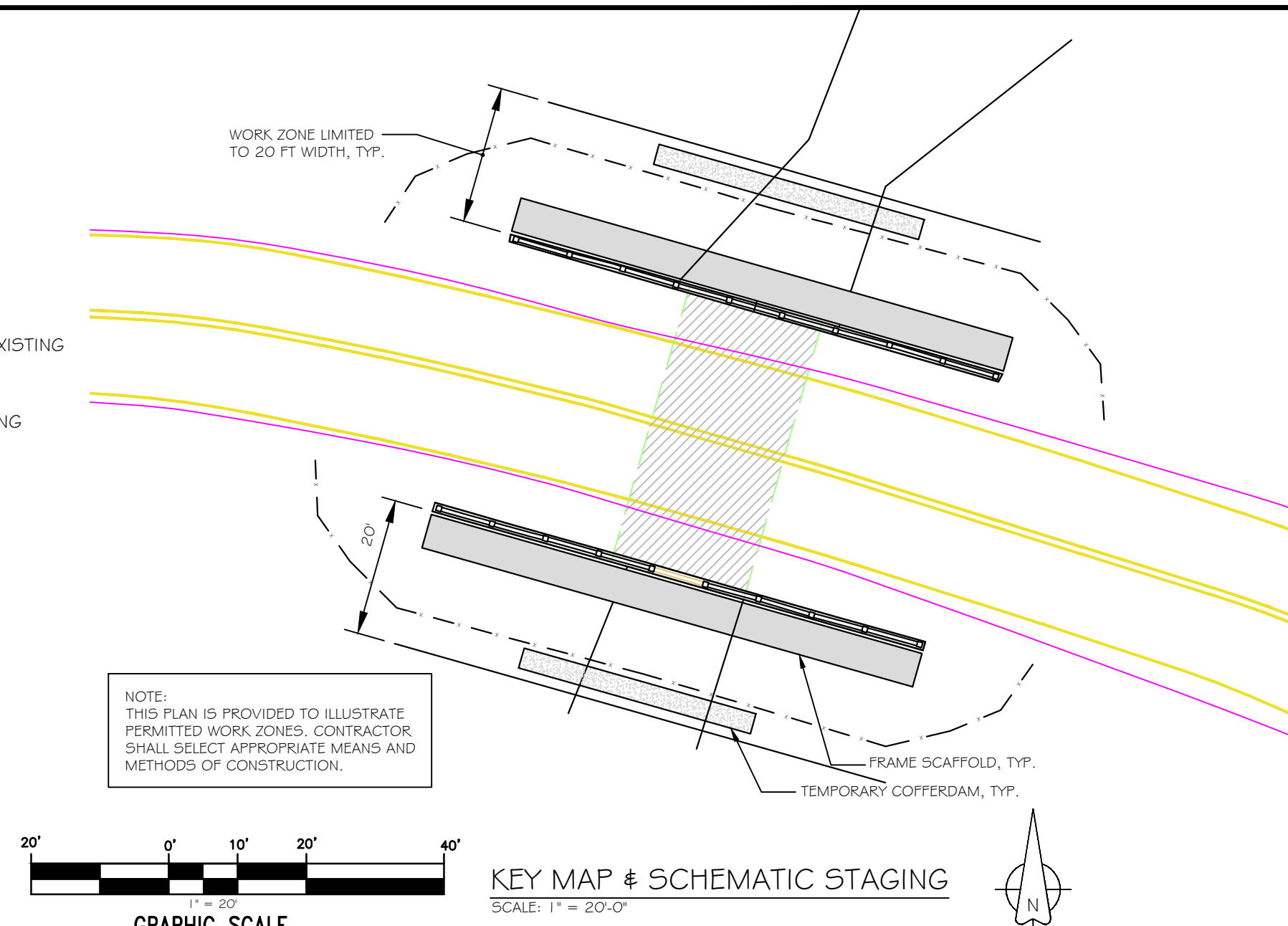
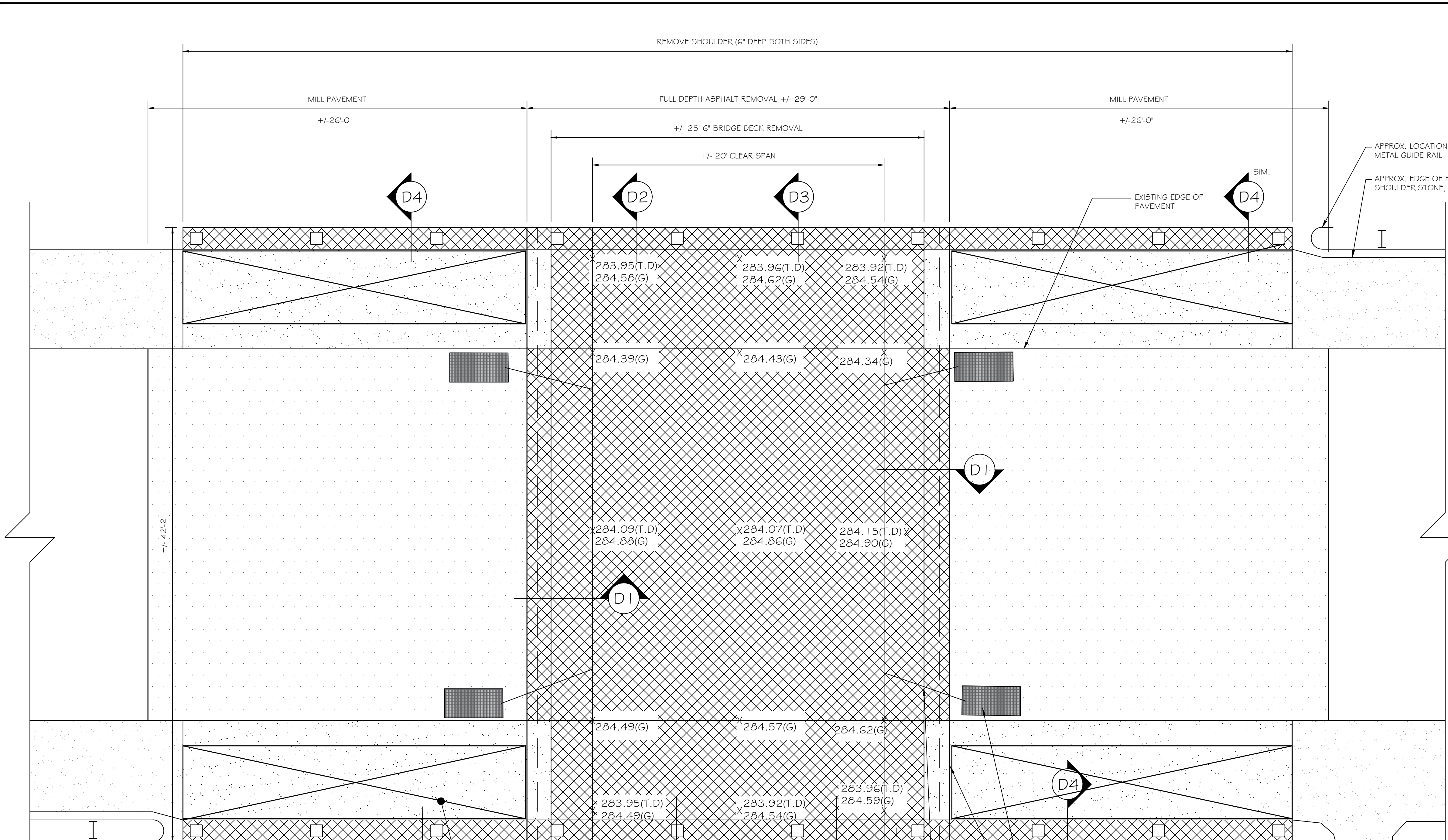
A. PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890



COUNTY BRIDGE No. MO-37  
SHEET No. B1 OF B10

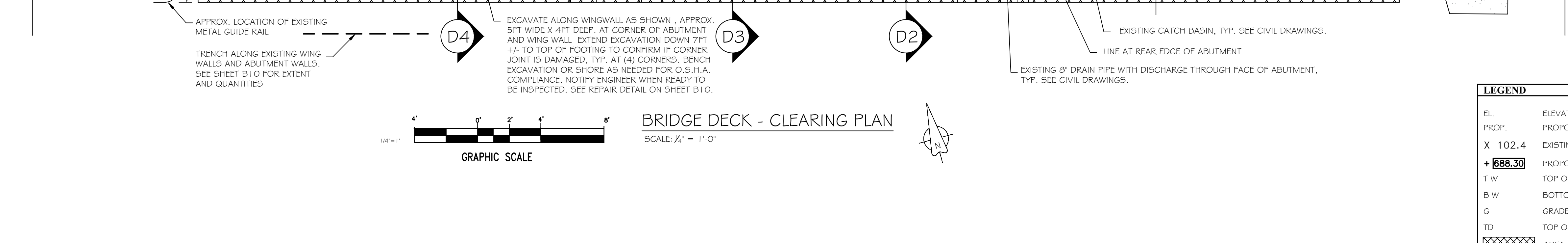
B1  
B10





**ABBREVIATIONS**

BM.	BEAM	LTWT	LIGHT WEIGHT
BOT.	BOTTOM	MAS.	MASONRY
B.O.W.	BOTTOM OF WALL	MAX.	MAXIMUM
B.W.	BOTH WAYS	MTL.	METAL
C.J.	CONTROL JOINT	MANUF.	MANUFACTURER
CL.	CENTER LINE	MIN.	MINIMUM
CLR.	CLEAR	NO.	NUMBER
CONC.	CONCRETE	O.C.	ON CENTER
CONN.	CONNECTION	OPNG.	OPENING
CONST.	CONSTRUCTION	PCF	FOUNDS PER CUBIC
CONT.	CONTINUOUS	PCF	FOOT
COORD.	COORDINATE	PED.	PEDESTAL
DK.	DECK	PL.	PLATE
DN.	DOWN	PSI	POUNDS PER SQUARE INCH
DO	DITTO	PSF	POUNDS PER SQUARE FOOT
DWG.	DRAWING	REIN.	REINFORCEMENT
EA.	EACH	REQD.	REQUIRED
E.F.	EACH FACE	REV.	REVISION
EL.	ELEVATION	SCHED.	SCHEDULE
EQ.	EQUAL	EXIST.	EXISTING
ETC.	ET CETERA	EXP. JT.	EXPANSION JOINT
E.W.	EACH WAY	EXT.	EXTERIOR
EX.	EXISTING	FDN.	FOUNDATION
EXP. JT.	EXPANSION JOINT	FIN.	FINISH
EXT.	EXTERIOR	FL.	FLOOR
FDN.	FOUNDATION	FTG.	FOOTING
FIN.	FINISH	GALV.	GALVANIZED
FL.	FLOOR	G.C.	GENERAL CONTRACTOR
FTG.	FOOTING	H.	HORIZONTAL REINF.
GALV.	GALVANIZED	HK.	HOOK
G.C.	GENERAL CONTRACTOR	HORIZ.	HORIZONTAL
H.	HORIZONTAL REINF.	H.P.	HIGH POINT
HK.	HOOK	H.S.	HIGH STRENGTH BOLTS
HORIZ.	HORIZONTAL	INCL.	INCLUSIVE
H.P.	HIGH POINT	JT.	JOINT
H.S.	HIGH STRENGTH BOLTS	K.	KIPS (1,000 LB PER KIP)
INCL.	INCLUSIVE	K5F	KIPS PER SQUARE FOOT
JT.	JOINT	KSI	KIPS PER SQUARE INCH
K.	KIPS (1,000 LB PER KIP)	LB.	POUND
K5F	KIPS PER SQUARE FOOT	LH.	LONG LEG HORIZONTAL
KSI	KIPS PER SQUARE INCH	LLV.	LONG LEG VERTICAL
LB.	POUND	LD.	TOP OF DECK ELEVATION
LH.	LONG LEG HORIZONTAL	LD	TOP OF DECK ELEVATION
LLV.	LONG LEG VERTICAL	AREA OF REMOVAL	AREA OF REMOVAL
LD.	TOP OF DECK ELEVATION		
LD	TOP OF DECK ELEVATION		
AREA OF REMOVAL	AREA OF REMOVAL		



**BRIDGE DECK - CLEARING PLAN**  
SCALE: 1/4" = 1'-0"

DEMOLITION QUANTITIES - FOR INFORMATION ONLY				
ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
202021P	CLEARING OF PAVEMENT & FILL ABOVE DECK	CY	18	
202009P	CLEARING OF SHOULDER/WALKWAY	CY	14	
401009P	PAVEMENT MILLING	SY	148	
201006P	CLEARING OF CONCRETE RAILINGS & CURB	CY	10	
201006P	CLEARING OF CONCRETE BRIDGE DECK	CY	42	
202009P	EXCAVATION, UNCLASSIFIED (ALSO SEE B10)	CY	60	
609075M	CLEARING OF GUIDE RAIL	LF	126	
801012M	CLEARING OF BRUSH	SY	270	

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
2/1/18		REVISED PER NJDOT REVIEW COMMENTS	JER	MTD
9/8/17		ISSUED FOR NJDOT REVIEW	JER	MTD
7/3/17		ISSUED FOR COUNTY REVIEW	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 246A28083900

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

DEMOLITION PLAN NO.1

W.R. TRACY ROAD (COUNTY ROAD 645)  
OVER LAKE SURPRISE  
COUNTY BRIDGE No. MO-37

A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. B2 OF B10

MICHAEL T. DONLY, PE.  
N.J.P.E. No. GE44224

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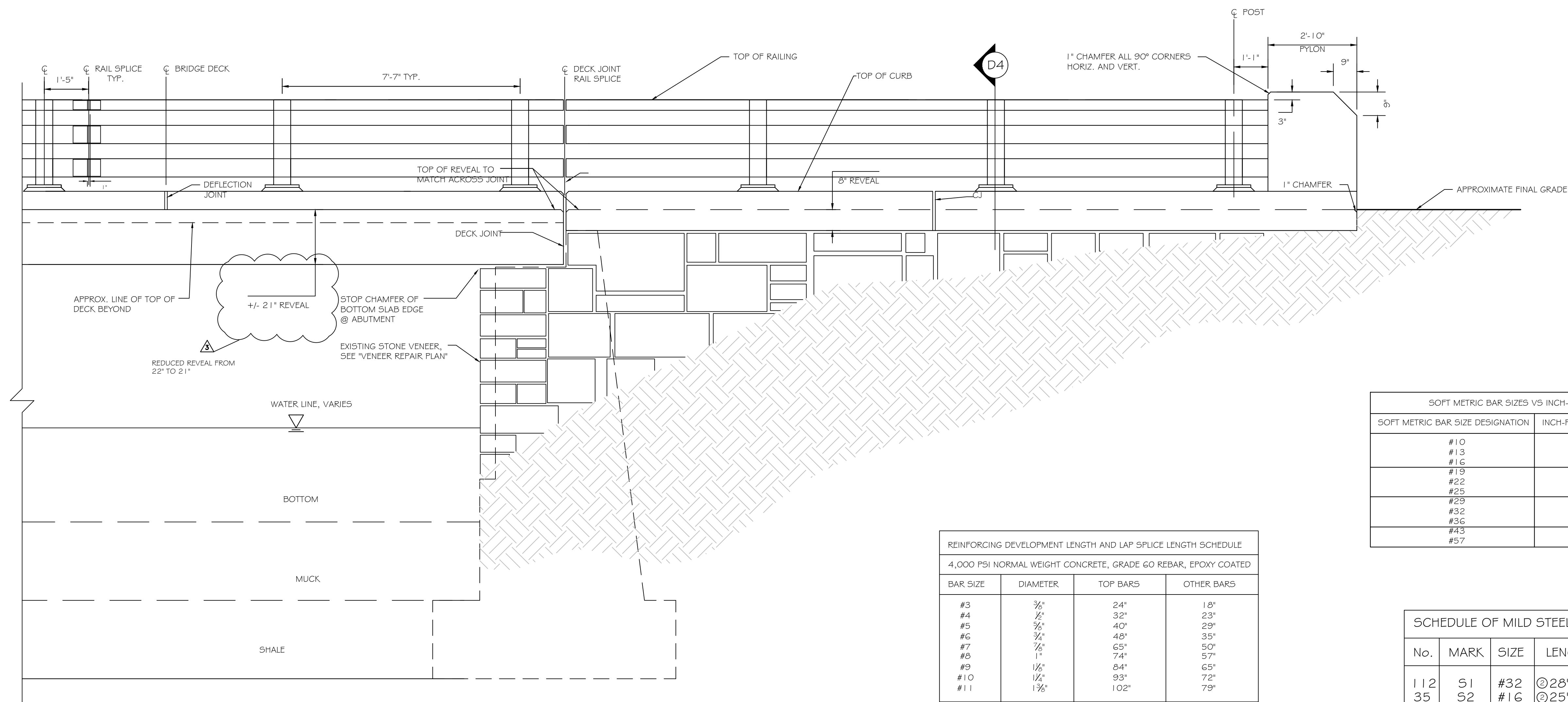






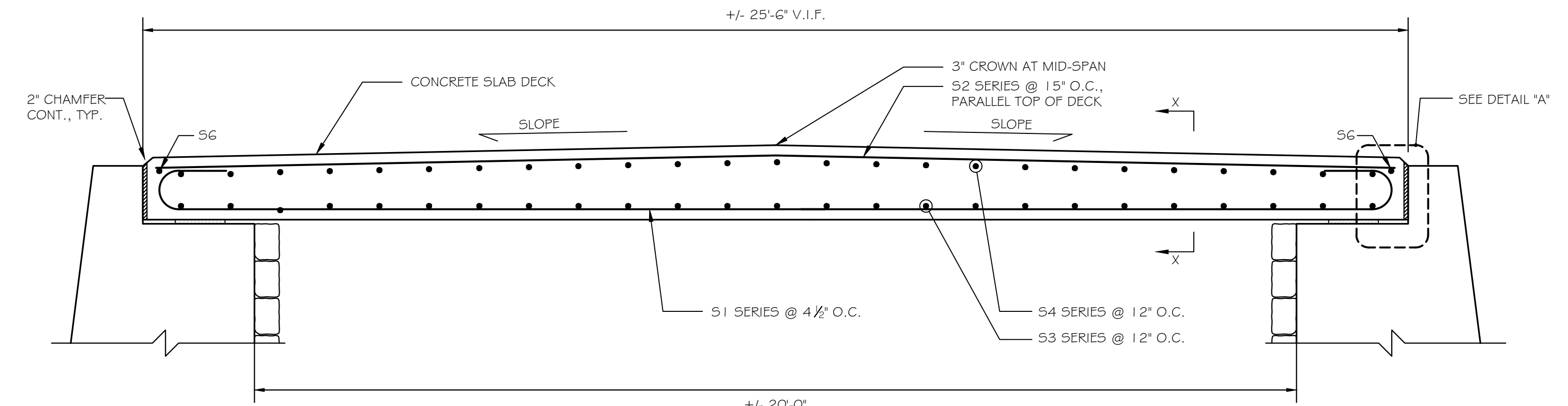






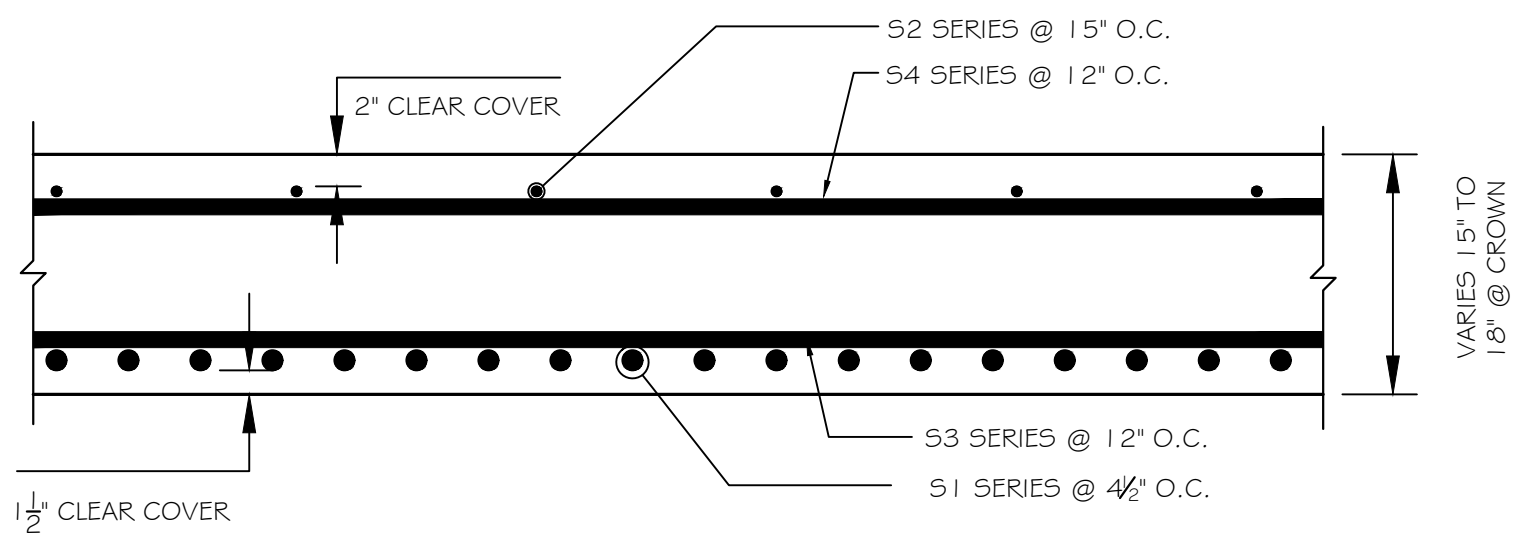
**(E1) PARTIAL NORTH ELEVATION**  
SCALE: 1/2" = 1'-0"

NOTES:  
1. FOUNDATION DIMENSIONS AND SOIL CONDITIONS SHOWN WERE TAKEN FROM AN ORIGINAL BRIDGE CONSTRUCTION PLAN AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.



**(R1) BRIDGE DECK SLAB - LONGITUDINAL SECTION**  
SCALE: 1/2" = 1'-0"

SUMMARY OF QUANTITIES				
ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
507024P	CONCRETE BRIDGE DECK, HPC	CY	55	
507039P	CONCRETE CURB & PYLONS, HPC	CY	19	
504006P	REINFORCEMENT STEEL, EPOXY COATED	LB	27,000	
454003M	RETROFIT DOWEL BARS - DRILL HOLES ATOP WING WALLS & ABUTMENTS	LF	375	
551013P	DECK JOINT SEAL, FILLER & SEALER, HOT APPLIED	LF	85	
551013P	DECK SURFACE SEALER, HOT APPLIED	SY	112	
405021M	EXPANSION JOINT ASSEMBLY - PARAPET, FILLER & SEALANT	LF	12	
507014P	NEOPRENE BEARING PAD	LF	83	



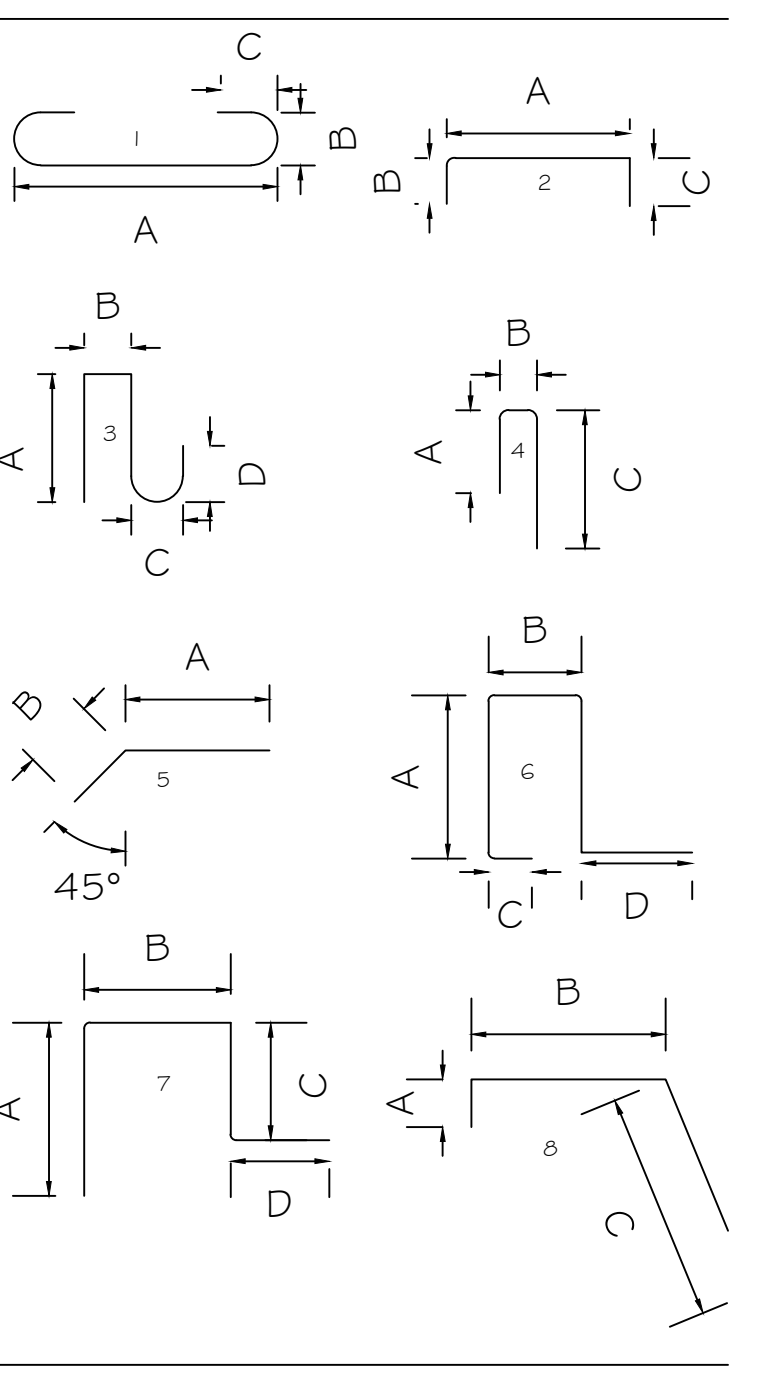
**(X-X) BRIDGE DECK SLAB TRANSVERSE SECTION**  
SCALE: 1" = 1'-0"

REINFORCING DEVELOPMENT LENGTH AND LAP SPlice LENGTH SCHEDULE			
4,000 PSI NORMAL WEIGHT CONCRETE, GRADE 60 REBAR, EPOXY COATED			
BAR SIZE	DIAMETER	TOP BARS	OTHER BARS
#3	3/8"	24"	18"
#4	1/2"	32"	23"
#5	5/8"	40"	29"
#6	3/4"	48"	35"
#7	7/8"	65"	50"
#8	1"	74"	57"
#9	1 1/8"	84"	65"
#10	1 1/4"	93"	72"
#11	1 3/8"	102"	79"

SOFT METRIC BAR SIZES VS INCH-POUND BAR SIZES	
SOFT METRIC BAR SIZE DESIGNATION	INCH-POUND BAR SIZE DESIGNATION
#10	#3
#13	#4
#16	#5
#19	#6
#22	#7
#25	#8
#29	#9
#32	#10
#36	#11
#43	#14
#57	#18

SCHEDULE OF MILD STEEL REINFORCEMENT (C-C)

No.	MARK	SIZE	LENGTH	REMARKS	TYPE	A	B	C	D
112	S1	#32	28'-10 1/2"	DETAILED	1	24'-10"	1'-0 1/2"	1'-0"	--
35	S2	#16	25'-0"	STRAIGHT	--	--	--	--	--
26	S3	#25	44'-6"	DETAILED	1	41'-10"	8"	8"	--
26	S4	#25	41'-10"	STRAIGHT	2	--	--	--	--
78	S5	#13	3'-2"	DETAILED	2	1'-9"	--	--	--
2	S6	#16	41'-10"	STRAIGHT	--	--	--	--	--
4	S7	#16	6'-8"	DETAILED	2	3'-4"	3'-4"	--	--
56	S8	#16	3'-8"	DETAILED	2	3'-0"	8"	--	--
92	PP1	#16	4'-1 1/2"	DETAILED	6	1'-1 1/2"	1'-2 1/2"	10"	10"
26	PP2	#13	25'-0"	STRAIGHT	--	--	--	--	--
40	PP3	#13	4'-0"	DETAILED	4	1'-4"	1'-4"	1/4"	--
88	PP5	#13	24'-11"	STRAIGHT	--	--	--	--	--
104	PP6	#16	6'-10 1/2"	DETAILED	7	2'-10"	1'-2 1/2"	2'-0"	10"
104	PP7	#16	6'-5"	DETAILED	8	4"	1'-10"	3'-9"	--
104	PP8	#16	4'-4"	STRAIGHT	--	--	--	--	--
208	PP9	#16	2'-3"	DETAILED	2	1'-5"	10"	--	--
24	PP10	#16	4'-1"	STRAIGHT	--	--	--	--	--
24	PP11	#16	5'-8"	STRAIGHT	--	--	--	--	--
24	PP12	#16	2'-4"	DETAILED	2	1'-10"	8"	8"	--
20	PP13	#13	2'-6"	STRAIGHT	--	--	--	--	--
12	PP14	#13	3'-8"	DETAILED	2	2'-8"	1'-0"	--	--
88	PP15	#13	2'-8"	DETAILED	2	1'-4"	8"	8"	--
8	PP16	#13	2'-7"	DETAILED	5	1'-1 1/2"	8"	--	--
12	PP17	#13	2'-0"	DETAILED	2	1'-0"	1'-0"	--	--



- ① ALL REINFORCEMENT SHALL BE EPOXY COATED
- ② LENGTH MUST BE VERIFIED IN FIELD
- ③ SOFT METRIC SIZE SHOWN
- ④ DIMENSIONS SHOWN IN BENDING DIAGRAMS ARE OUT-TO-OUT OF BARS

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
2/1/21	2/1/21	REVISED PER NJDOT REVIEW COMMENTS	JER	MTD
9/8/17	9/8/17	ISSUED FOR NJDOT REVIEW	JER	MTD
7/3/17	7/3/17	ISSUED FOR COUNTY REVIEW	JER	MTD

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DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 246A28083900

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

**DECK SLAB AND RAILING REPLACEMENT PLAN NO.2**

W.R. TRACY ROAD (COUNTY ROAD 645)  
OVER LAKE SURPRISE  
COUNTY BRIDGE No. MO-37

A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

MICHAEL T. DONLY, PE.  
N.J.P.E. No. GE44224

BRIDGE SHEET No. B6 OF B10

1:2016 DESIGN/795/INC/D01212018.DWG

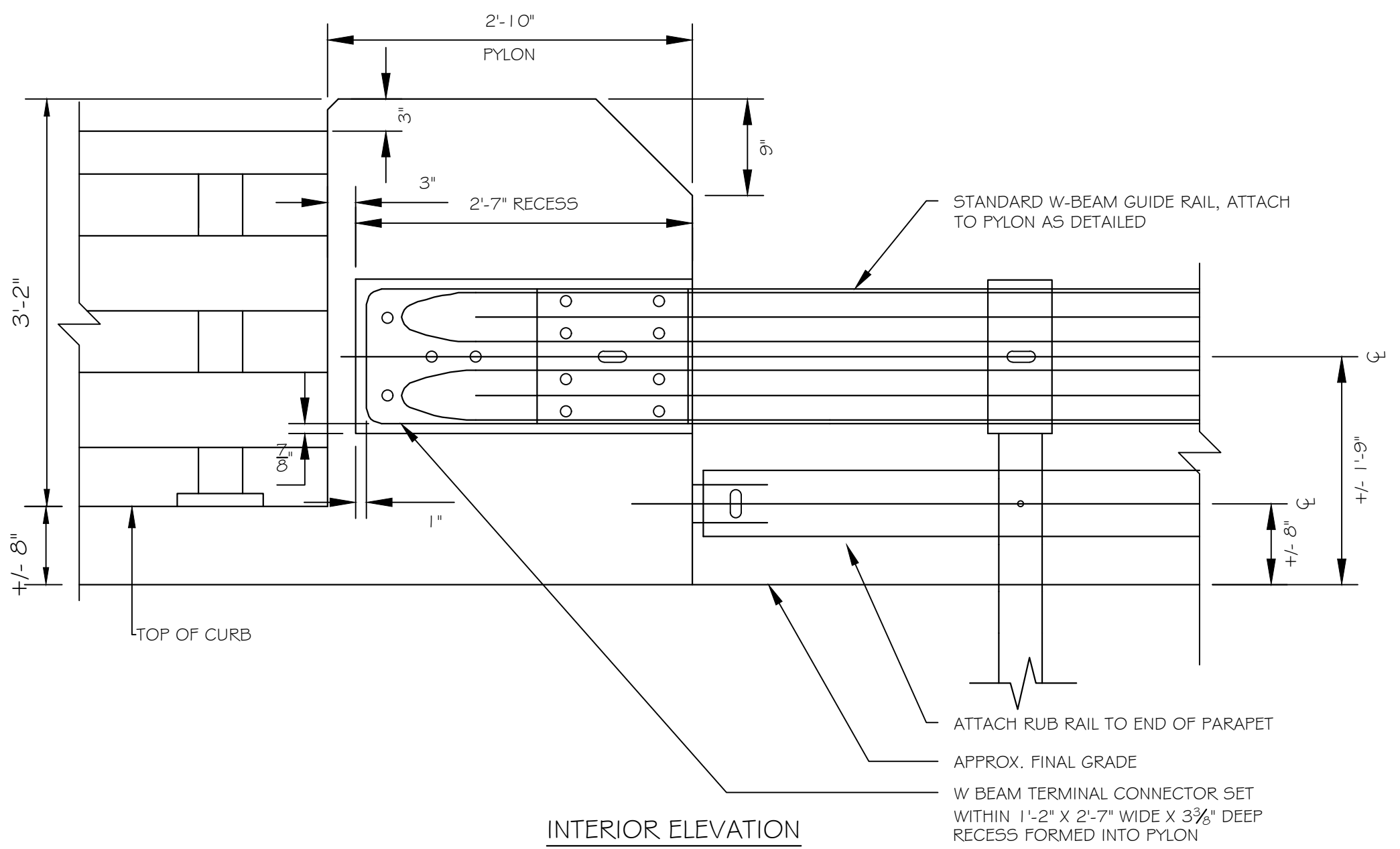
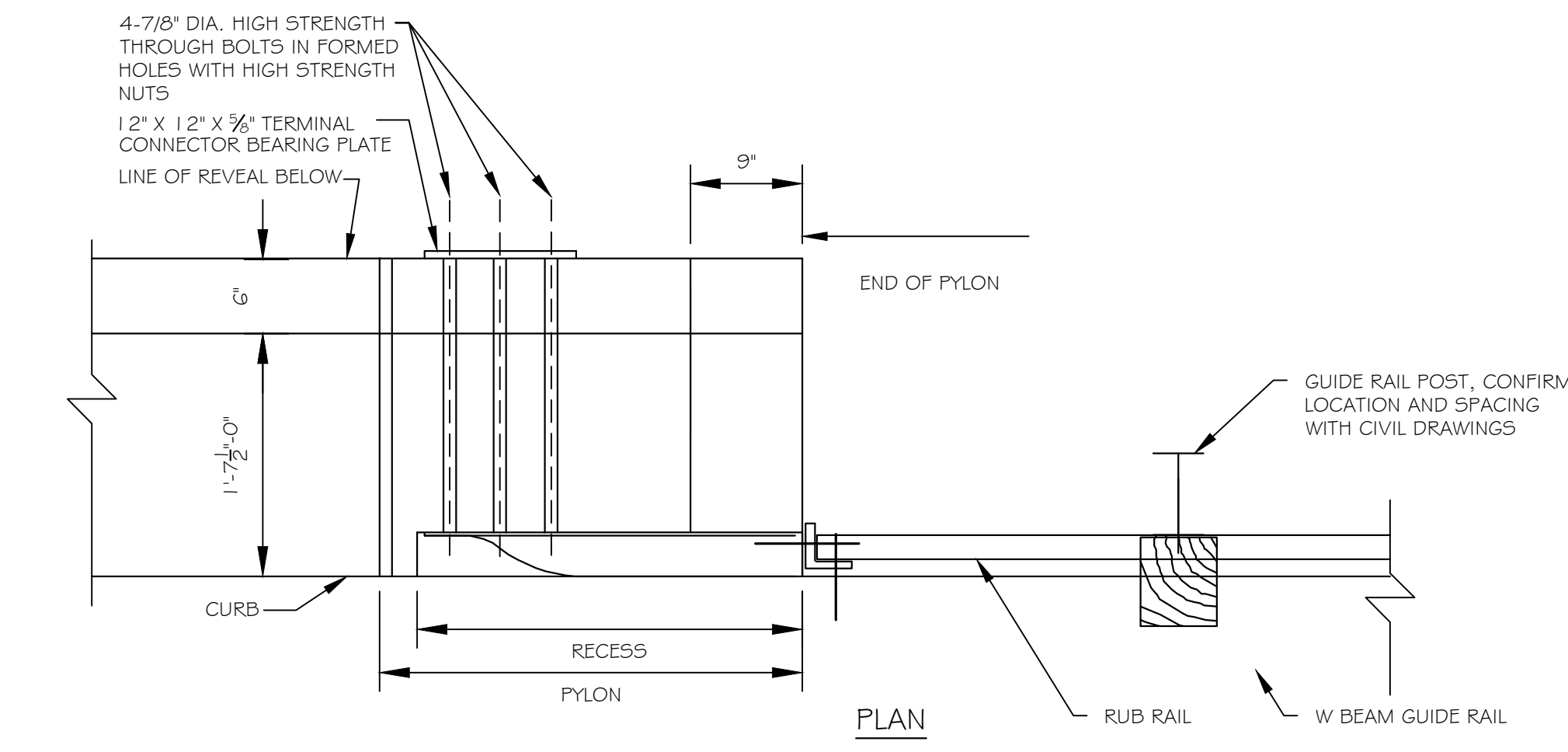




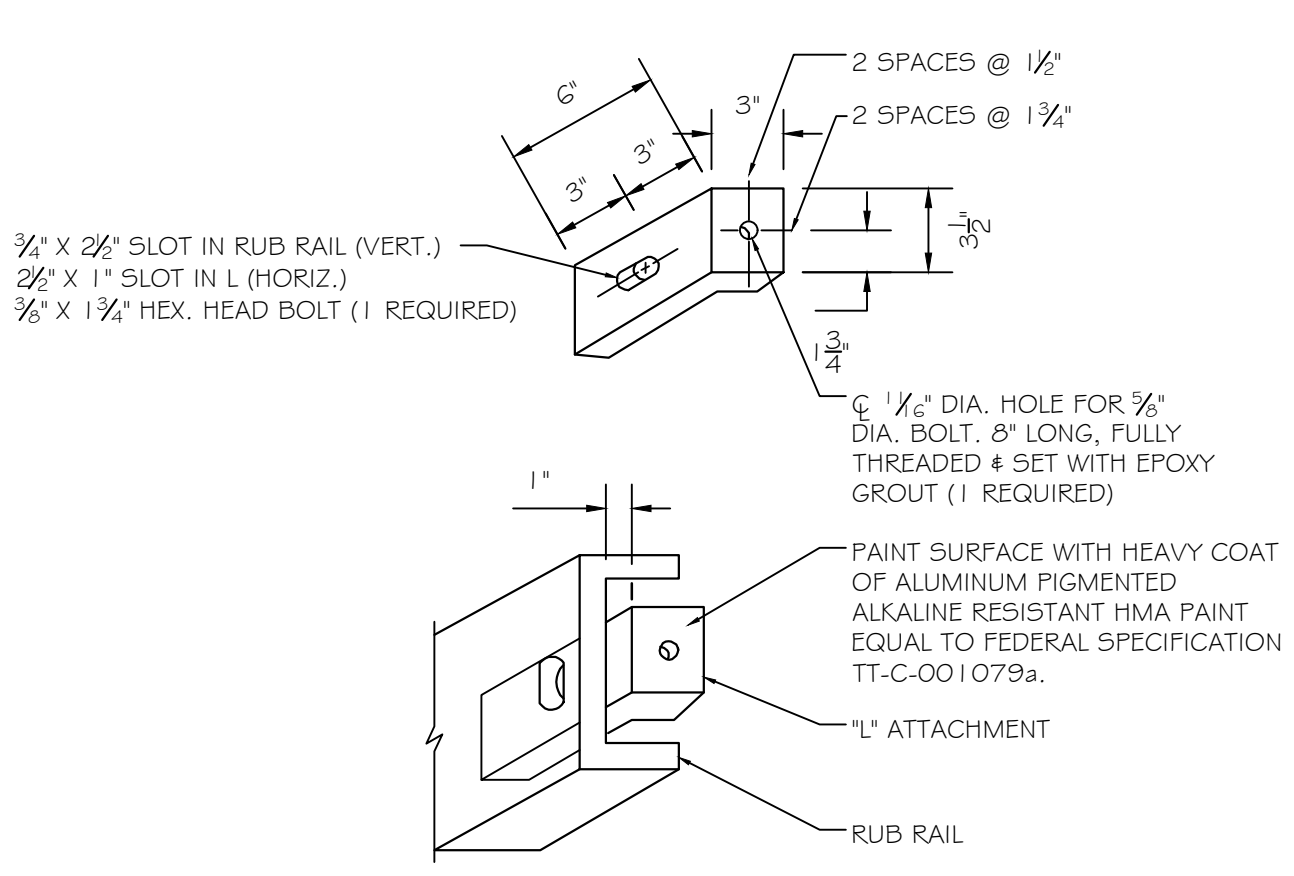




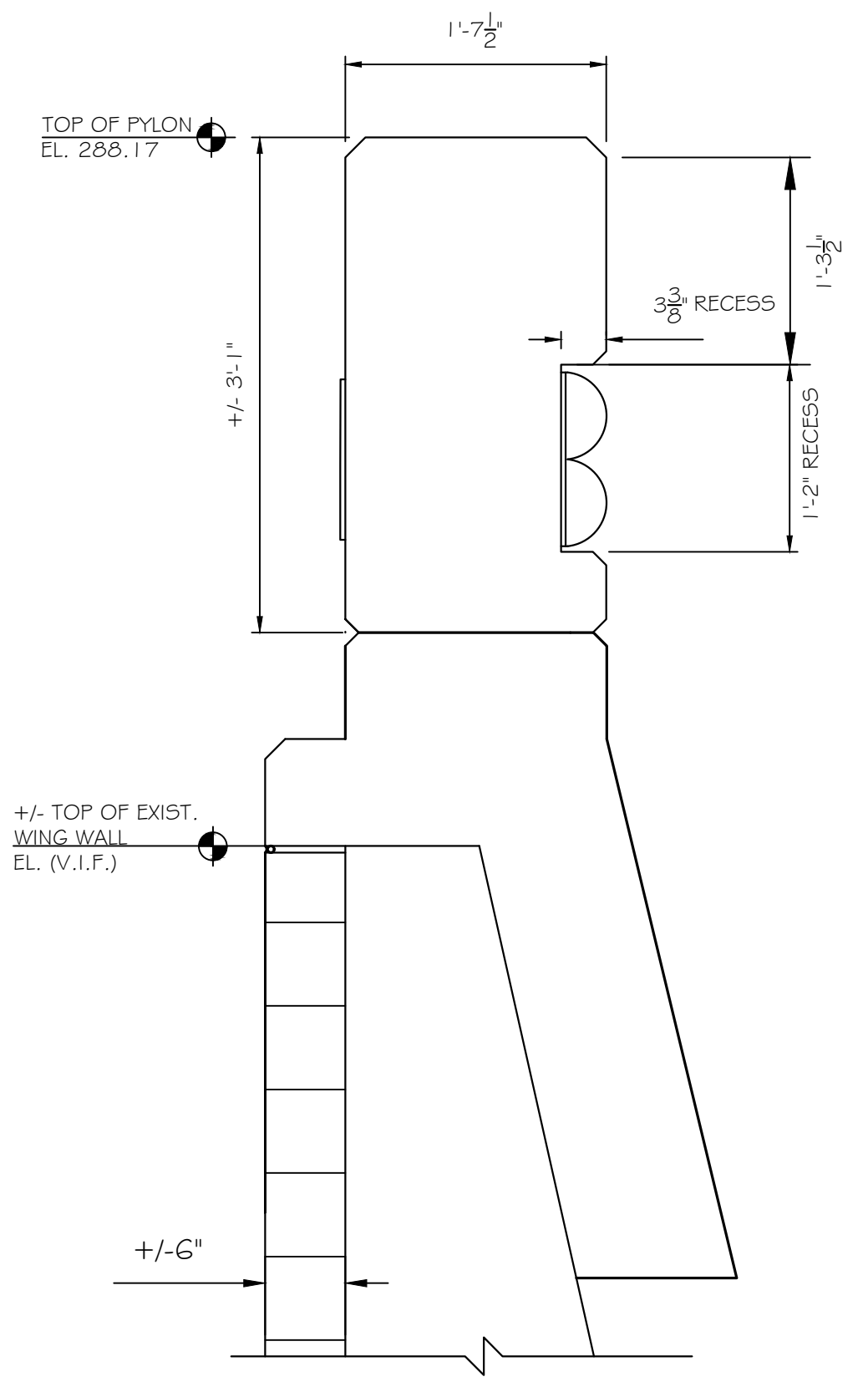




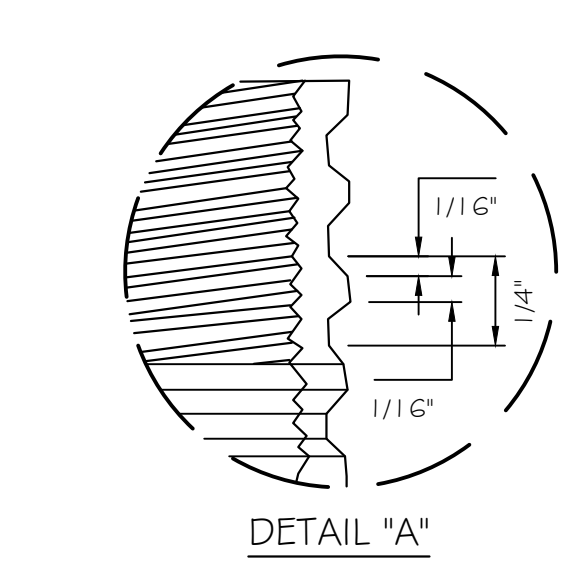
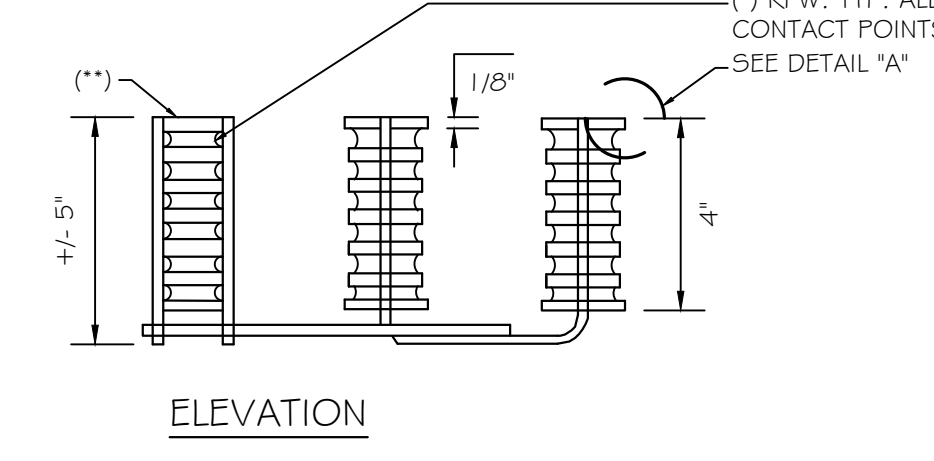
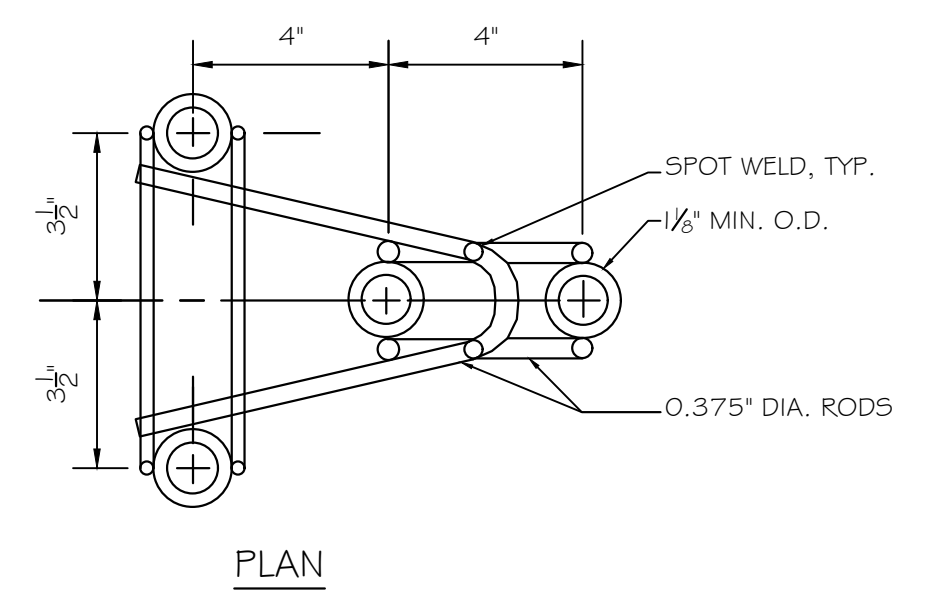
**TYPE "B" ATTACHMENT**  
SCALE: 1" = 1'-0"



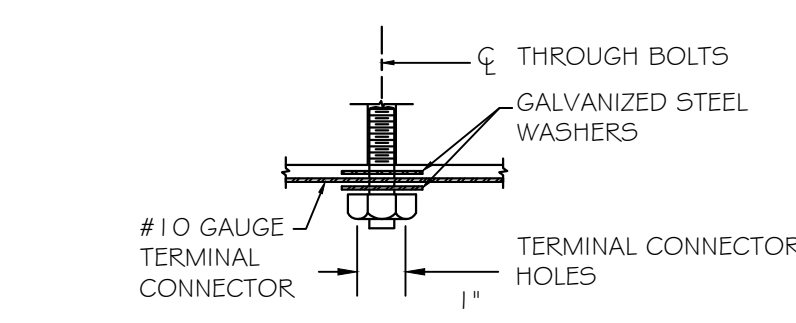
**RUB RAIL ANGLE ATTACHMENT**  
SCALE: N.T.S.



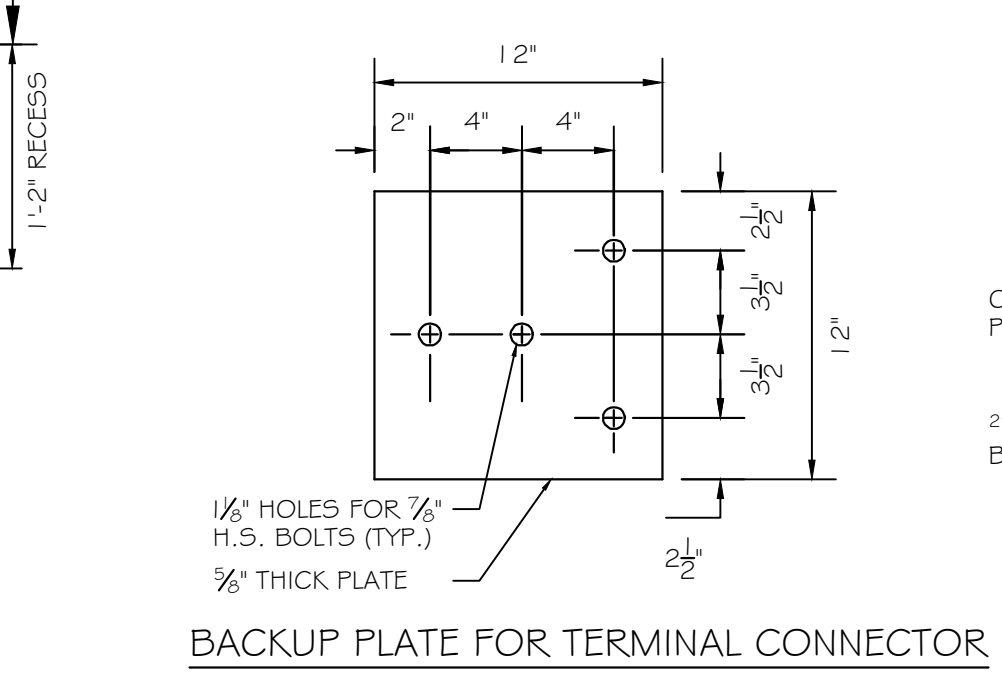
**PYLON SECTION @ RECESS FOR GUIDE RAIL**  
SCALE: 1" = 1'-0"



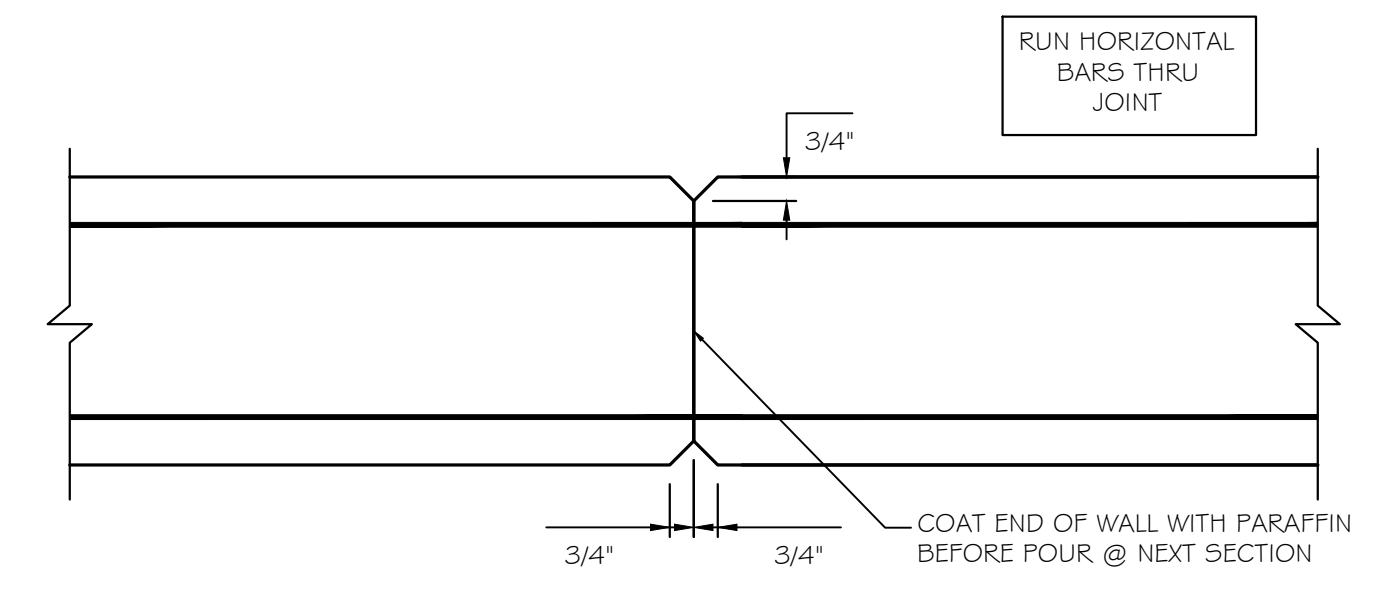
**TERMINAL ANCHORAGE**  
SCALE: 3" = 1'-0"



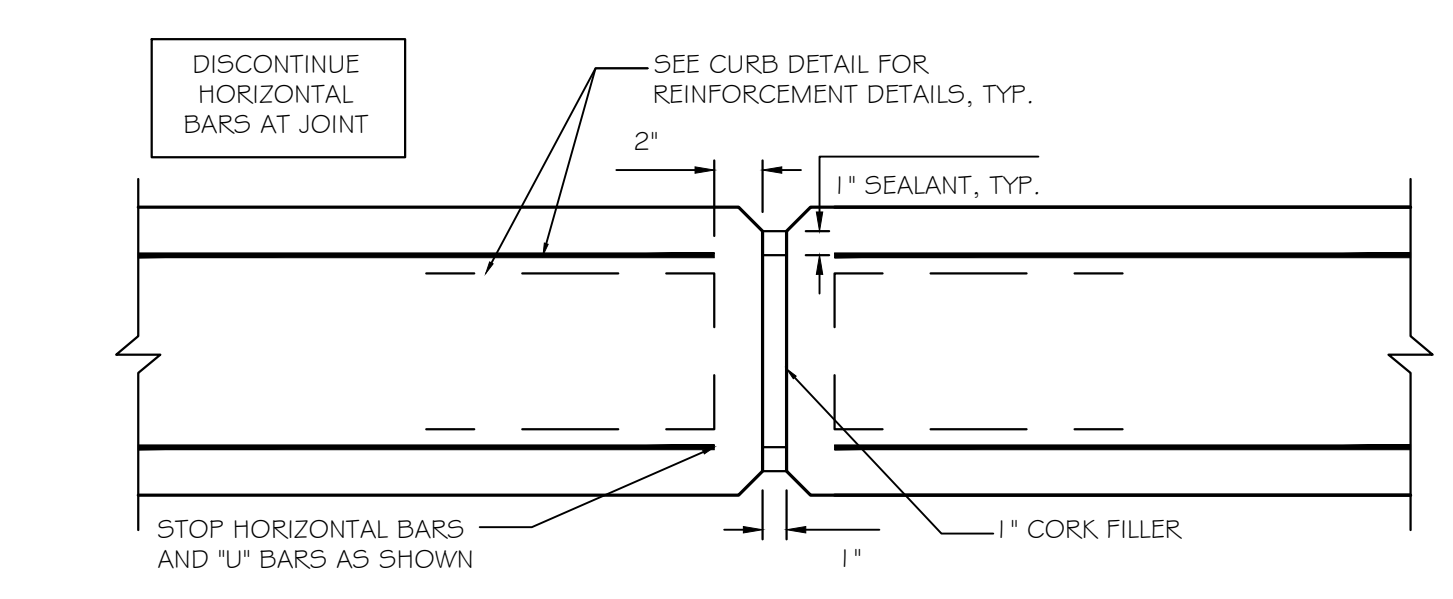
**TERMINAL ANCHORAGE**  
SCALE: 3" = 1'-0"



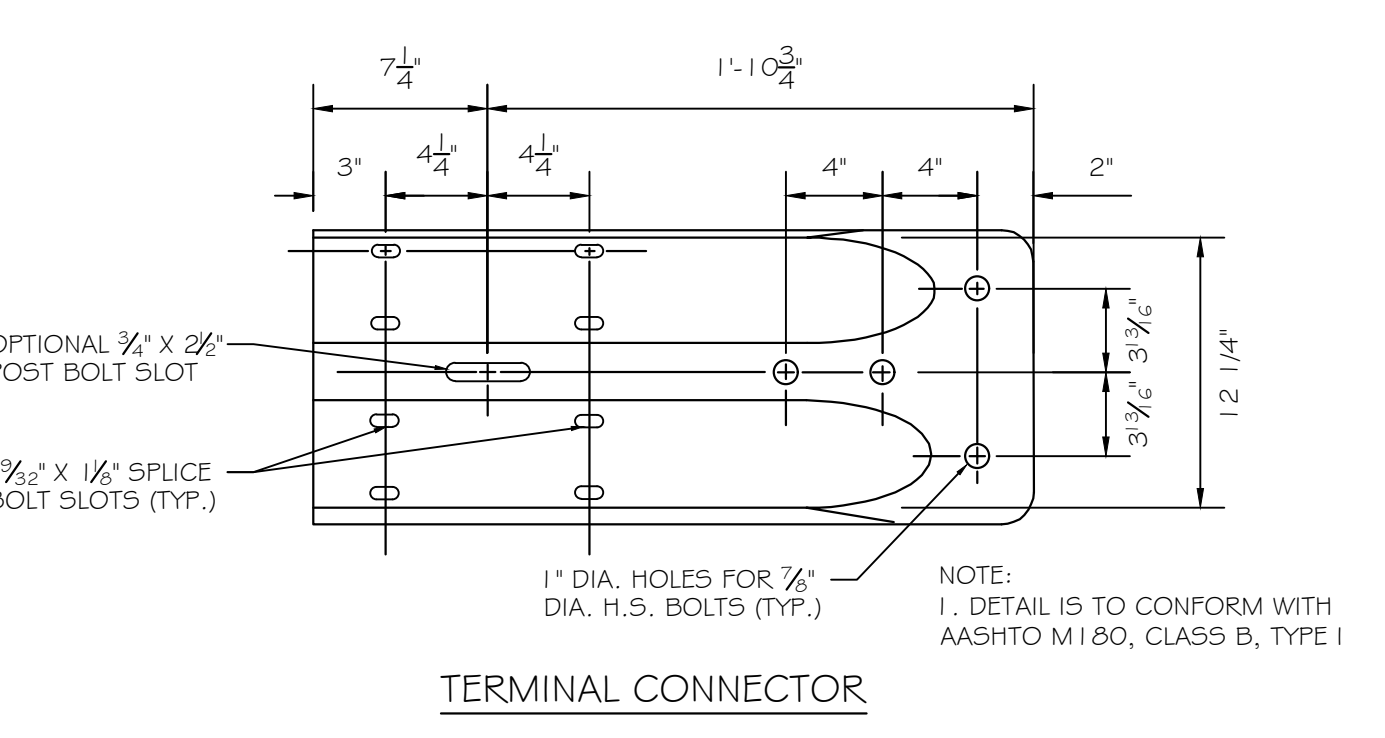
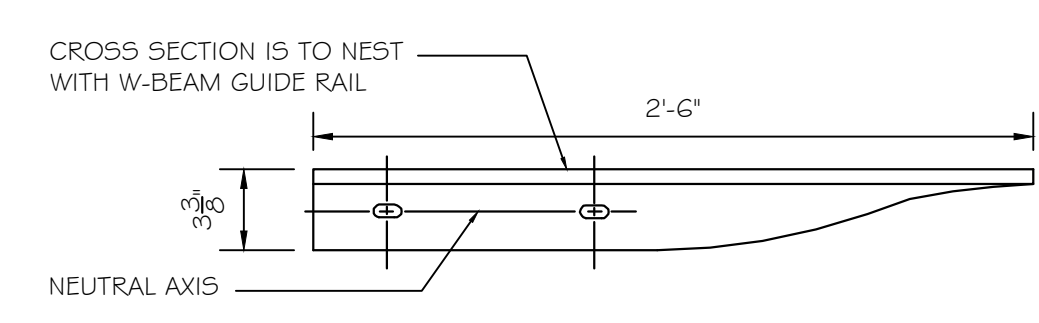
**BACKUP PLATE FOR TERMINAL CONNECTOR**  
SCALE: 1/2" = 1'-0"



**TYPICAL CONTRACTION JOINT AT CURB (PLAN)**  
SCALE: 1/2" = 1'-0"

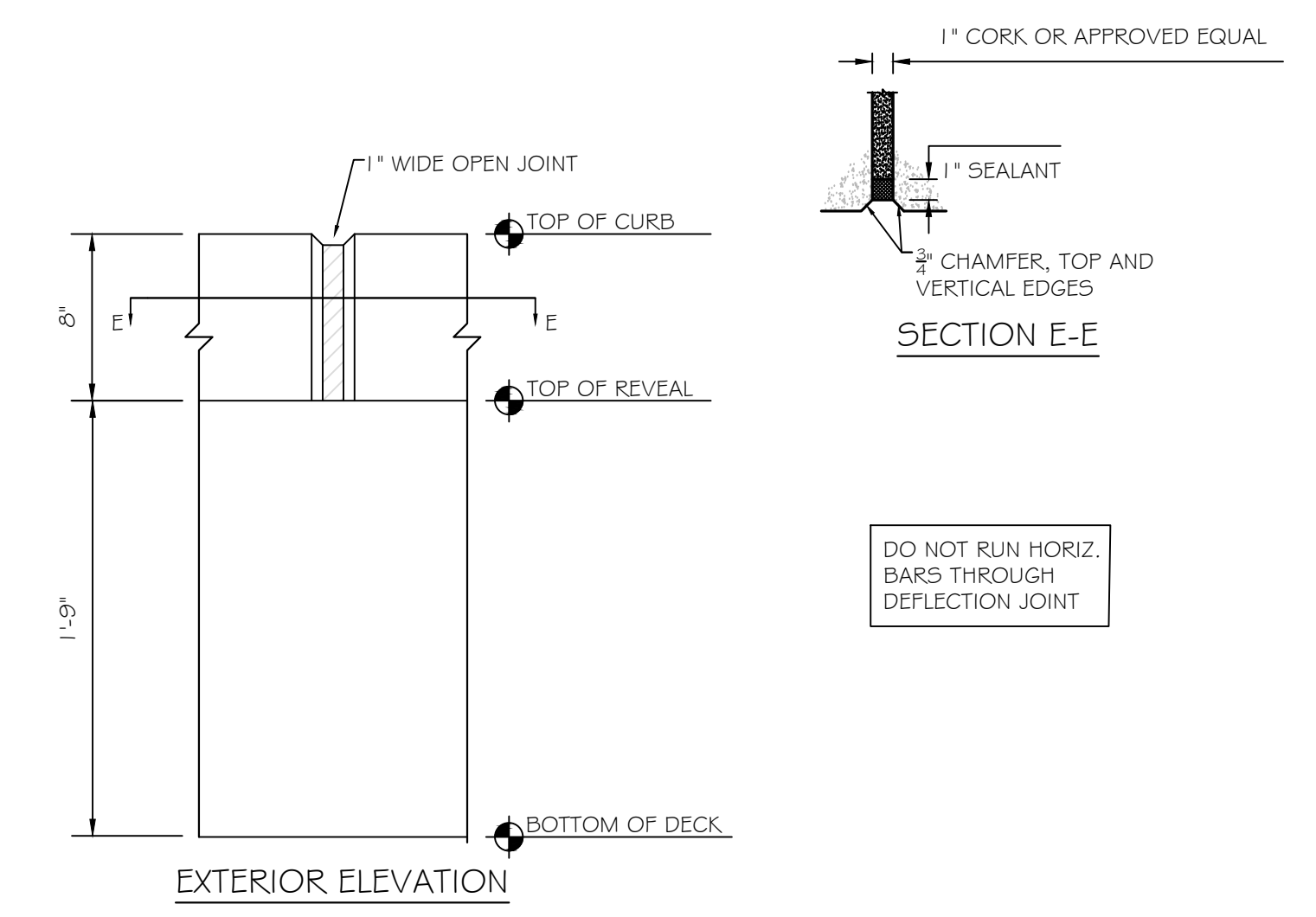


**TYPICAL EXPANSION JOINT AT CURB (PLAN)**  
SCALE: 1/2" = 1'-0"

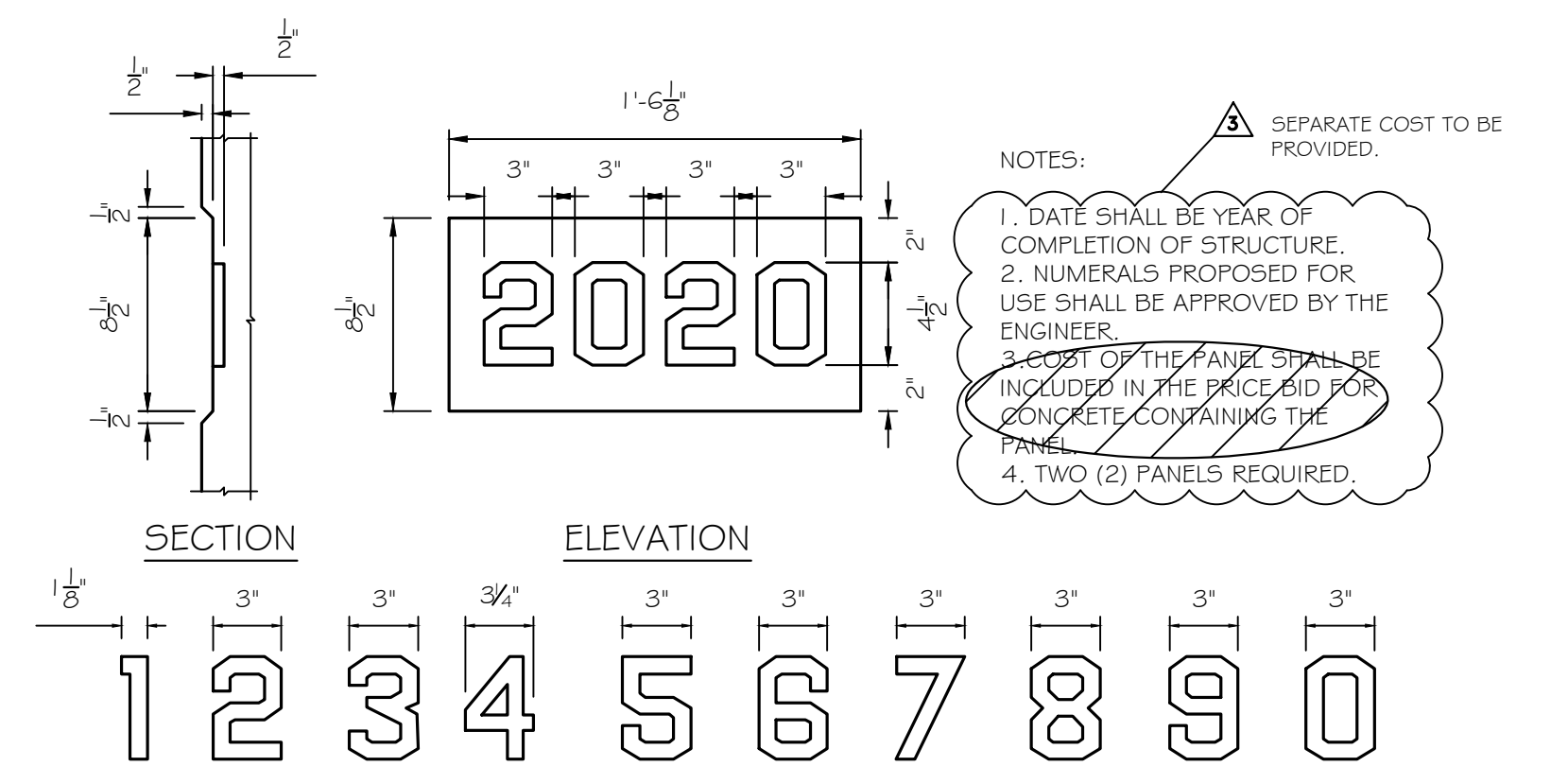


**TERMINAL CONNECTOR**  
SCALE: 1/2" = 1'-0"

- NOTES:
- (\*) ENSURE EACH WELDED ATTACHMENT OF WIRE TO FERRULE DEVELOPS THE TENSILE OF THE WIRE.
  - (\*\*) THREADED STEEL INSERT WITH SOLID BOTTOM TAPPED TO A MINIMUM THREADED DEPTH OF 2 $\frac{1}{2}$ " FOR USE WITH 7/8" - 9 X 2 $\frac{1}{2}$ " GALVANIZED H.S. HEX BOLT AND 1/2" I.D. 2 $\frac{1}{2}$ " O.D. 3/8" THICK, TYPE A, PLAIN WASHER
  - FOUR (4) BOLTS AND FOUR (4) WASHERS TO BE PROVIDED WITH EACH ASSEMBLY.
  - WIRES SHOWN ARE MINIMUM ALLOWABLE SIZE AND ARE TO CONFORM TO THE REQUIREMENTS OF ASTM A610, GRADE 1030 AND HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I.
  - ENSURE THAT THE STEEL FERRULES CONFORMS TO ASTM A108, GRADE 12L14. INSERTS TO BE TAPPED TO THE DIMENSIONAL REQUIREMENTS SPECIFIED IN ASTM A563 FOR NUTS RECEIVING GALVANIZED BOLTS.
  - BOLTS TO CONFORM TO THE REQUIREMENTS OF ASTM A325 OR A449 (AASHTO M164) AND BE THREADED FULL LENGTH. WASHERS TO BE MADE OF STEEL AND MEET THE DIMENSIONAL REQUIREMENTS OF ASTM B272 TYPE A PLAIN WASHERS. BOTH TO BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (AASHTO M232M).
  - WIRE DIAMETERS, MATERIALS REQUIREMENTS, FERRULE MATERIALS REQUIREMENTS, AND EXTERNAL DIAMETERS MAY BE ALTERED PROVIDED MANUFACTURER DEMONSTRATES REVISED DESIGN IS EQUIVALENT TO THE DESIGN SHOWN IN THIS STANDARD.
  - DIMENSIONAL TOLERANCE NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE, AND ACCEPTED MANUFACTURING PRACTICE.
  - ALL PAVEMENT MARKING, SIGNS, ETC., SHALL CONFORM TO THE MUTCD.



**DEFLECTION JOINT DETAILS**  
SCALE: 1/2" = 1'-0"



**DETAILS OF NUMERAL PANEL**  
SCALE: 1/2" = 1'-0"

- NOTES:
- DATE SHALL BE YEAR OF COMPLETION OF STRUCTURE.
  - NUMERALS PROPOSED FOR USE SHALL BE APPROVED BY THE ENGINEER.
  - COST OF THE PANEL SHALL BE INCLUDED IN THE PRICE BID FOR CONCRETE CONTAINING THE PANEL.
  - TWO (2) PANELS REQUIRED.
- SEPARATE COST TO BE PROVIDED.

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
2/12/18		REVISED PER NJDOT REVIEW COMMENTS	JER	MTD
9/8/17		ISSUED FOR NJDOT REVIEW	JER	MTD
7/31/17		ISSUED FOR COUNTY REVIEW	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
CERT OF AUTH. 246A28083900

MICHAEL T. DONLY, PE.  
N.J.P.E. No. GE44224

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

**PARAPET AND GUIDE RAIL CONNECTION DETAILS**

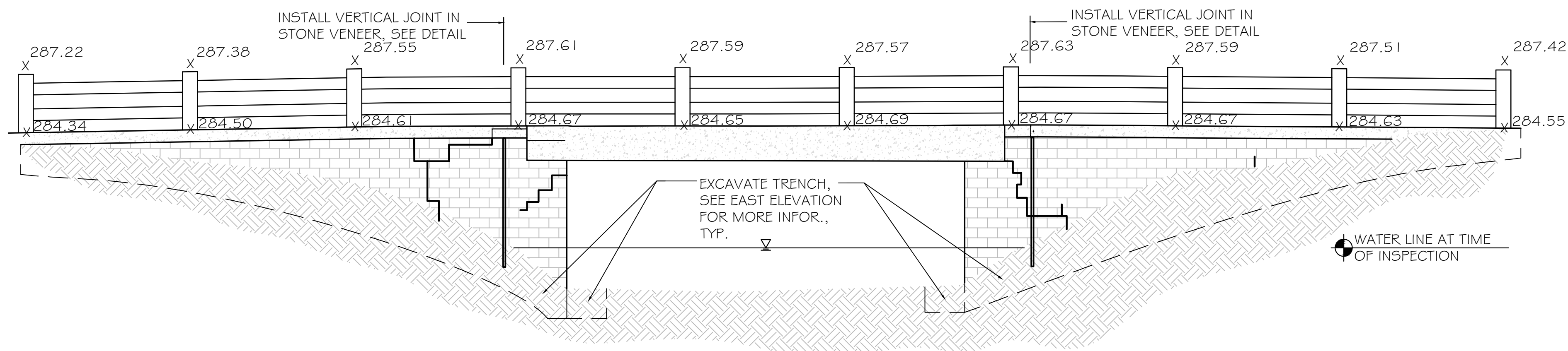
W.R. TRACY ROAD (COUNTY ROAD 645)  
OVER LAKE SURPRISE  
COUNTY BRIDGE No. MO-37

A PROJECT OF  
NEGJIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. B9 OF B10

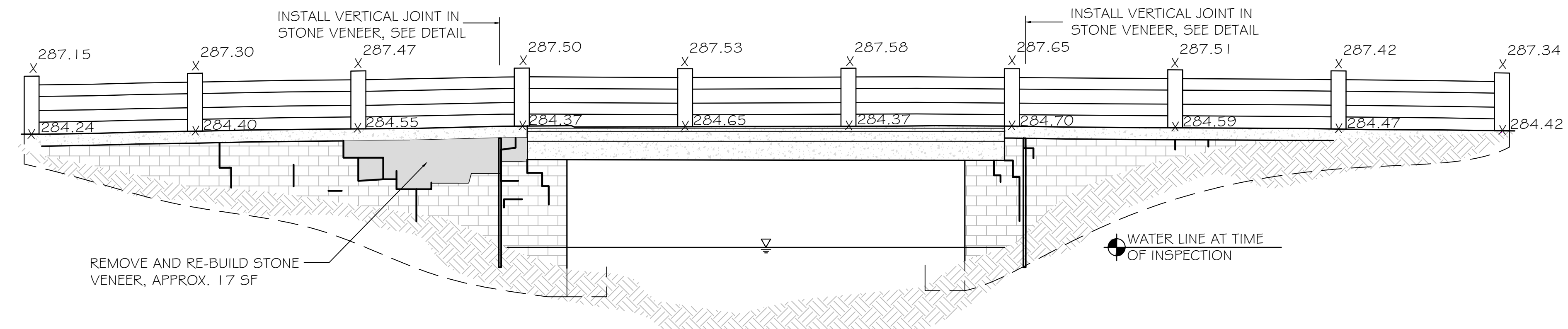
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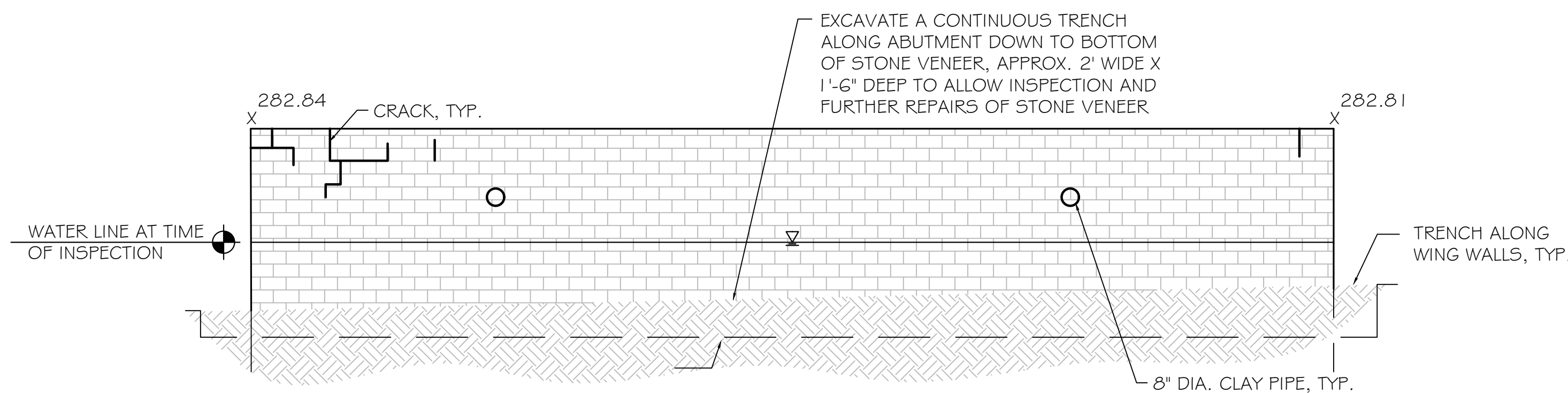
BRIDGE ELEVATION (NORTH)

SCALE: 1/4" = 1'-0"



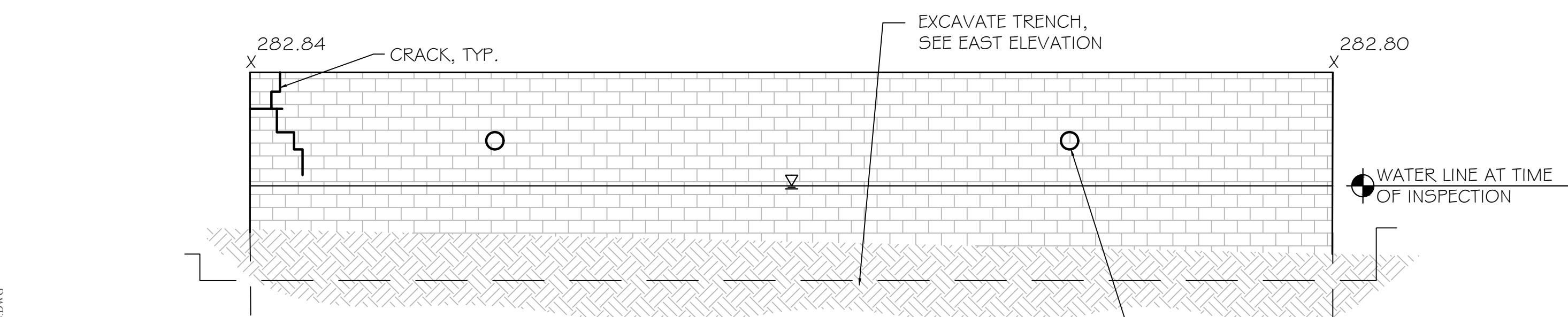
BRIDGE ELEVATION (SOUTH)

SCALE: 1/4" = 1'-0"



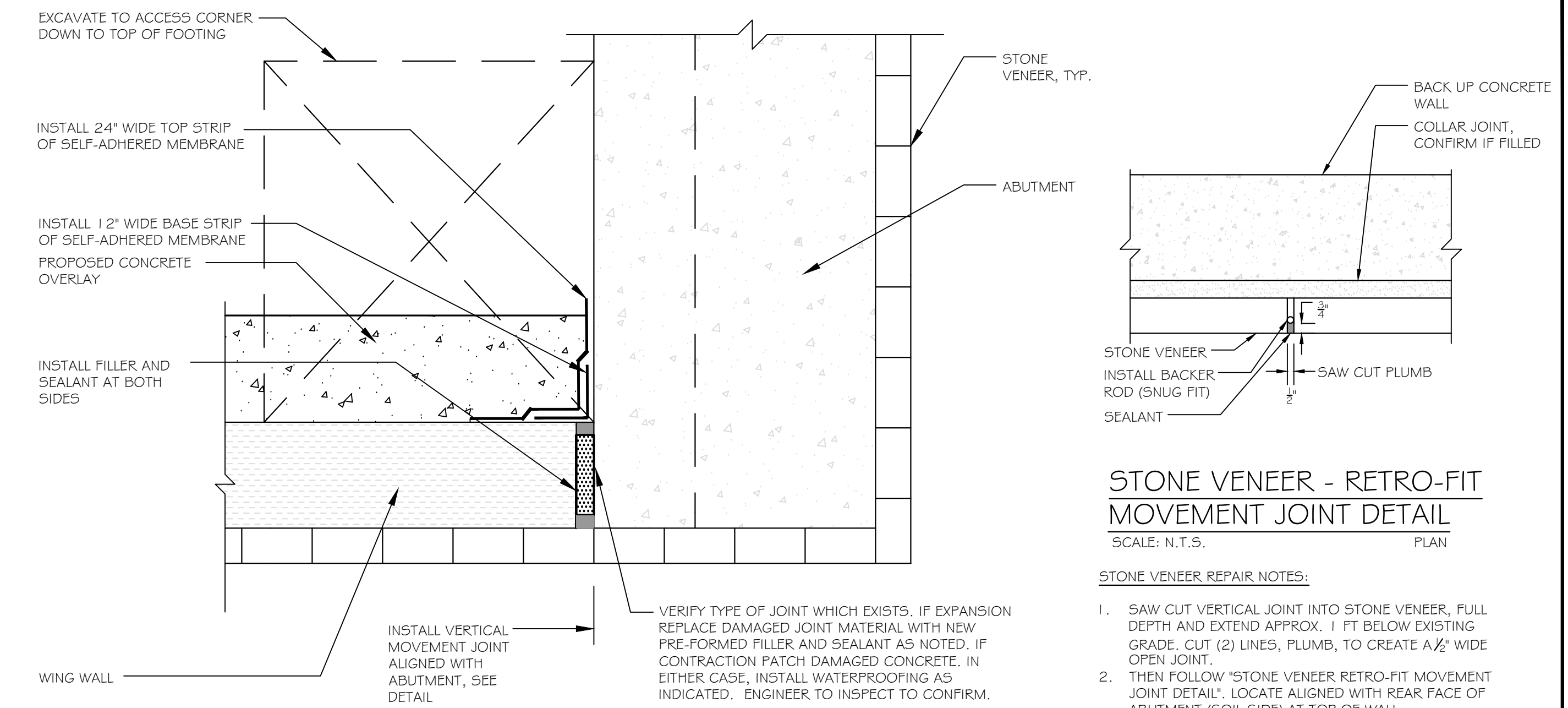
BRIDGE ELEVATION (EAST)

SCALE: 1/4" = 1'-0"



BRIDGE ELEVATION (WEST)

SCALE: 1/4" = 1'-0"

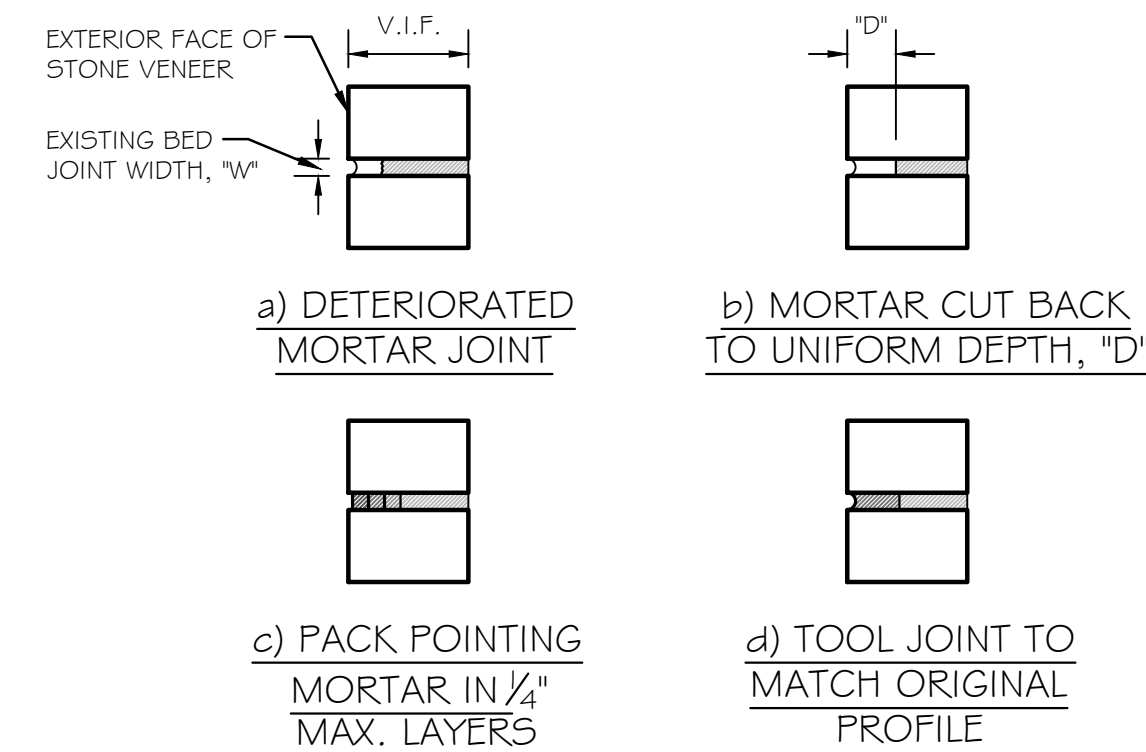


VERTICAL CORNER JOINT REPAIR DETAIL

SCALE: 1" = 1'-0"

REPAIR SCHEDULE:

- EXPOSE (4) CORNER JOINTS AND CONTACT ENGINEER TO INSPECT.
- PREPARE JOINTS PER ENGINEER'S DIRECTION.
- PREPARE WALLS TO RECEIVE MEMBRANE PER MANUFACTURER'S GUIDELINES.
- INSTALL WATERPROOFING MEASURES SHOWN IN DETAIL. SET 1ST SHEET AT BOTTOM AND PROGRESS TO TOP, LAPPING UPPER SHEET OVER BOTTOM SHEET 6" MIN. INSTALL PROTECTION BOARD AND BACKFILL PER CIVIL DRAWINGS AND SPECIFICATIONS.

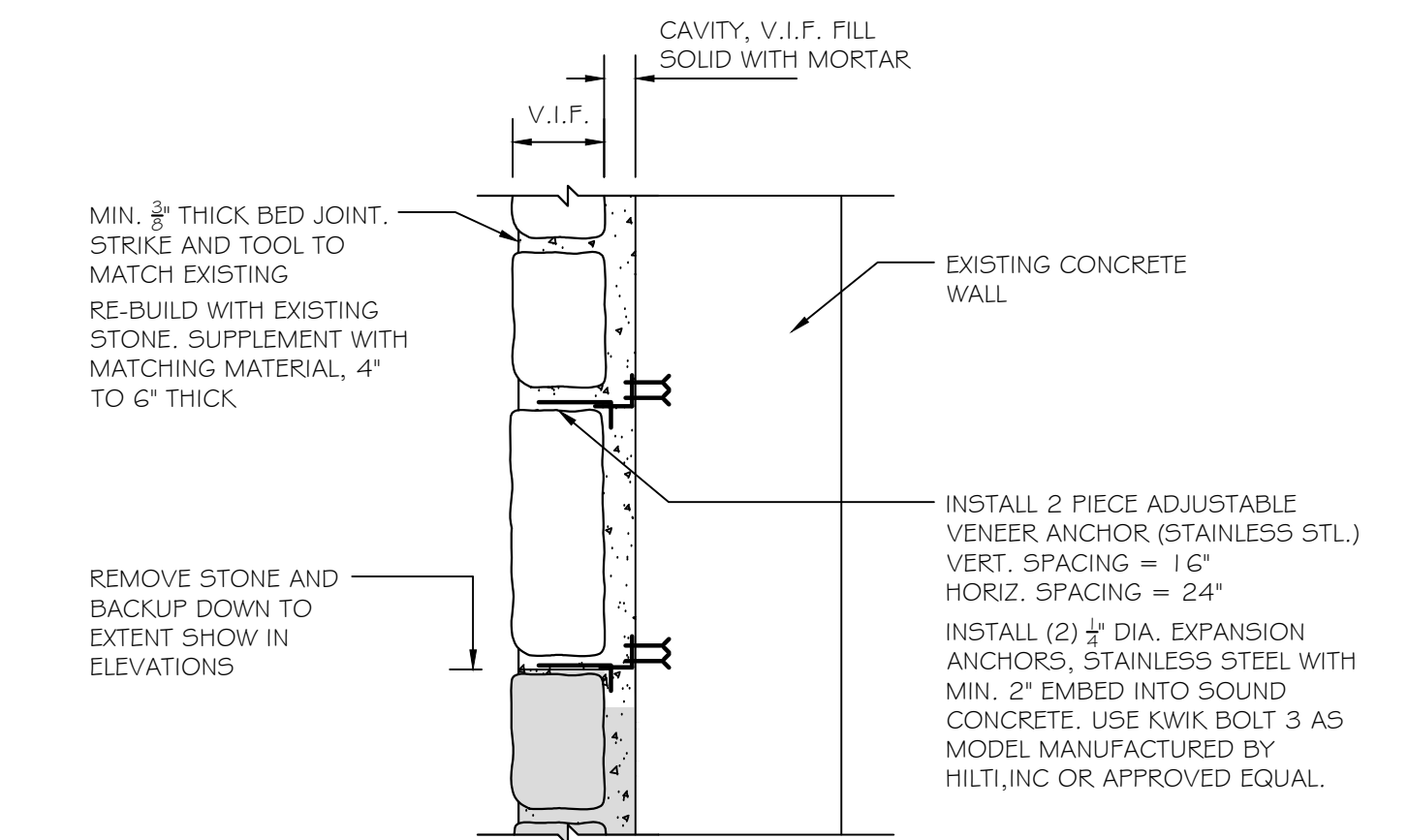


REPOINTING DETAIL

SCALE: N.T.S.

REPOINTING NOTES:

- REMOVE DETERIORATED MORTAR TO A DEPTH 'D' EQUAL TO AT LEAST TWICE THE WIDTH, 1/2" AT THE MINIMUM, OR UNTIL SOUND MORTAR IS REACHED. IF GREATER THAN 2", ROUT AND RE-POINT IN SMALL AREA TO MAINTAIN STABILITY OF UNITS.
- TAKE CARE NOT TO DAMAGE STONE EDGES. REMOVE FULL WIDTH OF JOINT.
- REMOVE ALL DUST AND DEBRIS WITH AIR OR WATER RINSE. PRE-WET TO SATURATED SURFACE DRY CONDITION.
- REPOINTING MORTAR SHALL CONSIST OF TYPE 'N' CEMENT-LIME MORTAR BY PROPORTION SPECIFICATION. APPLY IN 1/2" LIFTS.
- MOISTURE CURING IS REQUIRED. FINISHED POINTING SHALL BE DAMPENED FOR 72 HOURS. LOCAL WEATHER CONDITIONS SHOULD DICTATE THE FREQUENCY OF MISTING WITH WATER.



- NOTES:
- ANCHORING SYSTEM SHALL BE MODEL HB-2 13-2X ADJUSTABLE VENEER ANCHOR AS MANUFACTURED BY HOHMANN & BARNARD, INC. OR APPROVED EQUAL.
  - ANCHORING SYSTEM REQUIRES MIN 3/4" TO 1" CAVITY. NOTIFY ENGINEER OF ANY FIT-UP ISSUE.

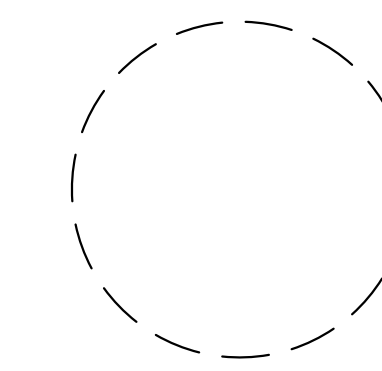
STONE VENEER REPAIR SECTION

SUMMARY OF QUANTITIES

ITEM No.	DESCRIPTION	UNIT	CONTRACT QT.	AS-BUILT QT.
555035M	MASONRY REPOINTING - STONE VENEER			
	NORTH ELEVATION	LF	25	
	SOUTH ELEVATION	LF	36	
	EAST ELEVATION	LF	11	
	WEST ELEVATION	LF	7	
504064P	STONE VENEER - REPAIR			
	SOUTH ELEVATION	SF	17	
555022P	RETROFIT STRIP SEAL JOINT SYSTEM STONE VENEER & VERTICAL FOUNDATION	LF	56	
202009P	EXCAVATION UNCLASSIFIED	CY	27	
603069P	BROKEN STONE BACKFILLING	CY	27	

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
2/1/21	8	REVISED PER NJDOT REVIEW COMMENTS	JER	MTD
9/8/17		ISSUED FOR NJDOT REVIEW	JER	MTD
7/3/17		ISSUED FOR COUNTY REVIEW	JER	MTD

STRUCTURAL DESIGN BY  
DONLY ENGINEERING GROUP, INC.  
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MICHAEL T. DONLY, PE.  
N.J.P.E. No. GE44224

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

STONE VENEER REPAIRS

W.R. TRACY ROAD (COUNTY ROAD 645)  
OVER LAKE SURPRISE  
COUNTY BRIDGE No. MO-37

A PROJECT OF  
NEGLIA ENGINEERING ASSOCIATES  
CERT. OF AUTH. No. GA276890

BRIDGE SHEET No. B10 OF B10



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